Star Secrets? Gender differences in the impact of superstar coauthorship in economics

Shannon Tran[1]

[1]University of Hawai'i at Manoa

April 9, 2025

Abstract

The field of economics grapples with a persistent gender gap, with the underrepresentation of women worsening at higher academic ranks (CSWEP, 2020). This study investigates how gender shapes the benefits of collaboration with highly successful economists, or "superstars." Specifically, I examine whether early coauthorship with a female superstar has a differential impact on the publication success of junior researchers compared to coauthorship with a male superstar. Using a difference-in-differences design with a matched sample, I find that junior women who coauthor with female superstars experience significantly better publication out- comes compared to those who coauthor with male superstars. In contrast, junior men appear to perform similarly regardless of the gender of their superstar coauthor. These findings suggest that female superstars may offer unique benefits to junior women that encourage publication success. They highlight the importance of gender-specific factors in shaping success in economics and suggest that ongoing efforts for supporting women in economics should consider gender-specific approaches.

1 Introduction

The field of economics grapples with a persistent gender gap, with women underrepresented at all levels of the academic profession. Despite substantial efforts to address this issue, the proportion of female economics PhDs remains stagnant, hovering at around 30% since the early 2000s (Avilova and Goldin, 2018; Bayer and Rouse, 2016; Lundberg and Stearns, 2019; CSWEP, 2018). Women in economics face systemic barriers, including fewer publications, limited networking opportunities, reduced credit for coauthored work, and obstacles to tenure (CSWEP, 2018; Ginther and Kahn, 2009, 2014; McDowell et al., 2001). These challenges contribute to the ongoing discussion surrounding the gender gap in academia, the causes of which remain a subject of ongoing research and debate (Cheryan et al., 2017; Cole and Zuckerman, 1984, 1987; Xie and Shauman, 1998).

For a discipline dedicated to solving real-world inefficiencies and inequities, the persistent gender gap is concerning. First, it poses an equity and fairness issue. Research attributes the gender gap to systemic barriers that discourage women from pursuing careers in economics, limiting their overall influence and representation in the field (Buckles, 2019; Lundberg and Stearns, 2019). Second, it can limit the diversity of perspectives and hinder the field's ability to innovate and address complex real-world issues (Bayer and Rouse, 2016; Belot et al., 2023; Koffi, 2021b; Liu et al., 2020; Maddi and Gingras, 2021; May et al., 2014).

The persistent underrepresentation of women in economics, particularly at senior levels, raises concerns about talent distribution and its impact on junior women's careers. This paper investigates whether the limited number of 'superstar' female economists negatively affects the publication outcomes of early-career women. Specifically, it examines the benefits of early coauthorship with these superstars, and whether these benefits vary by gender. This analysis aims to determine if the scarcity of female star talent in economics disproportionately hinders the research success of junior women, and if the knowledge and skills contributing to star success differ by gender.

This paper uses publication data of economists to investigate gender differences in the benefits of superstar coauthorship on junior economists' publication outcomes. Specifically, it compares the impact of early coauthorship with female versus male superstars on the publication outcomes of junior men and women. By focusing on coauthorship as a channel for knowledge and skill transfer, this study aims to illuminate whether coauthoring with a male or female superstar offers distinct benefits for early-career economists.

Causal research indicates that research superstars can exert a significant positive influence on their peers' research productivity by providing expert knowledge and valuable assistance throughout the research process (Azoulay et al., 2010; Agrawal et al., 2017; Khanna, 2021; Oettl, 2012). However, few studies have explored whether these "star spillovers" may differ by gender. Due to the documented gender-based barriers and entrenched gender imbalance in economics, it is plausible that the skills and knowledge stars use to achieve success differ between men and women.

A major challenge in studying coauthorship effects, however, stems from the non-random selection of

collaborative teams. Researchers choose partners based on factors that also influence publication success, potentially leading to biased estimates. To address this, I employ a matching technique called coarsened exact matching (CEM). CEM essentially constructs a control group for junior researchers coauthoring with a superstar by matching them with researchers exhibiting similar characteristics relevant to coauthorship decisions, such as their prior coauthorship history, geographical proximity to superstars, and pre-superstar publication trajectories. By establishing balanced comparisons across these relevant factors, CEM helps isolate the causal effect of superstar coauthorship on publication outcomes.

