

Stockholm School of Economics

1351 Master's thesis in Business Management

Academic year 2025-2026

Gendered Entry, Recognition, and Depth: A Study of Acquisition Pathways at The Museum of Modern Art (MoMA)

**UNRAVELING THE GENDERED MECHANISM BEHIND
MUSEUM ACQUISITIONS**

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Abstract:

This thesis examines whether museum acquisition processes differ by gender across three dimensions: entry pathway, timing of recognition, and depth of post-entry engagement. Analysing MoMA's permanent collection dataset through Tilly's (1998) theory of durable inequality, we find that women are underrepresented in donor gift acquisitions but overrepresented in fund-based acquisitions, with no difference in direct purchases. Works by women have substantially shorter collection lags, and conditional on entry, women are more likely to receive repeat acquisitions and longer acquisition spans. However, no gender differences emerge in acquisition volume or departmental breadth. The results suggest selective reinforcement rather than broad inclusion: institutions concentrate investment on a small pool of already-validated female artists. We contribute to DEI research by demonstrating that equality on one metric can mask skew on others, and recommend that museums disaggregate pathways, distinguish "more women" from "more of the same women," and commit to long-term collection-building.

Keywords: Durable inequality, Museums, Art, MoMA, DEI

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Date examined: 29th May 2026

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Master Thesis

Master Program in Business & Management

Stockholm School of Economics

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Acknowledgements

We would like to extend our sincere thanks to the Firestorm Foundation and our thesis supervisor, Stefan Haeffliger. We are especially grateful to Stefan for his continuous guidance and valuable feedback, which have been instrumental in shaping our work and refining our thinking. We also wish to thank the Firestorm Foundation for their support, for believing in our project, and for providing us with access to their resources. In addition, we greatly appreciate the openness, guidance, and the inspiring events and insights shared with us throughout the process. We would also like to extend thanks to SSE and our teachers during this master's thesis course, Jonas Colliander and Karl Wennberg, for creating a supportive and engaging learning environment, which we have greatly appreciated throughout this thesis.

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1. Introduction

1.1 Background

“Do women have to be naked to get into the Met Museum?”

In 1989, the feminist collective Guerrilla Girls plastered this question across New York billboards, pointing to a stark contradiction at the Metropolitan Museum of Art: less than 5% of the artists in its Modern Art galleries were women, while 85% of the nude paintings depicted female figures. More than three decades later, gender inequality still remains deeply embedded within the structures of the art world. In global auction houses, female artists constitute only approximately 7% of works offered for sale, and sell at unconditional mean price discounts exceeding 40% (Leblanc & Sheppard, 2021; Adams et al., 2021). In major US museum collections, only 13% of works are by female artists (Topaz et al., 2019), rising to 28% when restricted to contemporary holdings alone (Topaz et al., 2022). These disparities cannot be explained by a shortage of women entering the field as women earn 70% of bachelor of fine arts degrees and between 65% and 75% of master of fine arts degrees in the US (National Endowment for the Arts, 2019). This suggests that the issue cannot be explained by pipeline factors alone, and may also lie in the institutional processes that follow.

To understand the roots of such inequality, it is critical to examine museums, particularly the role of museum acquisitions. Among the various sites in which disparities arise across the art world, museums are especially consequential because they shape how artistic careers develop and accumulate recognition over time. Fraiberger et al. (2018) show that institutional prestige in the art world is centralised, with a small core of museums occupying the centre of a global network. Access to these institutions is not merely a reflection of prior success but a key driver of it: artists who enter this core early accumulate visibility, credibility, and market value at a compounding rate, while those excluded face trajectories that are difficult to reverse. As a result, the underrepresentation of women in major museum collections is not just one expression of inequality, but one of its most consequential forms.

As the importance of museums and museum acquisitions for shaping artistic careers has become more widely recognised, a number of institutions have taken visible steps to address gender imbalances within their collections. These efforts signal an increasing awareness of the role museums play in reinforcing or mitigating inequality. For example, the Baltimore Museum of Art dedicated an entire year’s acquisition budget exclusively to works by women artists (Voon, 2020). However, despite these initiatives, aggregate outcomes suggest that progress has been limited. The Burns Halperin Report finds that women accounted for only 11% of acquisitions across major American museums between 2008 and 2020, a figure that remained unchanged over the period studied. This raises an important question: if institutions are actively attempting to

increase representation, why do women continue to make up such a small share of acquisitions? One possible explanation is that the issue extends beyond overall representation to the underlying processes through which artists are acquired. These mechanisms remain underexplored in both institutional practice and academic literature, yet they may be central to understanding why progress in acquisition patterns has been so limited.

1.2. Research gap

Existing empirical research has consistently documented gender disparities in representation, revenues, and prices in both primary and secondary markets (Bocart et al., 2017; Bocart et al., 2021; Adams et al., 2021; Leblanc & Sheppard, 2021; Marchenko & Sonnabend, 2022). While this literature provides evidence of unequal outcomes across the art world, it offers considerably less insight into the institutional mechanisms through which these outcomes are produced. This limitation is especially problematic in the context of museums, given their central role in shaping artistic careers and market valuation (Fraiberger et al., 2018).

Research on museums has mirrored the broader literature by focusing on patterns of representation, consistently showing that women remain underrepresented in collections and exhibitions (Wang et al., 2025; Christensen, 2016; Topaz et al., 2019; Topaz et al., 2022). Although these findings are well established, they provide only a partial account of inequality. The processes through which artists enter collections, and the conditions under which recognition is granted, remain comparatively underexplored. This gap has been acknowledged (Christensen, 2016; Gaitán, 2025), yet relatively few studies move beyond documenting disparities to examining the mechanisms that generate them.

Recent work by Canet Solà et al. (2023) begins to address this gap by examining the timing and intensity of museum acquisitions, but their analysis does not consider the gendered dimensions of these processes. While some research adopts a gendered perspective on mechanisms shaping institutional access, such as Kuntz and Vick (2024), who show that educational prestige functions as a pathway through which inequality is reproduced, it captures only one dimension of the broader set of processes that structure access to institutional recognition. The limited number of studies on the subject is notable, as leading researchers on private museums highlight a striking gap in the literature concerning how their operations contribute to gender inequalities (Kolbe et al., 2022).

Moreover, Canet Solà et al. (2023) explicitly identify the source of artworks, specifically acquisition channels, as an underexplored area, highlighting a clear opportunity for further research. This omission is noteworthy, as donor influence has been raised anecdotally as a potential source of gender bias (Burns & Halperin, 2019), yet no study has systematically tested whether donated works are disproportionately by male artists.

This establishes a clear research gap for this thesis. While prior literature highlights several mechanisms within museum acquisition processes as important for museums and artists alike, they remain underexplored from a gendered perspective. In particular, key dimensions such as the timing of entry into collections, acquisition channels, and subsequent institutional engagement have not been examined in relation to gender. This thesis addresses this gap by analysing whether and how these mechanisms differ by gender, interact with one another and how they may contribute to the broader issue of unequal female representation.

1.3. Aim and research question

This thesis aims to contribute to the business and management literature by advancing understanding of how organisational mechanisms shape diversity, equity, and inclusion (DEI) beyond a focus on numerical representation. Rather than treating diversity as a static outcome, it shifts attention to the institutional dynamics underlying decision-making in contemporary art museums. To ground this perspective empirically, the study focuses on MoMA due to its central and influential role in the global art network, enhancing the broader relevance of the findings for the art market (Fraiberger et al., 2018). Drawing on Tilly's (1998) theory of durable inequality, the study examines museum acquisition mechanisms to uncover how curatorial and acquisition practices are structured and to assess the extent to which these processes may inadvertently reproduce and sustain patterns of inequality. Building on this theoretical foundation, three overarching research questions guide the analysis.

RQ1: *Do female artists differ from male artists in how they first enter MoMA's collection?*

RQ2: *Do female artists differ from male artists in the timing of first institutional recognition by MoMA?*

RQ3: *Do female artists differ from male artists in the depth of post-entry institutional engagement by MoMA?*

1.4. Delimitation

This study draws on MoMA's open collection dataset, which is among the most comprehensive and richly documented museum datasets publicly available, making it a natural starting point for this line of inquiry. However, this also means the analysis is necessarily limited to a single institution operating within the North American context. Wang et al. (2025) find that institutions vary widely in their gender dynamics, with some museums achieving gender-neutral or even gender-balanced acquisition patterns while others remain heavily male-dominated, a heterogeneity that a single-institution study cannot capture. That said, MoMA occupies a uniquely central position in the global art network, an institution whose acquisition decisions carry significant weight across the broader art market (Fraiberger et al., 2018). The patterns

identified at MoMA may therefore be relevant beyond this single institution, although they cannot be assumed to hold equally across all museums.

2. Literature review

2.1 Defining organisational gender inequality

Within organizations, inequality refers to systematic disparities between groups in power, resources, opportunities, and treatment produced by ordinary organizational processes. Acker's (2006) concept of "inequality regimes" defines these as interlocked practices and processes that generate continuing disparities across all dimensions of organizational life, from control over goals and resources to promotion opportunities, employment security, and pay. Operationally, a common benchmark is the 40/60 rule, whereby a distribution is considered gender-equal when neither group falls below 40% or exceeds 60% of a given population, a threshold originating from EU policy guidance (European Institute for Gender Equality, n.d), though researchers vary in how they apply it. A more demanding standard is labour-market representativeness, which defines equality by how closely organizational outcomes match the qualified external labour pool rather than an abstract numerical threshold (Buttner & Tullar, 2018). This distinction is particularly consequential in the art world, where women earn 70% of bachelor of fine arts degrees and between 65% and 75% of master of fine arts degrees in the US (National Endowment for the Arts, 2019), meaning a pipeline-adjusted benchmark would imply female representation well above 50%.

2.2 Gender Inequality in Museum Collections

Evidence from major US art museums points to a persistent gender imbalance in permanent collections, with women artists remaining underrepresented despite some gains in contemporary art (Topaz et al., 2019; Topaz et al., 2022). The improvement in contemporary holdings may suggest a generational shift, with newer acquisitions gradually correcting male-dominated legacy collections. However, the evidence does not support this, as women accounted for only 11% of acquisitions and 14.9% of solo exhibitions in major American museums between 2008 and 2020, with representation remaining stagnant over the period (Burns & Halperin, 2022). Moreover, underrepresentation is not evenly distributed across institutions. Wang et al. (2025) show that while 58% of institutions meet a gender neutrality threshold, only 24% achieve gender balance, and male overrepresentation increases with institutional prestige. As a result, the institutions best positioned to confer lasting visibility and market recognition are precisely those where women are most underrepresented.

Recognition of these dynamics has prompted a wave of institutional responses. The Baltimore Museum of Art dedicated an entire year's acquisition budget exclusively to works by women

artists, and institutions including Tate Modern and the National Gallery of Art have made public commitments to collection diversification (Voon, 2020; Burns & Halperin, 2022). Yet scholars caution against interpreting increased activity as structural change. Gaitán (2025) argues that numerical targets and supplementary acquisitions are unlikely to achieve substantive equality without a more fundamental reconfiguration of the frameworks through which collections are organised and interpreted, a conclusion Christensen (2016) echoes in finding that decades of advocacy have produced modest improvements in headline figures while leaving the underlying conditions of inequality intact.

2.3 Significance of Museum entry for artist career success

Fraiberger et al. (2018) offer some of the most important insights into how the art market functions; the authors explore the network effects that shape the art market and identify key factors that help predict an artist's success, arguing that career trajectories are strongly path dependent, meaning that early exhibition history has a lasting impact on future opportunities and valuation. By mapping the exhibition histories of around half a million artists, they show that early inclusion in prestigious museums is a key determinant of long-term success, highlighting these institutions as powerful gatekeepers. This is supported by research showing that early ties to museums shape artists' later reputations (Braden, 2009), and that recognition by central institutions helps sustain artists' positions within elite art networks (Perczel & Vedres, 2025).

2.4 Significance of MoMA and its gender representation

Given Fraiberger et al.'s (2018) position that museums have a central role in shaping artistic careers, it becomes important to focus on those institutions that hold the greatest influence within the global art network. Within their study their model positions MoMA at the centre of the art network. This is supported by other literature such as Perczel and Vedres (2025), who use acquisitions from MoMA as part of their definition for consecration in the art market. Additionally Kuntz and Vick (2024) include representation in MoMA's permanent collection as one of four key indicators of top-tier artistic success. Together, these studies highlight MoMA's role as both a central institution in the art world and a key subject of academic analysis.

MoMA's central role places the institution under considerable public scrutiny. Despite recurring public criticisms over the years regarding inequality at MoMA (Gørrill, 2019; Halperin, 2018; Reilly, 2015), there is no mention of gender or diversity in its acquisition policy (MoMA, 2024). A closer look at empirical research on MoMA's efforts to address these disparities provides a mixed evaluation. Wang et al. (2025), for example, characterise the institution as relatively gender-neutral, suggesting a moderate degree of progress. However, other studies highlight persistent structural inequalities. Kuntz and Vick (2024) show that while a degree from a top-tier MFA program increases the likelihood of exhibiting in leading museums, women with such credentials remain less likely than their male counterparts to be represented at MoMA.

2.5 Literature review summary and theoretical motivation

In summary, there is a clear need to better understand the mechanisms underlying representation issues in museums (Christensen, 2016; Gaitán, 2025), particularly in major institutions such as MoMA, where the actions of a few can have ripple effects across the whole art market (Fraiberger et al., 2018). To move beyond surface-level observations and examine how inequality is produced and reproduced within organisational structures a theoretical framework is needed to enable a structured identification of mechanisms that may sustain inequality at MoMA.

3. Theoretical framework

3.1 Theory usage

To examine the mechanisms that perpetuate inequalities within museum acquisition processes a theoretical framework is adopted with consideration for both the institutional context of museums and the structure of the dataset, enabling a nuanced analysis of acquisition processes. Initially, organisational justice theory provided a useful starting point by distinguishing between distributive justice, concerning outcomes such as representation, and procedural justice, concerning the processes through which decisions are made (Nowakowski & Conlon, 2005). It became clear that this thesis required support from a theory with a procedural rather than a distributive perspective on inequality. However, organisational justice theory, with its predominantly snapshot approach to analysing inequality, offers limited insight into how inequalities unfold over time. Given the longitudinal nature of the dataset, the theory of durable inequality is adopted as the primary framework, as it addresses this limitation by focusing on the mechanisms through which inequalities are produced and reproduced over time, emphasising structural and organisational processes (Tilly, 1998). While relying on a single framework may limit the range of perspectives, it provides a coherent structure for the analysis and a strong conceptual foundation for examining how inequality is generated within organisational processes.