Using publication data of US economists, I identify early-career junior and superstar economists. Following Li et al. (2019), superstars are defined as those within the top 5th percentile of cumulative citations in a given year. I create a treatment variable indicating superstar coauthorship if a junior coauthored with a superstar within their first five career years. Employing a difference-in-differences framework with a matched-sample design, I compare changes in publication outcomes before and after superstar coauthorship for treated juniors and matched controls. To examine gender-specific effects, I include an interaction term for superstar gender and conduct separate analyses for female and male junior economists.

Consistent with findings of Li et al. (2019) and Yadav et al. (2023), I demonstrate that early coauthorship with any gender superstar is associated with improved publication outcomes for both female and male junior economists. However, a more nuanced picture emerges when considering the gender of superstar and junior economist. I find that junior women who coauthor with a female superstar publish more frequently and into higher-impact factor journals, compared to junior women who coauthor with a male superstar. In contrast, junior men's publication outcomes appear largely unaffected by the gender of their superstar collaborator.

These results suggest that female superstars impart unique knowledge or support that specifically enhance junior women's publication success. This may be because female stars transfer insights that are particularly relevant for women navigating barriers in economics publishing. In contrast, junior men do not exhibit the same level of benefit from gender-specific superstar insights. This could be due to men not receiving such knowledge or because these insights are less crucial for their success. This gendered effect is especially pronounced among high-ability junior women, as measured by their pretreatment publication impact factor, compared to matched controls. This suggests that the combination of strong prior ability and female superstar collaboration significantly boosts publication success.

This research contributes to several areas of literature. First, it adds to the literature exploring the link between collaboration and research production (Jones, 2009; Lee and Bozeman, 2005; Li et al., 2013). Within this literature, it contributes to a growing subset specifically interested in research superstars and their influence on peers (Abramo et al., 2009; Aguinis et al., 2018; Azoulay et al., 2010; Ductor, 2015; Hussey et al., 2022; Jadidi et al., 2018; Khanna, 2021; Li et al., 2019; Oettl, 2012; Wuchty et al., 2007; Yadav et al., 2023). This paper extends this literature by focusing on the context of economics, where there is a persistent gender gap, and investigating potential gender differences in superstar effects.

Second, this work contributes to the literature exploring the determinants of success in economics research (Bryan, 2019; Hamermesh, 2013; Heckman and Moktan, 2020). This work demonstrates that coauthorship with superstars can improve publication outcomes for junior economists, and that these benefits differ by gender.

Third, this paper contributes to the research exploring gender dynamics in the workplace, particularly the growing research on "women helping women" in professional settings (De Paola and Scoppa, 2015; Bagues and Esteve-Volart, 2010; Bagues et al., 2017; Bertrand et al., 2019; Kurtulus and Tomaskovic-Devey, 2012; Maida and Weber, 2022; Matsa and Miller, 2011). This work contributes to this discussion by highlighting the gender dynamics inherent in coauthorship and demonstrating the differential impact that female superstars have on their female coauthors in economics.

Finally, this study contributes to the ongoing discussion surrounding gender equity in economics. Despite growing efforts to support women in the field, the gender gap persists (Buckles, 2019). This study adds to the literature by 1) highlighting a channel for the self-reinforcement of the gender gap, 2) demonstrating benefits of female superstar coauthorship on women's publication outcomes, and 3) identifying potential gender differences in the factors contributing to research productivity.

The contents of the paper is organized as follows. Section 2 provides background on the gender gap in economics and presents a framework that motivates the research question. Section 3 describes the data used in analyses, and Section 4 details the empirical strategy, including the difference-in-differences design and matching methodology. Section 5 presents the results and their interpretations. Finally, Section 6 concludes by discussing the implications of the findings for future research.

2 A Framework for Understanding the Gendered Superstar Effect

To motivate how coauthorship with female superstars may differentially affect junior women's publication outcomes compared to male superstars, I develop a framework that discusses: 1) the role of collaboration in research productivity, 2) the influence of research superstars on peers, 3) gender-based barriers women face in economics, and 4) potential gender-specific variations in the knowledge and skills offered by male and female superstars.

2.1 The Role of Collaboration in Knowledge Production

Collaboration is a fundamental element of knowledge production, fostering innovation and research excellence. Prior research establishes a direct link between collaboration and researcher productivity, demonstrating increased publications and citations with intensified collaboration (Abramo et al., 2017).

This positive effect can be attributed to several factors. First, collaboration fosters idea exchange by bringing together diverse perspectives and expertise (Beaver and Rosen, 1979a; Beaver, 2001; Waldinger, 2010, 2016). This diversity can fuel innovation and enhance team effectiveness in addressing complex chal-

lenges (Beaver, 2001; Ellison, 2002; Katz and Martin, 1997). Second, collaboration can enhance research efficiency through effective task division and allocation, leveraging individual strengths, and optimizing time management (Barnett et al., 1988; Beaver, 2001; McDowell and Melvin, 1983). Third, beyond technical benefits, collaboration can boost motivation through shared enthusiasm and social interaction (Beaver and Rosen, 1979a; Medoff, 2003), and partnering with prominent researchers can enhance visibility and reputation (Katz and Martin, 1997; Schmoch and Schubert, 2008; Goldfinch et al., 2003). Ultimately, collaboration often serves as a key mechanism for conveying tacit knowledge and transferring technical expertise (Beaver and Rosen, 1978, 1979b), mentoring junior researchers (Bozeman and Corley, 2004), and enhancing individual productivity (Melin, 2000).

Although research collaboration takes various forms, this paper contributes to the literature specifically focusing on coauthorship as a key mode to analyze its effects on researcher productivity (Abramo et al., 2017; Bidault and Hildebrand, 2014; Ductor, 2015; Hamermesh, 2013; Laband and Tollison, 2000; Lee and Bozeman, 2005; Li et al., 2013). Coauthorship serves as an ideal conduit for knowledge spillovers, offering a sustained platform for tacit knowledge and skill sharing beyond brief interactions. It enables coauthors to gain practical insights throughout the publication process, including observing work styles, jointly navigating publication challenges, and exchanging research perspectives.

2.2 The Influence of Research Superstars

The literature on collaboration and knowledge spillovers highlights the unique influence of 'superstar' academics—those with exceptional productivity and expertise—on their peers' research productivity. Studies by Azoulay et al. (2010) and Khanna (2021) demonstrate that superstar coauthors are vital knowledge sources, as evidenced by a decline in colleagues' output following their death. Similarly, Mas and Moretti (2009) provide evidence of a 'productivity spillover' when a highly productive researcher joins a team, specifically for those with frequent interactions. Oettl (2012) identifies a mechanism through which superstars particularly benefit their peers: their ability to provide helpful feedback and advice. Furthermore, Li et al. (2019) and Yadav et al. (2023) demonstrate that coauthorship with a superstar subsequently improves research quality, indicating it serves as a viable conduit for superstar spillovers.

Despite the advantages, the 'superstar effect' isn't without potential drawbacks for junior coauthors. Shared work with a reputable star can lead to unbalanced credit allocation, where the superstar's reputation diminishes the perceived contributions of less established researchers (Merton, 1968). Additionally, gender biases, such as the tendency to attribute women's achievements to male colleagues (Rossiter, 1993; Sarsons, 2017), may further complicate credit allocation across teams with varying gender compositions. The interaction between power dynamics, gender, and perceived recognition remains poorly understood. Further research is needed to fully disentangle these effects and their implications.

2.3 Female Barriers in Economics

The gender gap in economics is a well-documented and long-standing problem. A substantial literature identifies numerous gender-based barriers contributing to this disparity. Understanding this literature helps illuminate the distinct obstacles women and men face in economics, and consequently, how the skills and resources needed to overcome these barriers may differ by gender.

Studies suggest that women face implicit biases affecting research dissemination and acceptance. The field's male-dominated professional environment and a tendency to favor same-gender collaboration (Abraham, 2020; Van den Brink and Benschop, 2014) may explain why women have smaller professional networks, are less likely to coauthor (Ductor et al., 2018; McDowell et al., 2006), and receive fewer invitations to present their research (Doleac et al., 2021). Furthermore, women may be held to higher publication standards (Card et al., 2020; Hengel, 2022), yet receive less credit for coauthored work, particularly with male collaborators (Sarsons, 2017).