3.1.1 Conceptualising inequality, equality, and representativeness

Before applying Tilly's theory, it is necessary to clarify how this thesis conceptualises inequality, equality, and representativeness. Following Tilly (1998), inequality is not understood simply as numerical imbalance, nor as the result of differences in individual talent, productivity, or artistic merit. Rather, it is conceptualised as a durable categorical difference in access to valued organisational resources. In the museum context, the relevant resource is institutional recognition: the ability to enter a prestigious collection, to be collected at a consequential point in one's career, and to receive continued institutional engagement after entry. This interpretation is consistent with research showing that museum recognition is not merely symbolic, but shapes

reputation, visibility, market valuation, and long-term career trajectories (Fraiberger et al., 2018; Braden, 2009; Perczel & Vedres, 2025). Thus, when this thesis refers to gender inequality in acquisitions, it refers to patterned gender differences in the allocation of institutional recognition, rather than to individual curatorial intent or isolated discriminatory decisions.

Equality is therefore not treated as simple numerical parity on a single measure. A museum collection could increase its overall share of works by women while still reproducing inequality if women enter through narrower pathways, are recognised only within specific temporal windows, or are repeatedly concentrated among a small group of already validated artists. This follows organisational justice theory's distinction between distributive outcomes and procedural conditions (Nowakowski & Conlon, 2005), and aligns with DEI research emphasising that equality should be evaluated through multiple dimensions rather than through a single headline figure (Nishii et al., 2018; Chaudhry, 2022). In this thesis, equality is operationalised as the absence of systematic gendered differences across three forms of recognition: entry pathway, timing of first acquisition, and depth of post-entry institutional engagement.

Representativeness is also understood in a specific way. The thesis does not assume that MoMA's collection should mechanically mirror the gender composition of the general population, art-school graduates, or the wider art market. Museum collections are selective, historically accumulated, and shaped by curatorial judgement. However, because museums claim authority in constructing art-historical value, persistent gender imbalance remains analytically meaningful, especially where prior research shows that women remain underrepresented in major collections and that representation varies by institutional prestige (Topaz et al., 2019; Topaz et al., 2022; Wang et al., 2025). Representativeness is therefore interpreted as a relational standard: whether the acquisition process grants women and men comparable access to the forms of recognition through which institutional value is built. The core assumption is that unequal representation alone does not prove bias, but when unequal representation coincides with patterned differences in acquisition pathways, timing, and depth, it can indicate organisational mechanisms through which durable inequality is produced or reproduced.

3.2 Durable Inequality: Tilly's Theory in Organisational Contexts

Charles Tilly's theory of durable inequality seeks to explain what he defines as inequality-producing mechanisms within organisations that generate persistent structural inequalities (Tilly, 1998, p. 9). Rather than attributing unequal outcomes to differences in individual ability, motivation, or performance, Tilly (1998, p. 7) argues that inequality is fundamentally produced through organisational processes that classify individuals into categories and distribute resources accordingly. The theory thereby aligns closely with a business and management perspective, in that it highlights the need to critically evaluate and improve organisational processes. Furthermore, the theory focuses on categorical inequalities, such as

male versus female, rather than continua like rich versus poor, making it suitable for examining the binary gender differences in museum acquisition processes (Tilly, 1998, p. 6).

Tilly explains the emergence and persistence of inequality through four core mechanisms: exploitation, opportunity hoarding, emulation, and adaptation. These can be grouped into two analytically distinct categories based on their function. Exploitation and opportunity hoarding operate at key organisational boundaries, where decisions are made about access to resources and recognition thereby shaping the initial distribution of opportunities. In contrast, emulation and adaptation act to stabilize and extend these inequalities by embedding them in organisational practices and routines over time. As Tilly does not formally label these groupings, this study refers to the first as “inequality generation” and the second as “inequality reproduction”.

3.2.1 Inequality generation: Opportunity hoarding

Opportunity hoarding occurs when someone gains access to a valuable resource and then maintains control over it by excluding others. This mechanism does not necessarily involve exploitation or direct command over subordinates. Instead, it involves the sequestering of opportunities such as jobs, networks, or information within a closed group. Tilly specifically notes that this restriction to access is in large part due to the “networks *modus operandi*” meaning that such exclusions are embedded within the core functioning of the system rather than occurring as isolated incidents (Tilly, 1998, p. 91).

3.2.2 Inequality generation: Exploitation

The definition of exploitation according to Tilly (1998, p. 91) is “*wherever well-connected people control valuable resources from which they extract returns by deploying the effort of others, whom they exclude from the full value added by that effort.*” In Tilly’s framework, “value” is not limited to monetary gains but may also include non-material forms such as power or prestige. Accordingly, exploitation can be understood as occurring when those who control valuable resources extract disproportionate returns from the contributions of others while excluding them from the full value produced. Tilly (1998, pp. 138–139) further highlights gendered dimensions of this mechanism, pointing to a range of indirect indicators for the presence or absence of category-based exploitation. Among these, one relevant aspect for the present study is the differential scheduling of returns to experience, meaning that some groups receive the benefits of their work earlier than others, in reflection of the interests of those who control valuable resources.

3.2.3 Inequality reproduction: Emulation

Emulation refers to the process by which organisational models, practices, or categorical distinctions are replicated from one setting to another. Organisations often adopt structures that have proven effective elsewhere, whether through benchmarking, imitation of industry leaders,

or adherence to institutional norms. In doing so, they may reproduce the embedded inequalities associated with those structures, even without explicit intention. Emulation does not require any actor to have deliberate discriminatory intent; it only requires that actors follow established models that embody categorical distinctions. As a result, emulation spreads and generalizes categorical inequality across organisations and settings, making unequal arrangements appear natural, inevitable, and widely accepted.

3.2.4 Inequality reproduction: Adaptation

Adaptation, in turn, operates at the level of everyday organisational life. It is described as an “extremely general mechanism” as it notes how categorical distinctions become embedded in formal and informal structures, and individuals adjust their behaviour, expectations, and interactions accordingly (Tilly, 1998, p. 97). Over time, these adaptations normalise inequality and make it appear as a natural or inevitable feature of organisational life.

3.3 Theory application

Each of Tilly’s mechanisms is reflected in observable patterns within museum acquisition processes, enabling an assessment of how they may generate or reinforce inequality. Adaptation is excluded, as our data cannot account for the personal, reciprocal interactions this mechanism requires. Focusing instead on the remaining three mechanisms, we identify three corresponding phenomena as potential drivers of inequality in museum acquisitions, each of which directly informs one of the three research questions developed in Section 1.3. Figure 3.1 provides an overview of relationships between theoretical concepts, RQs and the following hypothesis in this section. Meanwhile figure 3.2 summarises how these mechanisms are translated into observable dimensions of MoMA’s acquisition process, and serves as a guide for the subsequent sections.

Figure 3.1: Conceptual framework

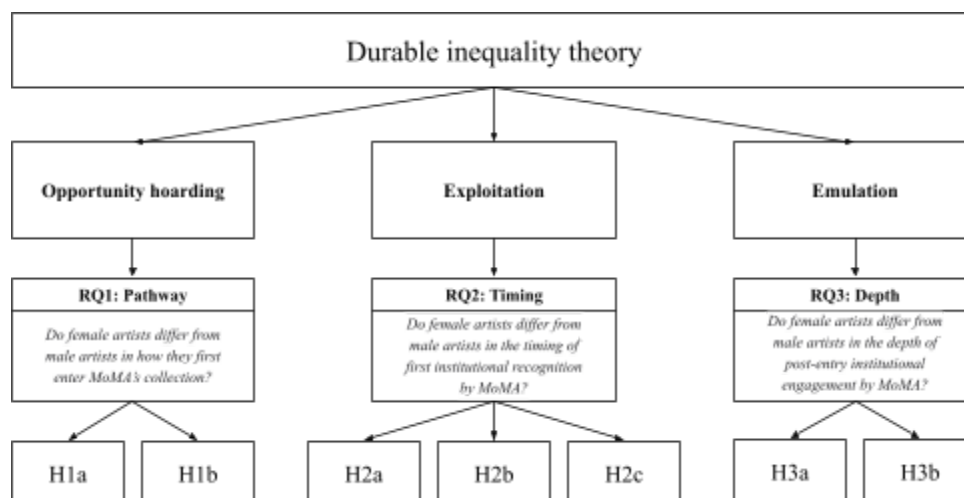
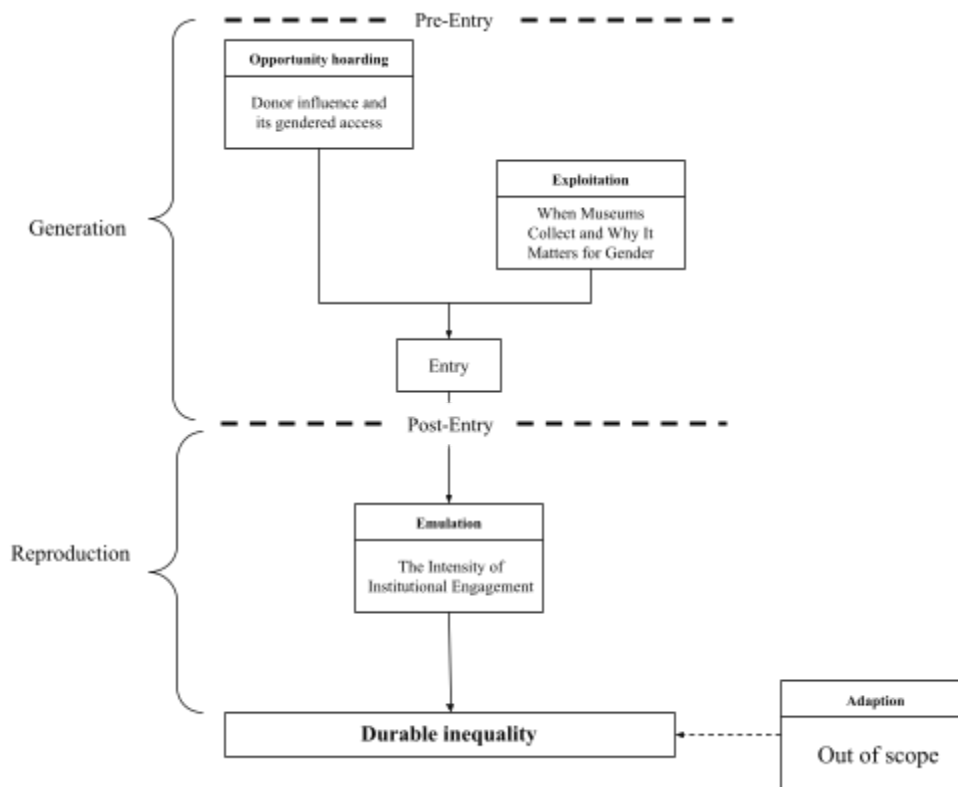


Figure 3.2: Application of Tilly's Framework to Museum Acquisitions



3.3.1 Opportunity hoarding: Donor influence and its gendered access (Pathway)

Museums may be perceived as neutral institutions that present a representative history of art; however, a substantial share of artworks enters museum collections through gifts, bequests, and donor-funded transfers rather than direct purchases. In fact, Burns & Halperin (2019) find that museums acquired roughly twice as many works through gifts as through purchases in the institutions they studied. Research on museum finance shows that restricted donations have become the largest single source of permanent capital in the museum sector, and when donor control is strong, it can significantly influence how institutions allocate resources and prioritise activities (Yermack, 2017). The influence held by major donors has been illustrated historically, as exemplified by the case in which Tate faced the threat of legal action from donor Barry Joule, who argued that the institution had not upheld the terms attached to his donation of 1,200 sketches and photographs from the studio of his late artist friend, Francis Bacon (Basciano, 2021). This type of occurrence is described as a convergence between philanthropic giving and market logic, whereby donors and collectors exert increasing influence not only over what museums collect, but also over broader strategies and even the construction of art history itself (Brown, 2019). This structure has important implications for how collections develop.

These power dynamics can be understood through Tilly's concept of opportunity hoarding, whereby bounded groups secure and control access to valuable resources by excluding others (Tilly, 1998, p. 91). In museum acquisitions, donor-mediated pathways can be interpreted as one possible expression of this mechanism by shaping which artists enter collections, with empirical evidence showing their influence is structurally embedded in acquisition decisions (Basciano, 2021; Burns & Halperin, 2019; Yermack, 2017). This positions donor networks as potentially important intermediaries in allocating institutional recognition, with the capacity to channel opportunities toward certain artists over others.

In fact, researchers have raised concerns that the preferences of these donors often shape institutional priorities, acquisitions, and exhibitions in ways that mirror and reproduce prevailing market biases (Jung, 2015; Kolbe et al., 2022). Anecdotal evidence suggests that the prevailing canon is male-focused, and these market biases therefore continue to prioritise male artists (Burns & Halperin, 2019). As the director of the Brooklyn Museum, Anne Pasternak, notes in the article when discussing how the museum's limited budget affects its acquisitions: *"Most of what you receive are gifts, and the trend is that people bought male artists."* MoMA themselves even acknowledge in a blog post that collectors play a key gatekeeping role in the art world, perpetuating inequality as they note, *"those building legacy collections for donation to public institutions have overwhelmingly favoured male artists, often citing investment value, social capital, and tradition."* (MoMA, 2025). Further evidence on market biases is provided by Christensen (2016), who argues that gender imbalances in museum acquisitions may partly reflect donation patterns, with most donated works created by male artists, although no descriptive statistics are provided to support this claim. Therefore, given the central role of donor-driven acquisitions and the evidence that private collecting patterns tend to reinforce the existing male canon, the following hypotheses are proposed:

H1a: *Female artists are less likely than male artists to enter MoMA's collection through donor gift acquisitions*

Concurrently, recent developments in the art market complicate this narrative. Although donors and high-net-worth individuals are not identical categories, they frequently overlap in the museum sector, where wealthy private collectors often become major donors. The Art Basel and UBS Art Market Report 2024 states that 45% of collectors intended to donate works to a museum over the next 12 months, and high-net-worth collections have become increasingly gender-balanced, with works by female artists rising to approximately 44% of such collections (McAndrew, 2024). This suggests that actors often associated with reinforcing inequality may also be contributing to greater gender parity in the works entering museum collections. Observed gender differences in acquisition pathways may therefore reflect earlier collecting patterns rather than current ones. Accordingly, the following hypothesis is proposed:

H1b: *If a gender difference in acquisition pathway is present, this difference will diminish partially or entirely after controlling for decades of acquisition*

3.3.2 Exploitation: When Museums Collect and Why It Matters for Gender (Timing)

There is evidence to suggest that donor influence affects not only which artists are included in museum collections, but also the stage of their careers at which this inclusion occurs. One notable example is François Pinault, one of the world's largest art collectors and donors, who has faced criticism for the extent to which his financial support has shaped institutions such as the Centre Pompidou, significantly influencing its exhibition programming (Berg, 2024; Queminn, 2020). On closer examination of the composition of his collection a study revealed that the "entry capability" of artists, defined as the speed at which artists are incorporated into the collection, varies systematically by gender, with male artists entering at younger ages than their female counterparts (Codignola & Mariani, 2021). Further evidence reinforces this pattern, as Marchenko and Sonnabend (2022) find that revenue disparities are more pronounced among younger artists, with young female artists experiencing greater disadvantages compared to their male peers, suggesting that for younger and less established women there may be a form of discrimination in which gatekeepers and buyers are more risk averse when investing in female artists. However, given the limited research on the behaviour of other donors, the extent to which this mechanism generalises remains uncertain, though it may point toward broader forms of temporally structured exclusion within the art world.