Female academics also face unequal workload expectations. Women are more likely asked to perform 'low-promotable' tasks (Babcock et al., 2017) and dedicate more time to teaching, advising, and service (El-Alayli et al., 2018; Harter et al., 2011; Manchester and Barbezat, 2013; Taylor et al., 2006). These contributions are often undervalued in tenure and promotion evaluations, thus hindering women's career progression.

Beyond the workplace, women face societal pressures that impede their professional advancement. They are more likely to prioritize family commitments over career progression (Goldin, 2014), and marriage and children disproportionately penalize female economists' tenure prospects (Ginther and Kahn, 2004). This may explain why gender-neutral family-related policies, such as tenure clock stopping, may inadvertently disadvantage women, who are more likely to focus on childcare, while men utilize the extension for research (Antecol et al., 2018).

Finally, the culture of economics itself can present unique challenges. Scholars argue that traditional economic concepts and assumptions, rooted in rationality and individualism, may inadvertently favor male-stereotypical traits (May, 2022; Stephens and Levine, 2011; Uhlmann and Cohen, 2007). Classroom studies corroborate this, demonstrating that economics teaching materials can perpetuate gender biases (Hahn and Blankenship, 1983; Walstad, 1992) and formal economics education is linked to increased sexism among male students (Paredes et al., 2020). In the professional sphere, researchers have shown how economics' norms and rituals, including academic discourse, audience interactions, and hiring practices, can create a hostile environment that disproportionately affects women (Wu, 2018; Dupas et al., 2021).

Despite growing evidence documenting these barriers, explaining the gender gap in economics and developing effective solutions remains challenging (Bayer and Rouse, 2016; Ginther and Kahn, 2004; Lundberg and Stearns, 2019). While STEM fields have made varying progress towards gender parity, economics has struggled to replicate these improvements, even with significant efforts and investments[1] (Ceci et al.,

[1]For a comprehensive review of prior and ongoing efforts to improve gender parity in economics, see Buckles (2019) and Berland et al. (2023).

2014; Ginther and Kahn, 2021). The reasons for this heterogeneity across disciplines are poorly understood (Cheryan et al., 2017). Given this, developing effective strategies to support and encourage women in economics requires a deep understanding of the specific barriers they face, the field's professional environment, and the skills and resources required to navigate these challenges.

2.4 Star Secrets? Potential Advantages of Female Star Coauthorship

Strategies for supporting women in economics require an understanding of the barriers they face, the professional environment, and the specific skills needed to navigate this landscape successfully. Female superstar economists, having navigated these challenges successfully, represent an ideal source of this knowledge. This raises the question: Do superstar men and women provide different types of support or spillovers to their junior colleagues, and do junior men and women benefit differently from these interactions? Uncovering potential gender differences in the impact of superstar coauthorship could illuminate gender-specific factors contributing to female success in economics and assess whether these factors are transferable. This section explores the plausibility of such gender-differentiated effects, focusing on non-cognitive skills as a potential mechanism.

While intellectual capability is important in academia, it's unlikely that cognitive differences men and women primarily explain variations in their impact on junior collaborators. Even if productivity differences exist among elite performers (Abramo et al., 2009), a woman's technical expertise in economics doesn't inherently help her or her collaborators overcome the gender-based hurdles many women face.

Instead, potential gender differences in superstar effects may stem from non-cognitive skills (which significantly influence career and life outcomes (Chetty et al., 2011; Gutman and Schoon, 2013; Heckman and Kautz, 2012). Chetty et al. (2011) highlights the power of nurtured skills over innate talent, showing that non-cognitive abilities like proactivity, discipline, and determination better predicted long-term earnings than early test scores. Campos et al. (2017) further demonstrates their adult impact, finding that entrepreneurs trained in soft skills achieved significantly higher profits than those with traditional business education. Importantly, these skills are learned, socially contextual, and remain valuable and acquirable throughout life.