Within Tilly's (1998) framework, different patterns of temporal inclusion can be understood as a form of exploitation through the unequal timing of returns to experience. From Tilly's perspective, exploitation occurs when those in control of valuable resources benefit from the work of others without sharing the full returns. In this case, exploitation occurs if museums and collectors acquire works by female artists only after their success has already been established elsewhere, meaning the initial risk is borne by other actors, while early opportunities which have the greatest long-term impact, may be more frequently allocated to male artists, thereby reinforcing unequal career trajectories.

Gender inequality in career trajectories is well studied as research of academic and corporate promotion systems show that women frequently advance more slowly than comparable men at equivalent career stages even after controlling for productivity and qualifications (Long et al., 1993; Lundberg & Stearns, 2019; Nielsen et al., 2024). These delays accumulate over time, producing substantial disparities in senior representation despite relatively balanced entry-level participation (Cotter et al., 2001; Goldin, 2014; McKinsey & Company, 2024). These findings suggest that delayed career recognition is a systematic issue for women across many industries and may also characterise artistic careers more broadly, beyond the context of the art world or donor influence.

This dynamic is significant as it can reinforce the Matthew effect, whereby early recognition increases the likelihood of future recognition and generates diverging career trajectories over time (Merton, 1968). Evidence across several fields illustrates this dynamic such as science, where early publication success predicts long-run citation rates and career longevity (Petersen et al., 2011). However research on the Matthew effect in the art world remains limited, though Peters and Roose (2021) demonstrate its presence in the allocation of government arts grants, showing that previously funded artists are significantly more likely to receive future funding regardless of the relative quality of competing applications, indicating its potential relevance in artistic contexts. What remains largely untested, however, is whether comparable cumulative processes operate within museum acquisition itself. This omission is notable given growing evidence that early museum validation represents one of the most consequential forms of recognition in an artist's career (Velthuis, 2005). Empirical research confirms the career consequences of institutional positioning. Early exhibition in central museums is associated with higher auction prices, lower rates of career dropout, and stronger long-term reputation, while recognition by central institutions helps sustain artists' positions within elite networks over time (Fraiberger et al., 2018; Braden, 2009; Perczel & Vedres, 2025). Museum recognition therefore not only records but actively produces the cumulative advantage that shapes artistic careers.

Canet Solà et al. (2023) provide the most direct empirical engagement with the temporal dimension of museum acquisition, examining both the lag between artwork creation and institutional acquisition and the career stage at which artists are collected. Their findings reveal substantial variation in the age at which artists enter major museum collections, both across different museums and within individual institutions. They further show that artists acquired early receive institutional endorsement at a stage when it can generate compounding benefits such as visibility, representation, and collector interest, whereas those acquired later receive the same credential after many of these opportunities have already accrued to others. What they do not account for is the effect of gender in their analysis, leaving open the question of whether women systematically enter major museum collections at later career stages than their male counterparts. That the timing of recognition is experienced as consequential is supported by Burns and Halperin (2025), who find that 63% of women artists identify a lack of institutional backing as a primary career obstacle, with perceptions of age-related disadvantage reported by 84% of artists over 65.

In summary, existing literature suggests that women may be disadvantaged in the timing of institutional recognition, but this remains underexplored in the context of museum acquisition. Accordingly, the following hypothesis is formulated.

H2a: *Female artists will be first acquired by MoMA at a later stage in their careers than male artists, as measured by age at first acquisition.*

However, it is not simply that women get collected at a later stage in life that is potentially problematic but also that the collecting of their art could be concentrated over a narrow window of time. This can be understood through the concept of collection lag, defined by Canet Solà et al. (2023) as the time between the creation of an artwork and its acquisition. As they argue, this timing is not just administrative, it reflects whether a museum takes on a *supportive role* by acquiring works closer to creation thus supporting artists while they are active, or a more *conservatory role* by acquiring works later, thereby contributing to long-term recognition.

Research suggests that women artists may be less likely to benefit from extended institutional recognition over time. Marchenko and Sonnabend (2022) find that female artists are approximately ten percentage points less likely than male artists to remain in the top revenue category over a three-year period. This suggests that women's visibility may be more volatile, characterised by short peaks of attention rather than sustained career trajectories. This instability may be further reinforced by what Debono (2021) terms "Rapid Response Collecting": intensive acquisition activity aimed at capturing a cultural moment as it unfolds. In this context, critics argue that works by women and minority artists are often acquired in response to specific political or cultural moments, such as #MeToo or Black Lives Matter, rather than as part of sustained curatorial commitment (Chun, 2021). Chun (2021) argues that although such movements can create periods of urgency around collecting underrepresented artists, this attention often fades quickly, leaving many female artists with only a narrow window for acquisition.

Going back to Canet Solà et al. (2023) we hypothesize that men may be more likely to accumulate acquisitions across both supportive and conservatory roles, while women may be more concentrated in supportive collecting, limiting the long-term institutional validation that conservatory acquisition provides. While men's historically longer collection lags partly reflect their numerical dominance across earlier centuries, as illustrated by the National Gallery in London where only 27 of approximately 2,300 paintings from the 13th to early 20th century are by women (The National Gallery, n.d.), we argue this disparity is not simply a relic of the past. The structural dynamics described above suggest that even among contemporary artists, women continue to be collected within more reactive windows of time than their male counterparts. Thus the following hypothesis is formulated:

H2b: *Female artists exhibit significantly shorter collection lags than male artists, a pattern that persists even among contemporary artists.*

Building on the previous section's idea that women are collected predominantly in a supportive capacity while men accumulate acquisitions across both the supportive and conservatory roles more extensively, there are indications that women dominate both ends of the collecting spectrum in isolation. This implies that women appear more likely to have their first acquisition occur after death, missing out on the supportive role entirely. This potential pattern is reflected in

the visible trend of institutions acquiring works by women posthumously as part of broader canon-reforming efforts (Dozier, 2023; McDonald, 2024; White, 2025), which Gnyp (2017) describes as a market logic of vindication in which historical exclusion is reframed as both a moral correction and a commercial opportunity. Progress as this may be, the discussion in Reckitt (2016) points to a deeper problem underlying this trend, noting that a gap often exists between the lack of support female artists receive during their lives and how they are only discovered by the art world at the end of their lives or after death. We therefore hypothesise that:

H2c: *Female artists are more likely than male artists to be first acquired by MoMA posthumously.*

3.3.3 Emulation: The Intensity of Institutional Engagement and Its Gendered (Depth)

While the preceding sections examine whether and when women enter major museum collections, a separate question is what happens after that point. An initial acquisition signals recognition, but it does not necessarily amount to sustained institutional support. As Canet Solà et al. (2023) show, major European museums often return to the same artists over time and build substantial holdings through repeated acquisitions. This suggests that what matters is not simply entry into a collection, but the depth of engagement that follows. Continued acquisition strengthens the original signal of endorsement and can generate cumulative reputational advantages that a single purchase cannot achieve. The key issue, then, is whether this deeper form of engagement is distributed evenly across gender.

Research in the gender and art market literature shows that women who reach elite institutional contexts are a select group, and that this selection shapes how their work is valued. Bocart et al. (2021) find that works by women achieve a conditional price premium of 4.4% over comparable works by men once artwork characteristics are controlled for, but this premium appears only after women have crossed the substantial barrier of market entry, with women accounting for fewer than 4% of sales in the sample, and reverses into a discount once output per artist is controlled for. Cameron et al. (2017; 2019) document the same mechanism among Yale School of Art graduates, where female alumni achieve higher average hammer prices despite having significantly fewer works reach auction. In both cases the women who surmount initial barriers constitute a filtered group, and it is the filtering itself that generates the observed conditional advantage.

Within museum contexts, this selectivity dynamic intersects with a second mechanism: increasing institutional pressure to address historically entrenched gender imbalances. Yet such interventions do not necessarily indicate structural change. Scholars argue that numerical targets can produce visible improvements while leaving underlying inequalities largely intact (Christensen, 2016; Gaitán, 2025). Rather than broadening inclusion, institutions often respond

to diversity pressures by intensifying engagement with a relatively small, already validated pool of artists. Evidence from the Harvard Art Museum illustrates this pattern: although women accounted for only 15% of acquisitions, their works were exhibited at nearly twice the rate of those by male artists, creating the appearance of inclusivity through concentrated visibility while the acquisition gap persisted (Goodchild-Michelman & Liu, 2021).

These two mechanisms, market selectivity and tokenistic institutional correction, imply that institutions concentrate investment on a small set of validated female artists rather than broadening inclusion. Thus conditional on entry, women should be more likely to receive any repeat acquisition, and their acquisition spans should be longer. Observing peer institutions responding to diversity pressures, museums follow suit by deepening engagement with this limited pool of established female artists. This apparent corrective measure inadvertently perpetuates inequality: it leaves the broader inclusion gap untouched while normalising tokenistic depth.

H3a: *Conditional on first acquisition, female artists will have a higher probability of repeat acquisition than male artists.*

H3b: *Conditional on first acquisition, female artists will have longer acquisition spans than male artists.*

4. Methodology

4.1. Research Methodology

This study primarily follows a deductive research approach in line with Bryman and Bell (2019); hypotheses are derived from existing theory and are tested empirically. Elements of abductive reasoning are also incorporated, as purely deductive or inductive designs are rarely fully attainable in practice (Bryman and Bell, 2019). Empirical findings iteratively refine theoretical interpretations and reconsider conceptual relationships, particularly where unexpected patterns emerge. Overall, the approach is predominantly deductive yet supplemented by abductive flexibility.

4.2. Research stance

An objectivist ontology is adopted, assuming that social phenomena and institutional structures exist independently of perception and measurably affect outcomes (Bryman & Bell, 2019). The study further aligns with a critical realist epistemology, maintaining that reality exists independently and can be investigated empirically, but observable events are produced by underlying structures and causal mechanisms (Bryman & Bell, 2019; University of Warwick,

n.d.). Disparities in representation are thus understood as manifestations of broader institutional dynamics, examined here through MoMA's observable processes, which shape artistic careers and generate systematic gender differences.

4.3. Data source and collection

The thesis draws on MoMA's publicly available permanent collection dataset. The dataset records every object in MoMA's permanent collection as of March 2026, spanning painting, sculpture, film, and media. MoMA provides two linked files: an artworks file (one row per object with title, artist, acquisition date, credit line, and creation date) and an artists file (one row per artist with nationality, birth year, death year, and gender). These files are linked through a shared artist identifier, allowing each acquisition event to be connected to the relevant artist profile.

Covering acquisitions from MoMA's founding in 1929 to the present, the dataset allows observation of whether, when, how, and with what recurrence an artist entered the collection. This supports treating institutional recognition as a process rather than a single event, consistent with prior quantitative research using this dataset (Manovich, 2015; Topaz et al., 2019; Canet Solà et al., 2023). At extraction, the artworks file contained 172,693 rows (multiple per artist) and the artists file 15,803 rows. The merged dataset retains all acquisition events for which an artist identifier can be matched across both files. The primary unit of analysis is the artist, although some variables, such as collection lag, are derived from artwork-level information linked to the artist's first acquisition. For each artist, the first recorded acquisition is identified and used to construct the entry and timing measures analysed in RQ1 and RQ2. A separate dataset is used to capture post-entry acquisition activity for the depth analyses in RQ3.

In line with Bryman and Bell (2019), issues of reliability and validity are considered throughout the research design; however, given the use of archival administrative data rather than survey or experimental instruments, these concerns primarily relate to data consistency, variable construction, and measurement validity rather than instrument reliability, and are therefore addressed in the following sections rather than treated as a standalone subsection.

4.4 Sample Construction

All data preparation and statistical analysis were conducted in Stata. The analytical sample is constructed through a series of merging, cleaning, and filtering steps applied to the raw artworks and artists files. The full procedure is documented in the Stata do-files submitted alongside the thesis; the main steps are summarised here for transparency.

The artworks file is first cleaned at the object level. Records with multiple artist attributions are excluded, as the key outcomes concern individual artists' entry and trajectory. The artists file is then merged to the artworks file using the shared artist identifier. Unmatched records are reviewed and either reconciled or excluded depending on the source of the discrepancy. For each

artist, the first acquisition is the earliest recorded date; multiple works acquired on the same day count as a single entry event. This ensures that the analysis captures the moment of first institutional recognition rather than the number of works acquired at that moment. Gender is recorded in the artists file as a categorical variable. The main analysis is restricted to artists classified as male or female, where artists with non-standard gender classifications are excluded from the main regressions. A limitation is that gender reflects museum metadata, not self-identification. This introduces some risk of misclassification, especially for earlier records.

Records with missing acquisition dates, missing birth years where these are required for age calculations, or acquisition years prior to MoMA's founding in 1929 are excluded where relevant. The resulting main sample contains 9,865 artists with at least one dated acquisition and a valid binary gender classification. Model 5 is estimated on the full artist sample because it examines whether artists receive any acquisition after first entry. A separate repeat-acquisition subsample is used for Model 6, which examines acquisition span among artists with at least one acquisition after entry. This subsample contains 3,617 artists. A detailed overview of the sample construction process and model-specific estimation samples is provided in Appendix Table 8.1

4.5 Variables

4.5.1 Entry pathway

Derived from free-text credit lines, the pathway variable groups unique strings into gift, fund, purchase, or bequest. Gift acquisitions refer to works attributed to named individuals, families, or anonymous donors. Fund acquisitions refer to named funds, endowments, or purchase funds. Bequests refer to transfers through an estate or bequest. Purchase acquisitions are those recorded as direct purchases without attribution to a donor or fund. Credit lines that cannot be assigned to one of these categories are grouped into an ambiguous residual category. These observations are excluded from the pathway regression but retained for all other analyses.

Three dependent variables are used to examine RQ1, corresponding to three logistic regression models. Model 1a uses a binary indicator equal to one if the artist's first acquisition occurred through purchase and zero otherwise (gift, fund, or bequest). This establishes a baseline test of direct curatorial purchase entry. Model 1b tests H1a directly, using a binary indicator equal to one if the artist's first acquisition occurred through gift and zero otherwise (purchase, fund, or bequest). Model 1c tests using a binary indicator equal to one if the artist's first acquisition occurred through fund and zero otherwise (purchase, gift, or bequest). Bequests are retained in the dataset but are not analysed as a separate pathway due to their rarity (0.52%).

4.5.2 Timing of recognition

Three variables capture the timing of first institutional recognition. Age at first acquisition is calculated as the difference between the artist's birth year and the year of first acquisition. Because this measure is only meaningful for artists alive at the time of entry, it is restricted to artists whose death year is either missing or later than the acquisition year. Collection lag measures the number of years between the creation of the first acquired work and its acquisition by MoMA. It is calculated as acquisition year minus creation year. Where the creation date is given as a range, the later year is used. Negative values, which reflect obvious data inconsistencies, are treated as missing. Because the distribution of collection lag is strongly right-skewed, the variable is log-transformed in the regression analysis, following Canet Solà et al. (2023). Predicted values are later converted back into years for interpretation. Posthumous acquisition is a binary indicator equal to one if the artist's recorded death year precedes the year of first acquisition and zero otherwise. Artists with no recorded death year are treated as not identified as posthumous in the main specification and are therefore coded as non-posthumous. Because this coding may be sensitive to missing death-year information, a robustness version restricted to artists with recorded death years is retained for sensitivity checking. Acquisition decade is derived from the year of first acquisition and is coded as a categorical variable.

4.5.3 Depth of institutional commitment

Depth is captured through two primary variables that measure whether and how the museum continues to collect an artist after first entry. Any repeat acquisition is a binary indicator equal to one if the artist appears in the dataset with at least two dated acquisitions and zero otherwise. Acquisition span is defined as the number of years between the first and last recorded acquisition associated with an artist, capturing the temporal duration of MoMA's engagement with that artist's work. Additional exploratory models examining acquisition volume and departmental breadth are reported in Appendix 8.4.1.

4.5.4 Main explanatory variable and controls

The key explanatory variable throughout the thesis is Female, a binary indicator equal to one for artists classified as female and zero for artists classified as male. This is the central variable of interest in all regression models.

All models include acquisition-decade fixed effects based on the year of first acquisition. These control for broad shifts in MoMA's collecting practices and in the wider art world over time, including changes in curatorial priorities, acquisition volume, and the demographic composition of recognised artists. Decade rather than year fixed effects are used because they provide a meaningful adjustment for period effects without overfitting the early part of the sample, where

the number of women is small. The earliest observed decade serves as the reference category. Standard errors are heteroskedasticity-robust throughout (White, 1980).

Nationality is available in the artists file, but it is not included as a control in the main specifications. The sample contains a large number of distinct nationalities, however these are lacking in the earlier decades. Including nationality would therefore reduce comparability across models and substantially fragment the estimation sample. Instead, nationality is described in the descriptive statistics and discussed as a limitation.

4.6 Pathway coding

Among the variables used in the thesis, acquisition pathway requires the greatest interpretive judgement. Unlike the timing and depth variables, which are derived from numeric fields, pathway must be inferred from the free-text credit line attached to each artwork. Because these credit lines were recorded over nearly a century of museum practice, their wording varies across time and departments.

The coding procedure was carried out in two stages. First, all unique credit line strings were extracted and reviewed. On that basis, a set of regular-expression patterns was developed in Stata to classify each credit line as gift, fund, purchase, bequest, or ambiguous. Second, the automated coding was checked through manual review of a random sample of 500 records, and unclear cases were re-examined and reclassified where necessary. The full pathway coding rules, coding priority procedure, validation steps, and final pathway distribution are reported in Appendix 8.2.1–8.2.3

The coding was consistent for gifts, funds, and bequests, where the language is relatively standardised. Greater ambiguity arose in the purchase category, particularly for short credit lines that may refer to fund-mediated acquisitions without naming the underlying fund. In such cases, records were coded conservatively as a fund rather than purchase. The purchase category should therefore be understood as a lower-bound estimate of clearly identifiable direct curatorial acquisitions. This conservative treatment reduces the risk of overstating any gender difference in pathway.

Two limitations are important. First, the credit line captures the formal mechanism of acquisition rather than the full social process behind it. A fund acquisition may still reflect donor influence, while a gift may have originated in curatorial initiative. Second, credit line conventions changed over time, so some variation across decades may reflect administrative practice rather than substantive shifts in acquisition behaviour. Acquisition-decade fixed effects help absorb broad period differences, but they cannot eliminate all such concerns. Despite these limitations, the credit line remains the only systematic indicator of acquisition mechanism available in the public data and provides a credible basis for the pathway analysis.

4.7 Model Specification

To test the hypotheses developed across the three mechanisms identified in this study, each hypothesis is examined using one or more models tailored to the nature of the outcome variable. All models include acquisition-decade fixed effects as the main control for temporal confounding, and heteroskedasticity-robust standard errors are used throughout (White, 1980). Table 4.1 summarises which model(s) are used to test each hypothesis. Full regression outputs for the main models, including acquisition-decade coefficients, are reported in Appendix 8.3.

Model fit is interpreted differently across model types. For OLS models, R^2 indicates the share of observed variation in the dependent variable accounted for by the variables included in the model. For logistic models, pseudo R^2 should not be read as the proportion of variance explained. Instead, it indicates improvement in model fit relative to an intercept-only model and is therefore used here as a rough indicator of explanatory power. Since the models are intentionally parsimonious and include only gender and acquisition-decade fixed effects, modest R^2 or pseudo R^2 values are expected. The results should therefore be interpreted as evidence of systematic gender differences in specific acquisition mechanisms, rather than as complete predictive explanations of MoMA's acquisition decisions.

Table 4.1: Hypothesis-to-model mapping table

RQ	Conceptual Section	Description (short)	Hypothesis	Model(s)
1	Pathway	Female artists less likely to enter via donor gift	H1a	Model 1
		Gender difference diminishes after controlling for decade	H1b	Model 1
2	Timing	Female artists acquired later in career (age at first acquisition)	H2a	Model 2
		Female artists have shorter collection lags	H2b	Model 3
		Female artists are more likely than male artists to be first acquired by MoMA posthumously.	H2c	Model 4
3	Depth	Female artists will have a higher probability of repeat acquisition than male artists.	H3a	Models 5
		Female artists will have longer acquisition spans than male artists.	H3b	Models 6

Note: Throughout this section, binary dependent variables are coded 1 if the condition is met and 0 otherwise.

4.7.1. Pathway: Donor Influence, Acquisition Channels, and Gendered Access (Models 1a, 1b, 1c)

The first area of interest investigates whether women and men differ in the formal pathway through which they first enter MoMA's collection. Three logistic regression models are estimated, each with a binary dependent variable and acquisition-decade fixed effects. All three models use the same logistic regression specification:

$$\log\left(\frac{P(Y_i=1)}{1-P(Y_i=1)}\right) = \alpha + \beta_1 Female_i + \sum_{d=2}^D Y_d Decade_{id}$$

Where Y_i the respective pathway indicator for artist i , $Female_i$ is a binary gender indicator, and $Decade_{id}$ are acquisition-decade fixed effects with the earliest observed decade as the reference category.

The three models differ only in their dependent variable. Model 1a tests purchase entry as a baseline, with the dependent variable equal to 1 if the artist's first acquisition occurred through purchase and 0 if it occurred through gift, fund, or bequest. Model 1b tests H1a directly, with the dependent variable equal to 1 if the artist's first acquisition occurred through gift and 0 otherwise. Model 1c tests fund entry as an exploratory variable, with the dependent variable equal to 1 if the artist's first acquisition occurred through fund and 0 otherwise.

H1b predicts that any gender differences in acquisition pathways will diminish after controlling for acquisition decade. This is assessed by comparing the raw gender gaps reported in the descriptive statistics (Table 5.1) with the adjusted coefficients from Models 1a-1c. If the adjusted gaps are substantially smaller or non-significant, H1b is supported; if they remain similar in magnitude and significance, H1b is not supported.

4.7.2. Timing: When Museums Collect and Why It Matters for Gender (Models 2 - 4)

The second area of interest concerns when institutional recognition occurs. Three outcomes are examined to capture distinct dimensions of timing: the artist's age at first acquisition, the lag between artwork creation and acquisition, and whether the artist's first acquisition occurred posthumously.

4.7.2.1. Model 2: Age at first acquisition

Model 2 examines whether female artists are first acquired by MoMA at an older age than male artists. The dependent variable is the artist's age at first acquisition, measured in years and restricted to artists alive at the time of entry. The specification is:

$$Age_i = \alpha + \beta_1 Female_i + \sum_{d=2}^D Y_d Decade_{id} + \varepsilon_i$$

where Age_i is the age of artist i at first acquisition, $Female_i$ is a binary indicator equal to one for female artists and zero for male artists, and $Decade_{id}$ is a set of acquisition-decade indicators, with the earliest observed decade serving as the reference category. β_1 captures the conditional difference in mean age at first acquisition between women and men, holding acquisition decade constant. Results are reported in years, with adjusted predicted values evaluated at the means of the other covariates.

4.7.2.2. Model 3: Collection lag

Model 3 examines the temporal distance between the creation of the first acquired work and its acquisition by MoMA. This model tests H2b by assessing whether works by female artists are acquired closer to their date of creation than works by male artists. Collection lag is measured as the number of years between artwork creation and acquisition. Because the raw lag distribution is strongly right-skewed and includes same-year acquisitions, the dependent variable is transformed as $\log(collectionlag + 1)$. The addition of one allows observations with zero-year collection lags to remain in the analysis. The model is estimated using a generalised linear model with Gaussian family and identity link, with heteroskedasticity-robust standard errors. The specification is:

$$\log(Lag_i + 1) = \alpha + \beta_1 Female_i + \sum_{d=2}^D \gamma_d Decade_{id} + \varepsilon_i$$

where Lag_i denotes the collection lag in years for artist i . The model is estimated only for observations with non-negative lag values. β_1 captures the conditional difference in mean log-transformed collection lag between female and male artists, holding acquisition decade constant. Predicted values are later back-transformed into years for interpretation.

4.7.2.3. Model 4: Posthumous acquisition

Model 4 examines whether women and men differ in the probability that their first acquisition occurred after death. This model tests H2c by estimating whether female artists are more likely than male artists to first enter MoMA's collection posthumously. The dependent variable is a binary indicator equal to one if the artist had died before the year of first acquisition and zero otherwise. The model is estimated using logistic regression:

$$\log\left(\frac{P(Posthumous_i=1)}{1-P(Posthumous_i=1)}\right) = \alpha + \beta_1 Female_i + \sum_{d=2}^D \gamma_d Decade_{id}$$

where $Posthumous_i$ indicates whether artist i was deceased when their first work entered the collection. The coefficient β_1 captures whether women differ from men in the probability of posthumous acquisition, conditional on acquisition decade. As in Model 1, the results are presented as adjusted predicted probabilities evaluated at the means of the other covariates.

4.7.3. Depth: The Intensity of Institutional Engagement and Its Gendered Distribution (Models 5 & 6)

The third area of interest asks whether institutional recognition is followed by sustained engagement after entry into the collection. Two primary outcomes capture different aspects of post-entry depth, corresponding to H3a and H3b.

4.7.3.1 Model 5: Any Repeat Acquisition

Model 5 examines whether an artist receives at least one acquisition after first entry into the collection. The dependent variable is binary and equal to one if the artist has at least two acquisition events in the dataset and zero otherwise. Because the outcome is binary, the model is estimated using logistic regression:

$$\log\left(\frac{P(Repeat_i=1)}{1-P(Repeat_i=1)}\right) = \alpha + \beta_1 Female_i + \sum_{d=2}^D \gamma_d Decade_{id}$$

where $Repeat_i$ indicates whether artist i received any acquisition after the first entry. β_1 captures whether women differ from men in the probability of receiving at least one repeat acquisition, conditional on acquisition decade.

4.7.3.2 Model 6: Acquisition span

Model 6 examines acquisition span, defined as the number of years between an artist's first and last recorded acquisitions. Because the outcome is continuous, the model is estimated using ordinary least squares with heteroskedasticity-robust standard errors:

$$Span_i = \alpha + \beta_1 Female_i + \sum_{d=2}^D \gamma_d Decade_{id} + \varepsilon_i$$

where $Span_i$ is the acquisition span for artist i . β_1 represents the conditional difference in acquisition span, measured in years, between women and men.

4.8 Robustness Strategy

The main findings are potentially vulnerable to three sources of bias. First, women are heavily concentrated in later acquisition cohorts, raising the possibility that the results are sensitive to sparse female representation in the earliest decades. Second, the posthumous-acquisition model may be sensitive to the treatment of artists with missing death-year information. Third, women and men are unevenly distributed across departments, creating the possibility that the apparent gender difference in collection lag reflects departmental acquisition norms rather than a general pattern.

To address these concerns, three robustness checks are conducted. First, the key models are re-estimated on a post-1960 subsample, reducing the influence of early decades where female representation is especially sparse. Second, the posthumous-acquisition model is re-estimated among artists with recorded death years only, addressing the sensitivity of the main specification to missing death-year information. Third, the collection-lag model is re-estimated separately within the four largest departments: Drawings and Prints, Photography, Painting and Sculpture, and Architecture and Design. Taken together, these checks assess whether the main findings survive alternative sample restrictions, alternative treatment of missing death-year information, and departmental decomposition.

4.9. Method discussion

The methodological strength of this thesis lies in its use of a long-run administrative dataset that records realised acquisition outcomes across nearly a century of institutional activity. This makes it possible to analyse institutional recognition as an observable process, including not only first entry into the collection but also its timing and subsequent depth. The data are especially well suited to identifying patterns in how recognition is allocated over time within a single influential organisation. At the same time, the design has clear limits. The analysis observes acquisition outcomes rather than the internal decision-making processes that produced them, and several variables, most notably pathway, are necessarily proxies rather than direct measures of curatorial or donor intent. The findings should therefore be interpreted as associational and institution-specific. Transparent coding rules, conservative variable construction, and the robustness checks reported later in the thesis help strengthen confidence in the empirical results, but they do not eliminate these underlying constraints.

5. Results

5.1 Descriptive Statistics

The analytical sample comprises 9,865 artists recorded as male or female in MoMA's metadata: 1,963 women (19.9%) and 7,902 men (80.1%). Table 5.1 reports descriptive statistics for the main variables used in the analysis, organised around the three dimensions of institutional recognition examined in the thesis: entry pathway, timing of recognition, and depth of institutional commitment.