Studies across professions suggest a gender-specific nature to non-cognitive skills, indicating that high-performing women exhibit qualities associated with both field excellence and traditionally feminine traits like conscientiousness, tenacity, and diligence (Roter and Hall, 2004; Jenkins, 2008; Fang et al., 2013; Hatamyar and Simmons, 2003). While similar economics studies are lacking, this suggests successful men and women may utilize different soft skills based on gender, work, and workplace culture. If female economics superstars develop and leverage distinct non-cognitive skills, coauthoring with them could allow junior women to observe and learn these valuable skills.

Here are several areas for potential gender differendces in superstar effects:

1. *Effective Communication.* Research suggests women publishing in top economics journals improve their work during revisions, write more clearly, and receive more citations than similarly published male work (Hengel, 2022; Card et al., 2020; Koffi, 2021a). Female superstars, potentially having refined their communication to ensure their ideas are valued, might offer valuable insights into conveying complex concepts clearly and effectively.

2. *Relationship Building and Valuable Networks.* Despite networking obstacles for women (Jadidi et al., 2018; McDowell et al., 2006), successful female economists likely develop strong relationship-building skills, such as emotional intelligence and cultural awareness. Ginther and Na (2021) show that junior economists in female mentoring workshops expanded their networks beyond the workshop itself, highlighting the learnable nature of these skills. Coauthoring with female superstars could offer opportunities to observe effective networking firsthand or even provide access to supportive networks for women.

3. *Work Habits and Character.* While every profession values specific attributes for long-term success, studies across fields suggest high-performing women often demonstrate traits combining excellence and femininity, like adaptability, diligence, conscientiousness, and perseverance (Roter and Hall, 2004; Jenkins, 2008; Fang et al., 2013; Hatamyar and Simmons, 2003). Female star economists may cultivate work habits and character strengths uniquely adapted to economics and gender roles, potentially offering distinct professional models compared to male superstars.

4. *Strategic Savvy.* Navigating academic publishing and career progression requires strategic acumen, including understanding social dynamics, making calculated decisions, and conceptualizing research. Superstars often provide this "strategic savvy," offering tailored guidance aiding research and publication (Oettl, 2012). Given that male advisors may offer less critical feedback to female advisees (Coutts et al., 2023), and female mentors can specifically boost publication and tenure success for female mentees (Blau et al., 2010), junior women may especially benefit from the strategic insights of their female coauthors who have direct experience with similar challenges.

While non-cognitive skills benefit everyone, women facing distinct gender obstacles may particularly gain from communication for visibility, strategic agency for work-family balance, and effective social navigation in male-dominated cultures. If navigating these social barriers is key to success in economics, female superstars are arguably best positioned to possess the most relevant, experience-based skill sets for their female peers.

3 Data and Statistical Estimation

3.1 Data

To evaluate the impact of superstar coauthorship on the publication outcomes of junior economists, I construct a comprehensive dataset of scholarly publications.

The source of my publication data is OpenAlex, a freely accessible online bibliographic catalog of scientific papers, authors, and institutions. To compile my dataset of publications, I identify economists[2] affiliated with US institutions who actively published between 2000 and 2021.[3] This timeframe ensures inclusion of junior researchers starting their publication careers during this period and their potential superstar coauthors. I collect full publication histories of these researchers, providing a complete record of US economists who were publishing into the 2000s. Researchers who ceased publication prior to 2000 are excluded in their entirety.

Each publication record includes details such as publication date, journal, ordered authors, their affiliated institutions, and total citations (at year of collection). To ensure data integrity, only published, peer-reviewed articles in journals indexed by Elsevier's Scopus Database are considered.

The publication data is supplemented with journal metrics from Elsevier's Scopus Database, using the source normalized impact factor (SNIP) as a proxy for journal quality. To identify the gender of authors, I use the Namsor software, which assigns predicted gender scores to full names. I link researcher affiliations to global rankings and institutional characteristics using data from IDEAS/RePEC and IPEDS, respectively.

Definition of Sample and Treatment

The data collection yields a comprehensive dataset of full publication histories for 60,054 US economists who were actively publishing between 2000 and 2021. Of these researchers, I'm interested in two specific groups: 1) early-career junior economists, who form the basis of my study, and 2) superstar economists, whose coauthorship defines my treatment variable.

Junior economists are defined as those initiating their publishing careers between 2000 and 2010 (11 cohorts). Since tenure is a key career milestone where women are particularly vulnerable, my study focuses on the pre-tenure years, which are assumed to be the first 5 years of a researcher's publishing career (considered the "treatment period").