Table 5.1: Descriptive Statistics by Gender

Variables	Female (n=1963)	Male (n=7902)	All artists (n=9865)	p-value
Pathway (% of artists whose first acquisition was via this channel)				<0.001
Gift (%)	44.83	53.67	51.91	
Fund (%)	32.65	24.07	25.78	
Purchase (%)	11.56	12.97	12.69	
Bequest (%)	0.41	0.54	0.52	
Ambiguous/missing (%)	10.55	8.74	9.10	
Timing				
Age at first acquisition (mean, SD) ^a	45.3 (15.1)	44.5 (14.7)	44.6 (14.8)	0.053
Collection lag (median, IQR)	3 [1–14]	4 [1–32]	4 [1–29]	<0.001
Acquired posthumously (%) ^b	11.5	18.3	17.0	<0.001
Depth				
Artists with any repeat acquisition (%)	34	37.3	36.7	0.007
Total post-entry acquisitions (median, IQR) ^c	3 [1–13]	4 [1–15]	4 [1–15]	0.005
Acquisition span (mean, SD) ^d	22.0 (20.8)	24.7 (21.7)	24.2 (21.6)	0.005
Departmental breadth (mean, SD) ^d	1.34 (0.61)	1.35 (0.64)	1.35 (0.63)	0.856

^a Restricted to non-posthumous first acquisitions with known birth year (female n=1580, male n=5,776).

^b Defined as the first acquisition after death.

^c Reported for artists with at least one post-entry acquisition (female n=668, male n=2,949).

P-values: t-test for age and breadth; Wilcoxon for lag, total acquisitions, and span; proportion tests for repeat and posthumous; chi-square for pathway."

Clear gender differences appear in the descriptive distribution of entry pathways. The overall pathway distribution differs significantly by gender ($p < 0.001$). Male artists are more likely to

have entered the collection through individual donor gifts, with 53.7% of men first acquired through this channel compared with 44.8% of women. Women, by contrast, are more concentrated in the fund pathway, at 32.7% compared with 24.1% for men. Purchase entry is relatively similar across gender, at 11.6% for women and 13.0% for men, while bequest entry is rare for both groups.

The timing measures show a more mixed descriptive pattern. Women are first acquired at a slightly older mean age than men, at 45.3 years compared with 44.5 years, although this difference is only marginally significant in the unadjusted comparison. Women's works are acquired more contemporaneously: the median collection lag is 3 years for women and 4 years for men, and the interquartile range is narrower for women, at 1-14 years compared with 1-32 years for men. Women are also less likely to be acquired posthumously in the raw data, with 11.5% first entering the collection after death compared with 18.3% of men.

Before adjustment, depth appears less favourable to women: 34.0% receive any repeat acquisition versus 37.3% of men. Among artists with repeat acquisitions, women also have a lower median number of post-entry acquisitions, 3 compared with 4 for men. Their acquisition histories are shorter as well, with a mean span of 22.0 years compared with 24.7 years for men. By contrast, departmental breadth is almost identical across gender, with mean values of 1.34 for women and 1.35 for men.

Taken together, the descriptive statistics provide an initial, unadjusted assessment of the hypotheses before the multivariate models are introduced. These patterns should not be interpreted as formal hypothesis tests, since they do not account for acquisition decade or other temporal shifts in MoMA's collecting practices. However, they help clarify the empirical context and show which expectations are already visible in the raw data, which are contradicted, and which require regression analysis to assess properly.

For the pathway hypotheses, the descriptive evidence gives preliminary support to H1a. Women are less likely than men to enter MoMA's collection through gift-based pathways, with 44.8% of female artists first acquired through gifts compared with 53.7% of male artists. At the same time, women are more likely to enter through fund-based acquisitions, at 32.7% compared with 24.1% for men. Purchase entry is comparatively similar across gender, at 11.6% for women and 13.0% for men, while bequests are rare for both groups. This suggests that the gender difference in entry is not a general difference across all acquisition channels, but a pathway-specific pattern concentrated in gift and fund acquisitions. H1b, however, cannot be evaluated descriptively because it concerns whether these pathway differences remain after acquisition decade is taken into account. The raw pathway distribution therefore motivates the multivariate models by showing that a gendered pattern exists, while leaving open whether it reflects temporal changes in the collection.

For the timing hypotheses, the descriptive evidence is more mixed. The raw mean age at first acquisition is slightly higher for women than for men, at 45.3 years compared with 44.5 years, which offers only weak preliminary support for H2a and is marginal in the unadjusted comparison. By contrast, the collection-lag pattern provides clearer descriptive support for H2b. Works by female artists have a shorter median collection lag than works by male artists, at 3 years compared with 4 years, and the interquartile range is also narrower for women, at 1–14 years compared with 1–32 years for men. This indicates that male artists are more represented in the long retrospective tail of acquisitions, while women's works are more often acquired closer to their date of creation. The descriptive evidence contradicts H2c: women are less likely, not more likely, to be first acquired posthumously, with 11.5% of female artists entering after death compared with 18.3% of male artists. Thus, before adjustment, the timing evidence does not point to a simple delayed-recognition pattern for women. Instead, it suggests that women's recognition is more concentrated in living and contemporary acquisition windows.

For the depth hypotheses, the raw descriptive evidence initially points in the opposite direction from H3a and H3b. Before adjustment, women are less likely to receive any repeat acquisition, at 34.0% compared with 37.3% for men. Among artists with at least one post-entry acquisition, women also have fewer post-entry acquisitions, with a median of 3 compared with 4 for men, and shorter acquisition spans, with a mean of 22.0 years compared with 24.7 years for men. Departmental breadth is almost identical across gender, suggesting that the raw gender difference in depth is not about spread across departments, but about recurrence and duration of collecting. However, these unadjusted depth patterns should be interpreted especially cautiously, because women are more concentrated in recent acquisition cohorts and therefore have had less historical time to accumulate repeat acquisitions and long acquisition spans. This makes the multivariate depth models particularly important, as they test whether the apparent male advantage in the raw data persists once acquisition period is controlled for.

Overall, the descriptive statistics already reveal that several hypotheses are partially assessable before regression analysis. H1a and H2b receive preliminary descriptive support, H2c is contradicted, H2a receives at most weak support, and the depth hypotheses appear contradicted in the raw data but are likely confounded by the historical timing of women's entry into the collection. The regression models that follow should therefore be read not as isolated statistical tests, but as a way of assessing whether these initial descriptive patterns persist, disappear, or reverse once acquisition decade is taken into account.

Taken together, the descriptive statistics indicate that women and men differ on several unadjusted dimensions of institutional recognition. In the raw data, women are less likely than men to enter through gift-based pathways and more likely to enter through fund-based pathways. They also have shorter collection lags and are less often acquired posthumously, while appearing to receive less sustained post-entry attention on some depth measures. These descriptive patterns provide an initial view of the hypotheses, but they should not be interpreted as formal tests. They

do not account for the strong temporal imbalance in the sample, since female artists are much more heavily concentrated in recent acquisition cohorts. The regression analysis therefore examines whether these differences persist once acquisition period is taken into account.

5.2 Pathway into the Collection

First, models 1a, 1b, and 1c test whether the channel through which artists first enter MoMA's permanent collection differs systematically by gender. Table 5.2 reports these three models examining purchase, gift, and fund entry respectively.

Table 5.2: Pathway into the Collection (Model 1)

Female (ref: Male)	Model 1a (Purchase)	Model 1b (Gift)	Model 1c (Fund)
Odds ratio	1.073	0.704	1.458
95% CI	[0.912, 1.263]	[0.632, 0.784]	[1.301, 1.633]
p-value	0.393	<0.001	<0.001
Adjusted predicted probabilities			
Male	12.2%	58.9%	26.0%
Female	13%	50.2%	33.8%
Acquisition decade FEs	Yes	Yes	Yes
Robust SE	Yes	Yes	Yes
N	8,961	8,961	8,961

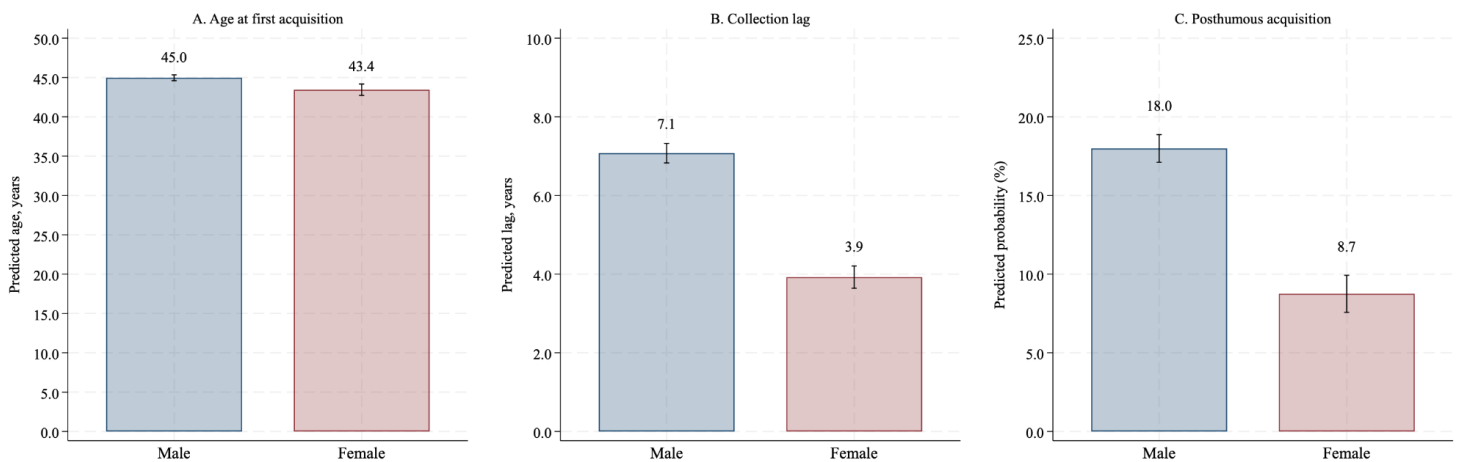
Notes: Sample excludes ambiguous/missing pathways. Six 1920s observations omitted (perfect prediction). n = 8,961. Adjusted predictions at covariate means. Reference decade: 1920s.

Model 1a shows no statistically significant gender difference in direct purchase entry after controlling for acquisition decade. The estimated odds ratio for female artists is 1.073 ($p = 0.393$), with adjusted predicted probabilities of 12.2% for male artists and 13.0% for female artists. Model 1b tests H1a, which predicted that female artists would be less likely to enter through donor gift acquisitions. The results support H1a. Female artists have significantly lower odds of gift entry ($OR = 0.704$, $p < 0.001$). The adjusted predicted probability of gift entry is 58.9% for male artists compared with 50.2% for female artists, a difference of 8.7 pp. Model 1c tests fund entry as an exploratory variable, which showed that female artists are more likely to enter through fund-based acquisitions. Female artists have significantly higher odds of fund entry ($OR = 1.458$, $p < 0.001$). The adjusted predicted probability of fund entry is 26.0% for male artists compared with 33.8% for female artists, a difference of 7.8 pp. Thus, in answer to RQ1, female artists differ from male artists in how they enter MoMA's collection, but the pattern is pathway-specific: they are underrepresented in gift acquisitions and overrepresented in fund acquisitions, with no difference in direct purchase entry.

5.3 Timing of First Acquisition

Second, models 2, 3, and 4 investigate whether the timing of first institutional recognition at MoMA differs by gender. Table 5.3 reports these three models examining the artist's age at first acquisition, the lag between the creation of the acquired work and its acquisition by the museum, and the probability that the artist's first acquisition occurred posthumously, respectively. Figure 5.1 visualises the adjusted predicted values for these three outcomes.

Figure 5.1: Timing of First Acquisition by Gender



Notes: Adjusted predictions from Models 2-4. Panel A: age (years). Panel B: collection lag (years, back-transformed). Panel C: posthumous probability (%). Error bars = 95% CI.

Table 5.3: Timing of First Acquisition (Models 2-4)

	Model 2	Model 3	Model 4
Female (ref: Male)	Age at acquisition (OLS)	Log collection lag (GLM)	Posthumous (Logistic)
Effect estimate (Coef. / OR)	-1.524	-0.495	0.437
95% CI	[-2.357, -0.691]	[-0.561, -0.429]	[0.374, 0.511]
p-value	<0.001	<0.001	<0.001
Adjusted Predicted Values (at means)			
Male	45.0 years	7.1 years	18.0%
Female	43.4 years	3.9 years	8.7%
Model Specification			

Acquisition decade FEs	Yes	Yes	Yes
Robust SE	Yes	Yes	Yes
N	7,356	9,703	9,859
R ² / Pseudo R ²	0.095	—	0.044

Notes: Model 2 restricted to non-posthumous artists with known birth year. Model 3 uses $\log(\text{collection lag} + 1)$; predictions back-transformed as $\exp(x)-1$. Model 4 reports odds ratios. Coefficients reported for Models 2-3. Adjusted predictions in original units. Reference decade: 1920s. Full outputs in Appendix Tables 8.3.1-8.3.2.

5.3.1. Age at first acquisition

Model 2 tests H2a, which predicted that female artists would be first acquired by MoMA at an older age than male artists. Contrarily, the estimated coefficient on the female indicator is negative and statistically significant. Female artists are predicted to be acquired approximately 1.5 years earlier than male artists after controlling for acquisition decade, with adjusted predictions of 45.0 years for male and 43.4 years for female artists. The difference however is modest, suggesting that the adjusted gender gap in age at first acquisition is statistically detectable but not meaningfully large.

5.3.2. Collection lag

Model 3 tests H2b, which predicted that works by female artists would have shorter collection lags than works by male artists. The results support this hypothesis. The estimated coefficient on the female indicator is -0.495, with a 95% confidence interval from -0.561 to -0.429 and a p-value below 0.001. Works by female artists are acquired significantly closer to their date of creation than works by male artists, even after controlling for acquisition decade. The adjusted predictions show that male artists have a predicted collection lag of 7.1 years, compared with 3.9 years for female artists, a difference of 3.2 years. The descriptive statistics point in the same direction: the median collection lag is 4 years for men and 3 years for women, while the interquartile range is wider for men, at 1 to 32 years compared with 1 to 14 years for women. This suggests that the male lag distribution contains a longer right tail, reflecting a larger share of works acquired long after they were created.

5.3.3. Posthumous acquisition

Model 4 tests H2c, which predicted that female artists would be more likely than male artists to be first acquired by MoMA posthumously. The results contradict this hypothesis. The estimated odds ratio for female artists is 0.437, with a 95% confidence interval from 0.374 to 0.511 and a p-value below 0.001; female artists are significantly less likely than male artists to enter MoMA's collection posthumously after controlling for acquisition decade. The adjusted predicted probabilities show a substantial difference: male artists have a predicted probability of posthumous first acquisition of 18.0%, compared with 8.7% for female artists. Rather than

supporting the expectation that women are more likely to receive recognition only after death, the result suggests that women's first acquisitions are more likely to occur during their lifetimes.

Thus, in answer to RQ2, female artists are not recognised later than male artists. They are first acquired at a slightly younger age and are less likely to enter the collection posthumously. However, their works are acquired significantly closer to the date of creation. Overall, the results do not support a general delayed-recognition account. Instead, women's first acquisitions are more concentrated in living and contemporary acquisition windows, while male artists remain more strongly represented in the longer retrospective acquisition tail.

5.4 Depth of Institutional Engagement

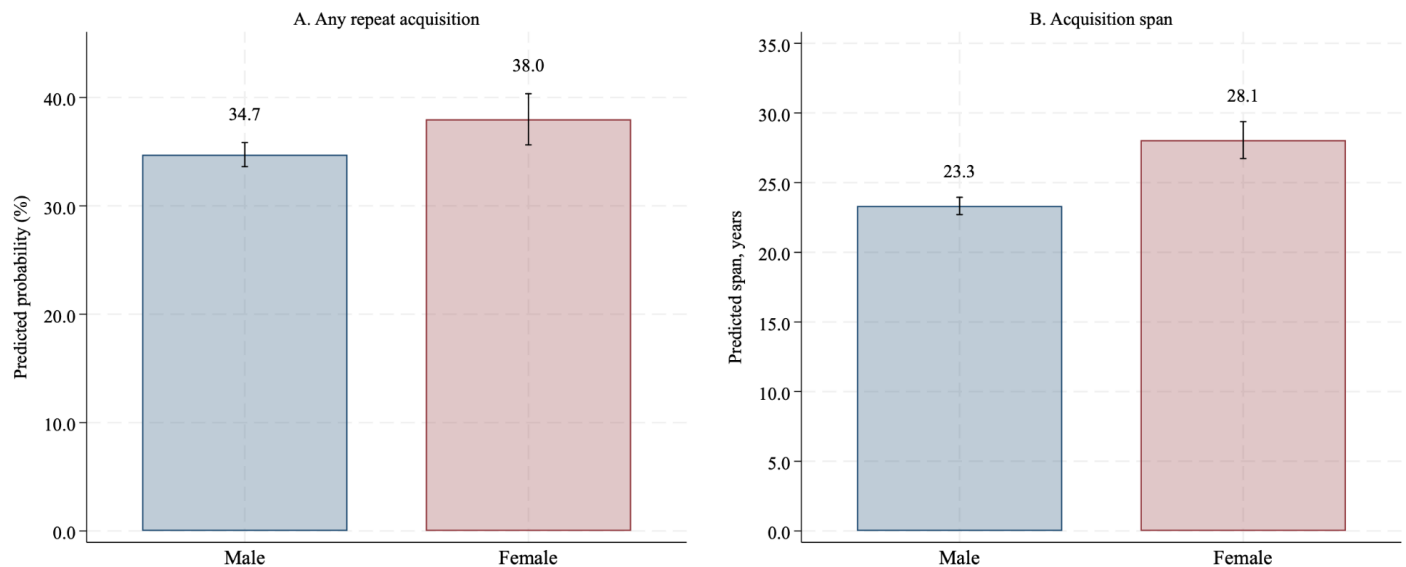
Third, Models 5 & 6 investigate whether the depth of MoMA's institutional commitment differs by gender after artists have entered the collection. Table 5.4 reports the results of models 5 & 6, while figure 5.2 visualises the adjusted depth outcomes from Table 5.4.

Table 5.4: Depth of Institutional Engagement (Models 5 & 6)

	Model 5	Model 6
Female (ref: Male)	Any repeat (Logit)	Acquisition span (OLS)
Effect estimate (OR / IRR / coefficient)	1.152**	4.726***
95% CI	[1.029, 1.288]	[3.307, 6.145]
p-value	0.014	<0.001
Adjusted Predicted Values		
Male	34.7%	23.3 years
Female	38.0%	28.1 years
Model Specification		
Acquisition decade FEs	Yes	Yes
Robust SE	Yes	Yes
N	9,859	3,617
R ² / Pseudo R ²	0.055	0.327

Notes: Model 5 estimated on full sample (n = 9,859). Model 6 estimated on artists with at least one post-entry acquisition (n = 3,617).

Figure 5.2: Adjusted Depth of Institutional Engagement by Gender



Notes: Adjusted predictions from Models 5 and 6. Panel A: probability of repeat acquisition (%). Panel B: acquisition span (years). Error bars = 95% CI.

5.4.1 Any repeat acquisition

Model 5 examines H3a: whether female artists are more likely than male artists to receive at least one acquisition after first entry into the collection. The estimated odds ratio for female artists is 1.152, with a 95% confidence interval from 1.029 to 1.288 and a p-value of 0.014, demonstrating a statistically significant gender difference in favour of women once acquisition decade is taken into account. Male artists have a predicted probability of any repeat acquisition of 34.7%, compared with 38.0% for female artists, a difference of 3.3 percentage points. H3a is therefore supported.

5.4.2 Acquisition span

Model 6 tests the second component of H3: whether female artists have longer acquisition spans than male artists. Acquisition span is defined as the number of years between an artist's first and last recorded acquisitions and is estimated among artists with at least one post-entry acquisition. The estimated coefficient on the female indicator is 4.726, with a 95% confidence interval from 3.307 to 6.145 and a p-value below 0.001, indicating that conditional on acquisition decade, female artists have acquisition histories that extend on average about 4.7 years longer than those of male artists.

The adjusted predictions reinforce this conclusion; male artists have a predicted acquisition span of 23.3 years, compared with 28.1 years for female artists. H3b is therefore supported.

Exploratory analyses examining acquisition volume (total and five-year post-entry counts) and departmental breadth showed no statistically significant gender differences. Full results are reported in Appendix 8.4.

The model-fit statistics suggest generally modest explanatory power. Model 2 explains 9.5% of the variation in age at first acquisition, while the logistic models for posthumous acquisition and repeat acquisition have pseudo R^2 values of 0.044 and 0.055, respectively. These values indicate that gender and acquisition decade capture meaningful but limited parts of the acquisition process. Model 6 has stronger explanatory power, with an R^2 of 0.327, suggesting that acquisition decade and gender explain a more substantial share of variation in acquisition span. No directly comparable R^2 is reported for the collection-lag model, so that result is interpreted through the coefficient, adjusted predictions, and robustness checks. Overall, the models identify robust associations in specific acquisition mechanisms rather than fully explaining all factors shaping MoMA's collecting decisions.

5.5 Robustness Checks

The main results identify gender differences in acquisition pathway (gift and fund entry), timing of first acquisition (collection lag), and depth of engagement (repeat acquisition and acquisition span). Because these findings are estimated in a dataset with strong historical imbalance in gender composition, this section examines whether the main conclusions remain stable under alternative specifications. The robustness checks assess three potential sources of concern: the influence of early acquisition cohorts, the treatment of missing death-year information, and departmental composition.

Table 5.5 summarises the main robustness checks. The post-1960 subsample reduces the influence of the early decades in which female representation is especially sparse. The known-death-year specification tests whether the posthumous-acquisition result is sensitive to the coding of missing death years.

Table 5.5: Robustness checks for main results

Model	Outcome	Robustness specification	Estimate	95% CI	p-value	N
1a	Purchase entry	Post-1960 subsample	OR = 0.985	[0.813, 1.193]	0.878	6,853
1b	Gift entry	Post-1960 subsample	OR = 0.712	[0.634, 0.799]	<0.001	6,853
1c	Fund entry	Post-1960 subsample	OR = 1.441	[1.276, 1.627]	<0.001	6,853
2	Age at first acquisition	Post-1960 subsample	b = -1.515	[-2.429, -0.602]	0.001	5,710
3	Collection lag	Post-1960 subsample	b = -0.517	[-0.589, -0.444]	<0.001	7,600
4	Posthumous acquisition	Post-1960 subsample	OR = 0.414	[0.351, 0.489]	<0.001	7,694
4	Posthumous acquisition	Known-death-year sample	OR = 0.509	[0.406, 0.638]	<0.001	4,886
5	Any repeat acquisition	Post-1960 subsample	OR = 1.281	[1.134, 1.447]	<0.001	7,694
	Acquisition span	Post-1960 subsample	b = 3.396	[2.165, 4.627]	<0.001	2,487

Notes: OR = odds ratio (logit models). b = coefficient (linear models). Post-1960 restricts to acquisitions from 1960 onward. Known-death-year restricts to artists with recorded death years. All models include decade fixed effects and robust SE.

The post-1960 results support the main findings. The pathway results remain stable: purchase entry shows no gender difference, while gift and fund entry show persistent and significant differences in the same directions as the full sample. This suggests that the gift and fund results are not driven solely by the earliest acquisition cohorts. The timing results also remain stable: female artists are still acquired at a slightly younger age than male artists, their works still have shorter collection lags, and they remain less likely to be acquired posthumously. The depth results remain robust as well: female artists remain more likely to receive any repeat acquisition and continue to show longer acquisition spans, although the magnitude of the acquisition-span result is somewhat smaller in the post-1960 subsample.

The known-death-year robustness check supports the main posthumous-acquisition result. When the sample is restricted to artists with recorded death years, female artists remain significantly less likely than male artists to have entered the collection posthumously. This suggests that the main posthumous result is not simply an artefact of treating artists with missing death years as not posthumously acquired.

Table 5.6 reports department-specific versions of the collection-lag model (Model 3). This check addresses whether the shorter collection lag for works by female artists is driven by gendered concentration in particular departments. Full department-specific results are reported in Appendix Table 8.5.2

Table 5.6: Department-specific robustness checks for collection lag

Department	Female coefficient (b)	95% CI	p-value	N
Drawings & Prints	-0.396	[-0.487, -0.304]	<0.001	4,384
Photography	-0.743	[-0.895, -0.591]	<0.001	1,909
Painting & Sculpture	-0.180	[-0.391, 0.032]	0.095	973
Architecture & Design	-0.234	[-0.400, -0.068]	0.006	1,922

Notes: Department-specific versions of Model 3. Dependent variable = $\log(\text{collection lag} + 1)$; negative lags excluded. Coefficients on log scale. All models include decade fixed effects and robust SE.

The female coefficient is negative in all four major departments. The shorter collection lag for women is statistically significant in Drawings & Prints, Photography, and Architecture & Design, and negative but only marginally significant in Painting & Sculpture. This indicates that the shorter collection lag for female artists is not simply a by-product of women and men being concentrated in different departments.

Overall, the robustness checks strengthen the main findings. The pathway results (gift and fund), the collection-lag result, and the posthumous-acquisition result remain stable across alternative samples and specifications. The repeat-acquisition and acquisition-span results are also robust, though the magnitude of the acquisition-span effect is somewhat smaller in the post-1960 subsample. The central conclusion remains that gender differences at MoMA are most evident in the specific composition of donor-mediated pathways, the temporal structure of first recognition, and selected forms of sustained post-entry engagement.

6. Conclusion & Discussion

6.1. Overall interpretation of the findings

This thesis examined whether gender differences in MoMA's acquisition history are produced through three dimensions of institutional recognition: how artists first enter the collection (pathway), when they are first acquired (timing), and how deeply the institution engages with them after entry (depth). Rather than treating gender representation as a single numerical outcome, the study analysed museum acquisition as a process, examining not only whether women are represented, but how recognition is allocated, timed, and sustained.

6.1.1. RQ1: Findings

RQ1: *Do female artists differ from male artists in how they first enter MoMA's collection?*

In answer to RQ1, the findings complicate a simple account of gender inequality in artists' pathway to inclusion. Women are significantly underrepresented in direct donor gift acquisitions and overrepresented in fund-based acquisitions, with no gender difference in direct purchase entry. This suggests that gender differences are shaped by the types of donor pathways rather than by direct purchase entry.

6.1.2. RQ2: Findings

RQ2: *Do female artists differ from male artists in the timing of first institutional recognition by MoMA?*

In answer to RQ2, female artists are not acquired later than male artists; they enter at a slightly younger age and are less likely to be acquired posthumously thus the results defy a delayed-recognition narrative. However, their works are acquired significantly closer to the date of creation than works by male artists, indicating that women's recognition is more concentrated in living and contemporary acquisition windows, while male artists remain more strongly represented in the longer retrospective acquisition tail.

6.1.3. RQ3: Findings

RQ3: *Do female artists differ from male artists in the depth of post-entry institutional engagement by MoMA?*

In answer to RQ3, the results show that, conditional on entry, female artists are more likely to receive repeat acquisitions and have longer acquisition spans. The findings suggest a selective deepening of engagement with a limited pool of female artists who have already crossed the entry barrier.

6.1.4 Addressing the Research Gap

By examining the timing of entry, acquisition channels, and post-entry institutional engagement in relation to gender, this thesis shows that these mechanisms differ systematically between male and female artists and contribute to unequal patterns of representation. In doing so, it addresses a key gap in prior work, which has largely discussed such mechanisms at a theoretical level but provided limited empirical insight into how they operate within institutions (Christensen, 2016;

Gaitán, 2025). More specifically, this thesis addresses the gap on whether gender differences exist in timing and institutional engagement (Canet Solà et al., 2023), as well as providing evidence of donor influence disadvantaging female artists (Burns & Halperin, 2019; Christensen, 2016). It further extends this literature by analysing how these mechanisms interact rather than treating them in isolation. Thus, the findings show that gender inequality in representation is not simply a matter of exclusion, but operates through the configuration of acquisition pathways, the temporal structure of recognition, and the selective deepening of engagement with a limited pool of female artists.

6.2 Durable Inequality at MoMA: Analysis and Findings

6.2.1. Opportunity Hoarding

The pathway results are consistent with opportunity hoarding operating in specific and persistent forms. Female artists are significantly less likely to enter through direct donor gift acquisitions (OR = 0.704, $p < 0.001$), and this difference persists after controlling for acquisition decade. This contradicts H1b, which predicted that gender differences would diminish over time. The disadvantage for women in gift entry is consistent with opportunity hoarding as donors, who have historically favoured male artists, continue to shape the composition of the collection through their giving. However, a countervailing pattern emerges in fund-based acquisitions. Female artists are significantly more likely to enter through fund-based channels (OR = 1.458, $p < 0.001$). Funds, often established by donors but administered by curatorial committees, may represent a pathway where institutional gatekeeping partially counterbalances donor preferences.

Tilly (1998, p. 10) emphasises that opportunity hoarding is jointly sustained not only by external actors such as donors, but also by institutional insiders who regulate access to resources. The contrasting patterns observed here, women disadvantaged in gift entry but advantaged in fund entry, illustrate this dual dynamic. Gift acquisitions reflect direct donor control, where historically male-dominated networks continue to shape the collection. Fund acquisitions, by contrast, are administered by curatorial committees, suggesting that institutional insiders can partially counterbalance donor preferences.

This interpretation aligns with evidence that strong curatorial leadership can mitigate donor-driven biases. Govan argues that shifts in representation at MoMA can be attributed to strong curatorial leadership (Solly, 2019). Given that curatorial roles and their capacity to influence acquisition outcomes vary substantially across institutions (Foster, 2023; Reidla, 2018), opportunity hoarding appears not as a fixed outcome of donor influence but as a contingent mechanism, shaped by the relative strength of internal gatekeeping. This raises a broader question of whether strong curatorial power is a prerequisite for limiting opportunity hoarding driven by donor influence, and whether the pattern observed here, gift disadvantage, fund advantage, holds across institutional contexts with different governance structures.

6.2.2 Exploitation

The timing results complicate a straightforward application of Tilly's exploitation mechanism. The expectation that women would be recognised later (H2a) is not supported; nor is the expectation that women would be more likely to be acquired posthumously (H2c). Instead, gender differences emerge through collection lag (H2b), with works by female artists acquired closer to their moment of creation, while works by male artists more often enter through retrospective acquisition. From Tilly's perspective, exploitation concerns the unequal distribution of returns within value-producing systems, but this does not necessarily need to take the form of simple delay (Tilly, 1998). Inequality here reflects the distribution of long-term cultural value, with male artists benefiting more from retrospective acquisition and female artists concentrated in less historically embedded contemporary acquisition.

At the same time, the shorter collection lag for women may be interpreted as a form of progress, as it allows recognition during active careers. However, it remains unclear whether this reflects a lasting structural shift or is partly driven by a current institutional focus on increasing the representation of female artists, which may favour contemporary acquisitions. Research on elite career trajectories shows that women in highly selective positions may sometimes advance more quickly than comparable men (Cappelli & Hamori, 2005; Bonet et al., 2020), but this advantage is conditional and tends to be strongest in contexts where women remain underrepresented. The shorter collection lag for women may therefore be context-dependent accelerated recognition rather than a stable redistribution of long-term value.

6.2.3 Emulation

The findings regarding depth suggest that emulation operates through selective deepening of recognition. In Tilly's framework, emulation involves copying established organisational practices because they provide legitimate and lower-cost solutions to organisational problems. In a museum field shaped by diversity pressures and public criticism, this can lead institutions to adopt familiar and defensible strategies rather than fundamentally altering acquisition structures.

MoMA's acquisition history reflects this dynamic. Female artists are more likely to receive repeat acquisitions (H3a: OR = 1.152, $p = 0.014$) and exhibit longer acquisition spans (H3b: $b = 4.726$, $p < 0.001$). At first glance, this seems like progress: women who enter the collection receive deeper engagement than men. However, viewed through the lens of emulation, this pattern may reflect a more problematic dynamic. By repeatedly acquiring works from recognised female artists over extended periods, museums align with diversity expectations while avoiding the uncertainty associated with extending recognition to less established figures. The result is selective reinforcement, not broad inclusion. This suggests that when organisations emulate peers, they do so strategically, conforming to prevailing expectations in visible but limited ways rather than substantively changing their practices.

Additionally, exploratory analyses (Appendix 8.4.1) showed no significant gender differences in acquisition volume or departmental breadth, reinforcing the interpretation that emulation manifests through continuation and duration, not through intensity or institutional spread. The practical implications of this pattern, including the distinction between "more women" and "more of the same women", are developed in the following section.

6.2.4 Durable inequality conclusions

The findings indicate that opportunity hoarding operates through donor pathways, though with some mitigating dynamics. Exploitation appears in unequal temporal returns to recognition rather than delayed access, while emulation reinforces patterns through selective and strategic deepening of engagement. Together, these findings show that Tilly's mechanisms are not absent but reconfigured, shifting from overt exclusion to more subtle forms of structured selectivity.

6.3 Contribution and practical implications

6.3.1 Theoretical Contribution

The thesis contributes to research on gender inequality in the art world by shifting the focus from representation to recognition as a process. Existing research has documented that women remain underrepresented in museum collections, exhibitions, and art market outcomes (Wang et al., 2025; Christensen, 2016; Topaz et al., 2019; Topaz et al., 2022). This study extends that work by showing that collection share alone is an incomplete measure of equality. Gendered recognition can appear through the route of entry (gift vs. fund), the timing of acquisition (collection lag), the likelihood of repeat acquisition, and the duration of collecting activity. These dimensions do not necessarily move together, which complicates ambitions of reaching greater equality.

From a business and management perspective, the findings make two distinct theoretical contributions. First, they demonstrate that numerical equality on one metric can coexist with pronounced skew on others, extending existing calls for multidimensional DEI measurement that argue diversity cannot be collapsed into a single headline figure (Nishii et al., 2018; Chaudhry, 2022). This has direct implications for general organizational practice, where institutions pursuing diversity must distinguish between different forms of progress, align their metrics accordingly, and resist treating improvement on one dimension as evidence of structural change. Second, the findings contribute to business and management research by highlighting resource dependence as a mechanism through which inequalities are produced and reproduced. Prior research shows that external funders can shape organizational priorities, decision-making, and accountability through funding conditions and resource control (Arvidson, 2021; Donelli, 2023). By demonstrating that donations influence gender representation in museums, we extend this literature to show how funding structures affect not only organizational behavior but also whose voices, identities, and interests are represented. This suggests that resource dependence should be

theorized as an inequality-producing infrastructure, with implications for representation and inclusion across organizational contexts.

6.3.2 Practical Implications for Museum Management

Drawing on the empirical findings, Tilly's framework, and gaps in current practice, this thesis identifies three concrete implications for museum management, each accompanied by specific recommended measures. The overarching insight is that diversity cannot be managed through representation targets alone. Because inequality operates simultaneously across pathways, timing, and depth of engagement, progress on one dimension can mask stagnation or reversal on others, creating an illusion of structural change where only surface-level adjustment has occurred. For acquisition committees, this means that tracking the share of works by women is a necessary but insufficient condition for meaningful DEI management. Without disaggregating how women enter the collection, at what career stage, and whether that entry translates into sustained institutional commitment, diversity metrics risk becoming a tool for legitimization rather than accountability.

6.3.2.1 Implication: Pathway transparency and donor engagement

Gift entry persistently favours male artists while fund-based entry favours female artists, yet most institutions aggregate these pathways into a single acquisition figure, making the gendered composition of donor influence invisible. The first recommendation is therefore that museums publicly report acquisition pathways disaggregated by gender on an annual basis, distinguishing between gift, fund, and purchase channels. This alone would make donor-driven imbalances legible and create accountability for change. Beyond transparency, however, institutions should take active steps to mitigate the biases embedded in donor networks. Practically, this could involve developing donor engagement programmes that explicitly encourage gifts of works by underrepresented artists, and expanding fund-based acquisition budgets as a deliberate counterweight to gift-driven imbalance, given that fund pathways already show a more favourable gender distribution. Taken together, these measures would shift donor influence from an unexamined structural condition to an actively managed dimension of DEI practice.

Measure	Description	Action/Outcome
<i>Pathway transparency</i>	Breakdown of gender representation across non-purchase sub-pathways (gift, fund, bequest)	This should be reported annually as part of acquisition disclosures to improve transparency in the art market.

6.3.2.2 Implication: distinguish between “more women” and “more of the same women”

The depth findings (H3a and H3b) show that once women enter MoMA's collection, they are more likely than men to receive repeat acquisitions and have longer acquisition spans. At first

glance, this seems like progress. However, viewed through the lens of emulation, this pattern may reflect a more problematic dynamic: institutions concentrate investment on a small, already validated pool of female artists rather than expanding the breadth of recognition. By repeatedly acquiring works from the same recognised female artists over extended periods, museums align with diversity expectations while avoiding the uncertainty associated with extending recognition to less established figures. This creates the appearance of inclusivity through concentrated visibility, while the broader inclusion gap persists. Progress measured as "more acquisitions by women" may therefore be achieved by repeatedly collecting the same few women, leaving the vast majority of female artists untouched. Thus the following measure is recommended:

Measure	Description	Action/Outcome
<i>Breadth of recognition</i>	Ensure that the number of distinct female artists acquired each year grows at least as fast as the number of acquisitions by female artists.	Avoid concentrating acquisitions on a small pool of female artists.

6.3.2.3 Recommendation: build durable, long-term commitment to women artists

The finding that women have shorter collection lags could be interpreted as progress, and in some senses it is. But it could also reflect that women are being collected in reactive, moment-driven windows (e.g., following #MeToo or Black Lives Matter) rather than as part of a sustained, multi-decade commitment to building their legacy. True durable equality requires that women are collected not only as contemporaries but also across the full arc of their careers and beyond, just as men have been for generations. A museum that collects women only when they are young and visible, but fails to continue collecting them into mid-career and posthumously, has not achieved structural change. It has merely swapped one form of temporal inequality for another. Thus the following measure is recommended:

Measure	Description	Action/Outcome
<i>Temporal acquisition balance</i>	Tracks the distribution of collection lags for acquisitions across genders, with particular attention to long-lag acquisitions (e.g., more than 20 years after creation).	Commit to long-term collection-building by ensuring that the proportion of long-lag acquisitions by female artists converges to that of male artists within a defined timeframe, without reducing short-lag acquisitions

6.4 Limitations and future research

6.4.1. Limitations

The findings should be interpreted in light of several limitations. First, the study focuses on a single institution. MoMA is an appropriate and influential case because of its central position in the art world, but its acquisition history, governance structure, donor base, curatorial priorities, and North American institutional context are not necessarily representative of other museums. The results should therefore be understood as analytically generalisable rather than statistically generalisable: they identify mechanisms that may operate elsewhere, but they do not show how common these mechanisms are across the museum sector. This means that the findings are most useful for theory-building and for generating comparative questions, rather than for making direct claims about all museums. Furthermore, the analysis relies on administrative metadata, capturing acquisition outcomes rather than decision-making processes, and therefore cannot account for which works were considered and rejected, how curators evaluated artists, or how donors shaped decisions. Lastly, the data does not allow assessment of how these patterns affect artists' careers. With these limitations in mind, the following section explores potential ways to address them.

6.4.2. Alternative research methods

This study examines only artists who have already entered museum collections, without access to the broader pool from which they were selected. Unlike Abraham Wald's analysis of WWII aircraft, where surviving planes revealed where fatal damage must have occurred on those that did not return, no equivalent inference applies to museum collections. The characteristics of acquired artists do not provide clear insight into those who were considered but ultimately excluded. To capture inequality mechanisms within the pool of considered artists, this study recommends audit studies in future research. Audit studies are particularly valuable because they produce more precise measures of discrimination, and more importantly, they help identify the specific mechanisms producing it (Anderson, 2021; Gaddis & Crabtree, 2021; Pedulla, 2018). This approach is also well suited to examining the persistence of inequality, which pairs naturally with Tilly's theory of durable inequality. In practice, this could involve submitting identical artworks to multiple museums while systematically varying artist characteristics such as gender or age, in order to assess whether these variables produce measurable differences in acquisition decisions.

6.4.3. Future research directions anchored in the hypotheses

While much literature identifies donor influence as a mechanism perpetuating gender inequality (Jung, 2015; Kolbe et al., 2022; Burns & Halperin, 2019), the present study confirms this for gift acquisitions but reveals a countervailing pattern for fund acquisitions, suggesting that donor influence is not monolithic but varies by the institutional channel through which it operates. This raises the question of whether the distinction between gift and fund pathways is specific to MoMA or reflects a broader structural pattern, making comparative research across museums with different governance structures and degrees of curatorial power a natural next step. Younger

museums, whose collections are less shaped by historical legacies, would be particularly instructive in this regard, as they could help isolate whether gendered acquisition patterns persist independently of older male-dominated canons. Extending this comparison across national contexts would add a further dimension, since museum funding models, donor influence, state support, and gender-equity norms vary substantially between privately funded, publicly funded, and hybrid systems, and cross-country analysis could reveal whether durable inequality is amplified or attenuated by these structural differences. Ultimately, however, quantitative comparisons across institutions and countries can only go so far, and qualitative research through interviews with curators, acquisition committees, and donors would be essential for revealing how gender enters acquisition decisions explicitly or indirectly, providing a fuller account of the processes that administrative data alone cannot capture.

Furthermore, to address the limitation of how these mechanisms affect artists' careers, future research can build on the methods of Kuntz and Vick (2024), who find that women remain disadvantaged in museum outcomes despite comparable credentials. This approach could be extended to the donation context by testing whether works by women reflect higher prior recognition than those by men. Such an analysis would allow assessment of whether donor status interacts with independent measures of artistic standing to shape gendered admission thresholds, thereby deepening understanding of donor influence.

Looking beyond the limitations of the present study, an emerging phenomenon worth considering for future research is how the relationship between resource dependence and inequality evolves in an increasingly digital environment. While this study highlights how donor-controlled resources shape representation within museums, younger generations are increasingly discovering, evaluating, and legitimizing artists through social media platforms, and as younger collectors and philanthropists enter the field, donor preferences may become increasingly influenced by digital visibility rather than traditional art-world networks (McAndrew, 2024). This raises important questions about whether social media weakens established mechanisms of opportunity hoarding by creating alternative pathways to recognition, or whether it simply reproduces existing inequalities through algorithmic visibility and attention dynamics. More broadly, future research could investigate how traditional gatekeepers and digital platforms interact in shaping representation and recognition, both within cultural institutions and across other attention-based industries.

6.5 Final conclusion

Evidently, equality in the art market is considerably more complex than in most other industries. Where increased representation can produce relatively immediate change elsewhere, the art market is governed by a temporal logic that complicates any straightforward reading of progress, because it does not simply reward presence but accumulation over time.

The evidence points to a clear pattern of women being disproportionately collected either within narrow, reactive windows during their lifetimes, while men more extensively benefit from both supportive and conservatory collecting across the full arc of their careers and legacies. It is this combination of both roles, and not either one alone, that drives long-term canonisation. Women's exclusion from this combination is what this study terms being outside the "cradle of sustainable collection support," a state in which an artist is collected in both a supportive and conservatory manner across their career. Women falling outside of this to a greater degree means that institutional recognition arrives too narrowly to generate the compounding validation that sustains lasting canonical status. The progress made toward greater equality for women in the art market is real, but remains structurally fragile.

Whether women will secure an equal place in the cradle of sustainable collection support is something that, by the temporal nature of the art market, can only reveal itself in due time. However, the findings suggest that museums have the capacity to gradually reduce durable inequality by leveraging curatorial power in donor interactions and reporting more extensively on donations to external stakeholders, committing to long-term, multi-decade collecting strategies for women artists, and distinguishing between “more women” and “more of the same women” in their diversity metrics.

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8. Appendix

8.1. Sample Construction and Model Ns

Section	Item	Restriction / definition	N
Sample construction	Cleaned artwork records	Records in cleaned artwork file after initial cleaning	172,693
Sample construction	Cleaned artist records	Artists in cleaned artist metadata file	15,804
Sample construction	First-entry artist records	Artist-level first acquisition records before final gender restriction	13,524
Sample construction	Main analysis sample	Artists recorded as male or female and included in the main analysis sample	9,865
Sample construction	Depth subsample	Artists with at least one post-entry acquisition	3,617
Model Ns	Model 1: Purchase entry	Pathway model; ambiguous or missing pathway observations excluded	8,961
Model Ns	Model 2: Age at first acquisition	Restricted to non-posthumous first acquisitions with known birth year and plausible age values	7,356
Model Ns	Model 3: Collection lag	Restricted to non-missing and non-negative collection lag values	9,703
Model Ns	Model 4: Posthumous acquisition	Posthumous acquisition model; observations omitted where Stata detects perfect prediction	9,859
Model Ns	Model 5: Any repeat acquisition	Full main sample, with observations omitted where Stata detects perfect prediction	9,859
Model Ns	Model 6: Total post-entry acquisitions	Artists with at least one post-entry acquisition	3,617
Model Ns	Model 7: Five-year post-entry acquisitions	Artists with at least one post-entry acquisition	3,617
Model Ns	Model 8: Acquisition span	Artists with at least one post-entry acquisition	3,617
Model Ns	Model 9: Departmental breadth	Artists with at least one post-entry acquisition	3,617

Notes: Model Ns are based on the final estimation samples used in the main regression models. Differences in N reflect missing outcome data, sample restrictions, negative or missing collection lag values, post-entry acquisition subsamples, and Stata omissions due to perfect prediction in logistic models.

8.2. Pathway Coding Rules and Validation

This appendix documents how first-acquisition pathway categories were coded from MoMA acquisition and credit-line information. The pathway variable classifies each artist's first recorded entry into the collection as gift, fund, purchase, bequest, or ambiguous/missing. The purpose of the coding procedure is to distinguish between different institutional channels of first entry while preserving ambiguous cases rather than forcing them into a misleading category.

8.2.1. First-Acquisition Pathway Coding Rules

Category	Definition	Keyword / credit-line indicators	Treatment of ambiguous cases
Gift	First acquisition credited to a gift or donation from an individual, estate, institution, or other donor.	Examples include gift, given by, donated by, donation, or similar donor-credit language.	Classified as gift unless the credit line clearly identifies a bequest or fund-based acquisition.
Fund	First acquisition credited to an acquisition fund, donor-established fund, committee fund, purchase fund, or similar internal MoMA fund.	Examples include fund, purchase fund, acquisition fund, committee fund, gift of funds, or named fund language.	Cases containing both purchase and fund language are treated as fund, because the acquisition pathway is mediated through a fund.
Purchase	First acquisition identified as a direct purchase without a fund, bequest, or donor-gift classification.	Examples include purchase, purchased, acquired by purchase, or similar direct-purchase language.	Ambiguous purchase language is not forced into purchase if a fund or donor mechanism is also indicated.
Bequest	First acquisition credited to a bequest, estate transfer, or legacy donation.	Examples include bequest, estate of, legacy, or similar testamentary-transfer language.	Bequest is coded separately from gift because it indicates a distinct form of donor-linked entry.
Ambiguous/missing	Credit-line information is missing, unavailable, or insufficiently clear to assign a pathway.	Includes missing values, unclear wording, and cases where multiple possible pathways cannot be resolved.	Retained as ambiguous/missing in descriptive analyses and excluded from the purchase-entry regression.

8.2.2. Coding Priority and Validation Procedure

Step	Procedure	Purpose
Keyword coding	Credit-line text was searched for pathway-specific terms associated with gift, fund, purchase, and bequest entries.	To create a replicable first-pass classification of acquisition pathway.
Priority ordering	Where credit lines contained overlapping terminology, bequest and fund language were prioritised over generic purchase or gift language.	To avoid misclassifying fund-mediated acquisitions as simple purchases or bequests as generic gifts.
Conservative treatment	Ambiguous or conflicting cases were not forced into purchase, gift, fund, or bequest unless the credit-line wording clearly supported the classification.	To reduce false precision in pathway assignment.
Manual validation	A random sample of 500 first-entry records was manually reviewed against the automated coding rules.	To check whether keyword-based coding produced plausible classifications and to identify recurring ambiguous cases.
Final coding	The final pathway variable retains five categories: gift, fund, purchase, bequest, and ambiguous/missing.	To preserve analytically meaningful categories while keeping unresolved cases visible in descriptive analysis.

8.2.3. Final Pathway Distribution in the Main Analysis Sample

Pathway category	N	Percentage
Gift	5,121	51.91
Fund	2,543	25.78
Purchase	1,252	12.69
Bequest	51	0.52

Notes: Distribution is calculated on the final main analysis sample of artists recorded as male or female. Percentages sum to 100 within the full main analysis sample. Ambiguous or missing pathway observations are retained in descriptive analysis but excluded from the purchase-entry regression.

8.3. Full Logistic Models

8.3.1. Full pathway models

	Purchase entry (Model 1a)	Gift entry (Model 1b)	Fund entry (Model 1c)
Female (ref: Male)	1.073 (0.089)	0.704*** (0.039)	1.458*** (0.084)
acq_decade (ref: 1920s)			
1930s	2.706*** (0.818)	0.570*** (0.141)	1.378 (0.360)
1940s	6.622*** (1.762)	0.358*** (0.088)	1.559 (0.403)
1950s	3.715*** (1.001)	0.407*** (0.100)	1.861** (0.480)
1960s	1.728** (0.469)	0.481*** (0.120)	1.889** (0.488)
1970s	3.851*** (1.031)	0.422*** (0.105)	1.414 (0.365)
1980s	4.966*** (1.319)	0.306*** (0.076)	1.934** (0.497)
1990s	2.561*** (0.702)	0.352*** (0.088)	2.058** (0.530)
2000s	1.357 (0.367)	0.507*** (0.127)	1.482 (0.382)
2010s	0.827 (0.244)	0.945 (0.237)	1.403 (0.362)
2020s	1.000 (.)	1.000 (.)	1.000 (.)
Constant	0.097*** (0.023)	2.104*** (0.467)	0.166*** (0.038)
N	8961	8961	8961

Notes: Odds ratios reported with robust standard errors in parentheses. All models include acquisition-decade fixed effects. Reference categories: gender = male; acquisition decade = 1920s. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

8.3.2. Full timing models: Age at first acquisition, collection lag & posthumous

	Age at first acquisition	Collection lag	Posthumous
	b/se	b/se	b/se
.	.	.	.
main female=0	0.000	0.000	0.000
.	(.)	(.)	(.)
Female	-1.524	-0.495	0.437***
.	(0.425)	(0.034)	(0.035)
acq_decade=1920	0.000	0.000	0.000
.	(.)	(.)	(.)
1930s	-0.545	-0.493	0.575
.	(2.976)	(0.182)	(0.267)
1940s	-0.361	-0.301	1.106
.	(2.931)	(0.175)	(0.498)
1950s	-1.968	-0.351	1.592
.	(2.930)	(0.175)	(0.708)
1960s	-4.216	-0.864	1.874
.	(2.907)	(0.173)	(0.831)
1970s	-4.754	-0.482	2.279*
.	(2.917)	(0.175)	(1.001)
1980s	-1.736	-0.274	2.968**
.	(2.921)	(0.176)	(1.298)
1990s	0.737	-0.202	4.239***
.	(2.931)	(0.177)	(1.856)
2000s	1.674	0.228	4.908***
.	(2.920)	(0.173)	(2.145)
2010s	10.280	0.765	5.652***
.	(2.956)	(0.175)	(2.490)
2020s	10.414	0.681	
.	(3.085)	(0.185)	
Constant	44.833	2.230	0.055***
.	(2.883)	(0.170)	(0.015)
N	7356.000	9703.000	9859

Notes: Coefficients reported with robust standard errors in parentheses. Model 2 is OLS. Model 3 is GLM with Gaussian family and identity link; dependent variable is $\log(\text{collection lag} + 1)$. Reference categories: gender = male; acquisition decade = 1920s. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

8.3.3. Full depth models: Repeat acquisition and acquisition Span

	Any repeat acquisition (Model 5)	Acquisition span (Model 6)
Female (ref: Male)	1.152** (0.066)	4.726*** (0.724)
acq_decade (ref: 1920s)		
1930s	0.545** (0.092)	-22.098*** (7.986)
1940s	0.570** (0.096)	-38.679*** (7.861)
1950s	0.562** (0.095)	-48.046*** (7.843)
1960s	0.475** (0.080)	-49.396*** (7.821)
1970s	0.575** (0.097)	-50.397*** (7.816)
1980s	0.572** (0.097)	-56.254*** (7.800)
1990s	0.573** (0.097)	-60.935*** (7.797)
2000s	0.860 (0.146)	-68.300*** (7.784)
2010s	1.239 (0.219)	-73.085*** (7.786)
2020s	0.852 (0.194)	-76.239*** (7.796)
Constant	0.261** (0.043)	75.500*** (7.776)
N	9859	3617
Pseudo R² / R²	0.055	0.327

Notes: Model 5 reports odds ratios (logistic regression). Model 6 reports coefficients (OLS). Robust standard errors in parentheses. Reference categories: gender = male; acquisition decade = 1920s. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

8.4. Exploratory Depth Models

8.4.1. Acquisition Volume and Departmental Breadth (Models 7, 8, and 9)

The following models are exploratory and are reported here for completeness. They are not central to H3a and H3b. See Section 5.4 for the main depth results.

Model Specifications

Models 7 and 8 examine the intensity of post-entry engagement. Model 7 uses the total number of acquisitions received after first entry, while Model 8 counts only those acquisitions occurring within five years of first acquisition. Models 7 & 8 are estimated using the following negative binomial regression:

$$\log(E[Count_i]) = \alpha + \beta_1 Female_i + \sum_{d=2}^D \gamma_d Decade_{id}$$

where $Count_i$ denotes the expected number of post-entry acquisitions for artist i , defined either over the full post-entry period or within the first five years, depending on the model. β_1 captures the association between gender and the expected number of post-entry acquisitions, conditional on acquisition decade. For interpretability, results are presented using adjusted predicted counts on the original scale.

Model 9 examines departmental breadth, defined as the number of distinct curatorial departments in which an artist's works appear after entry into the collection. The outcome is a count with a limited range. The model is estimated using Poisson regression:

$$\log(E[Breadth_i]) = \alpha + \beta_1 Female_i + \sum_{d=2}^D \gamma_d Decade_{id}$$

where $Breadth_i$ denotes the expected number of departments in which artist i is represented. β_1 captures the association between gender and the expected breadth of institutional representation across departments, conditional on acquisition decade.

	Total post-entry acquisitions (Model 7)	Five-year acquisitions (Model 8)	Departmental breadth (Model 9)
Female (ref: Male)	0.857 (0.118)	0.830 (0.117)	1.030 (0.020)
acq_decade (ref: 1920s)			
1930s	0.636*** (0.077)	0.538*** (0.079)	0.818*** (0.035)
1940s	0.650*** (0.079)	0.562*** (0.083)	0.819*** (0.035)
1950s	0.613*** (0.075)	0.539*** (0.080)	0.838*** (0.036)
1960s	0.591*** (0.072)	0.479*** (0.071)	0.827*** (0.036)
1970s	0.598*** (0.073)	0.503*** (0.074)	0.838*** (0.036)
1980s	0.617*** (0.076)	0.533*** (0.079)	0.867*** (0.037)
1990s	0.706*** (0.086)	0.633*** (0.093)	0.904** (0.039)
2000s	1.015 (0.125)	0.927 (0.138)	0.972 (0.042)
2010s	1.462** (0.189)	1.647*** (0.255)	1.066 (0.047)
2020s	1.000 (.)	1.000 (.)	1.000 (.)
Constant	0.697*** (0.081)	0.625*** (0.087)	1.000 (.)
N	3617	3617	3617

notes: Incidence rate ratios reported with robust standard errors in parentheses. Reference categories: gender = male; acquisition decade = 1920s. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Exploratory results (Models 7, 8, and 9) show no statistically significant gender differences in total post-entry acquisition volume (IRR = 0.857, $p = 0.254$), five-year acquisition volume (IRR = 0.830, $p = 0.182$), or departmental breadth (IRR = 1.030, $p = 0.140$). These findings suggest that gender differences in post-entry engagement are specific to the likelihood and duration of continued acquisition (Models 5 and 6), rather than acquisition intensity or institutional spread.

8.5. AI Disclosure

In the preparation of this thesis, several artificial intelligence tools have been used to support the research and writing process. ChatGPT and Claude were primarily employed to improve grammatical clarity, refine sentence structure, and condense paragraphs without altering the substantive meaning of the text. These tools were also used to generate preliminary conceptual overviews and concise explanations of unfamiliar theoretical perspectives. As the topic area was new to us, AI-assisted summaries of key concepts were helpful in facilitating a structured entry for our exploration. For the identification of academic sources, the AI-based tool Consensus was used exclusively to locate relevant peer-reviewed articles. It was not used to generate academic text or analytical content. In addition, Google's AI-supported search features were used to identify web-based sources and relevant material within broader search results.

The use of these tools contributed primarily to efficiency gains. By reducing the time spent on technical aspects of writing, such as grammatical revision and structural refinement, as well as preliminary literature searches, more time could be allocated to analytical tasks, theoretical development, data interpretation, and critical evaluation. AI tools were therefore used as supportive instruments rather than as substitutes for independent academic work.

At the same time, several risks associated with AI use were identified. A primary concern is the generation of inaccurate information, including fabricated references or misinterpretations of existing sources. During the research process, instances were encountered where AI-generated summaries contained incorrect interpretations of academic arguments. Consequently all information obtained through AI tools was independently verified against original sources before being incorporated into the thesis. Furthermore, reliance on AI-based literature search tools such as Consensus may introduce selection bias, as algorithmic filtering can shape which studies are surfaced. To mitigate this risk, literature searches were conducted across multiple platforms, including Google Scholar and academic databases, to ensure broader coverage and reduce dependence on a single tool.

A key insight from the use of AI in this thesis has been the importance of critical engagement. AI systems may not only produce fabricated information but may also misrepresent or oversimplify existing sources, even when those sources are real. In academic writing, where precision and accurate citation are essential, it is therefore necessary to verify not only the existence of a source but also the accuracy of how its arguments are represented. For this reason, AI was treated strictly as a supplementary aid.