Superstar economists are defined as those ranking within the top 95th percentile of cumulative citations of articles published over the past 10 years,[4] following the example of Li et al. (2019). Superstar status is

[2]The OpenAlex platform uses concept tags to categorize research. Each work is assigned multiple concepts based on its title, abstract, and journal title. These concepts are then aggregated to the author level. In this study, "economists" are defined as researchers whose top three assigned concepts include "economics." Detailed information on OpenAlex concepts and their generation process can be found at: https://docs.openalex.org/api-entities/concepts.

[3]Data collection was done in May, 2022.

[4]Cumulative citations for an individual in year H is the sum of their total citations from publications released in years k, where $y - k \leq 10$. For example, an author's cumulative citations in 2000 would encompass all citations from publications dated between 1990 and 2000.

determined year-by-year starting from 1980 and once achieved, it is retained.

Construction of Unmatched Sample of Junior Economists

Of the 60,054 actively publishing economists, 22,046 are junior, and 5,073 are superstars.[5] Among the 22,046 junior economists, I focus on those with at least a 5-year publishing career (17,703) to ensure sufficient opportunity for superstar coauthorship within the early career. The treated group comprises junior economists who collaborated with a superstar within their first 5 years (4,547), and the control group those who did not (13,156). To isolate superstar gender effects, I exclude juniors who coauthor with both female and male superstars in the same treatment year (196 of 4,547), yielding 4,351 treated juniors[6] and 13,156 controls.

For each junior, I analyze their first 12 years of publications. This decision is primarily driven by data availability, as the last cohort begins their publication careers in 2010 and the latest publication data is from 2021. This yields a panel of 17,507 juniors across 12 years, resulting in 210,084 author-year observations. I refer to this dataset as the unmatched sample.

3.2 Identification Strategy

While the control group (juniors without early superstar coauthorship) provides a baseline, direct comparison with the treated group may be biased. This section outlines my identification strategy, detailing the primary sources of selection bias, how matching aims to address them, and the estimating equations used to assess the effects of superstar coauthorship.

Sources of Selection Bias

There are three primary sources of selection: 1) the juniors' willingness and opportunity to coauthor at all, 2) the juniors' willingness and opportunity to coauthor with a superstar, and 3) potential gender-based preferences in forming superstar coauthorships.

The first primary concern is that junior economists who successfully engage in coauthorship might differ systematically from those who do not. More resourceful or gregarious juniors may be more likely to find collaborators and publish frequently, or be more sought after for coauthorship. To address this, my matching strategy ensures that all junior economists in the matched control group have also coauthored (albeit with a non-superstar) during the same treatment year as their treated counterparts. By ensuring that both the treated juniors and their matched controls demonstrate a propensity for coauthorship concurrently,

[5]Note that although superstars are defined as the top 5% of cumulative citations, determining superstar status annually starting from 1980 leads to an accumulation of superstars over time. This is because once an economist achieves superstar status in a given year, they remain a superstar in subsequent years.

[6]This group includes those with first star coauthorship within their first 5 years ($1 \leq t \leq 5$). However, matching requires prior publication history ($t-1$) excluding 2,272/4,351 juniors whose first star coauthorship occurred in their first year ($t = 1$) from the matched sample.

they are more likely to be similar in any underlying, unobserved characteristics related to the inclination and ability to coauthor.

The second potential bias stems from systematic differences between juniors who do and do not coauthor with superstars. More ambitious or productive juniors might seek connections with the elite, or superstars might selectively work with high-potential juniors. To mitigate this, I employ a matching strategy to balance treated and control groups on observable pre-treatment characteristics related to ability and proximity to stars. Notably, matching prioritizes the juniors' total stock and change in publication quantity and quality up to the treatment year. This aims to ensure treated and control groups exhibit similar pre-treatment publishing levels and growth trajectories, increasing the likelihood of similar trends absent the treatment.

The third potential selection bias involves gendered preferences in junior-superstar collaborations that could influence junior publication outcomes. While difficult to fully control, the matching process aims to equate juniors on observable ability. Thus, for this bias to be a significant concern, unobservable gender-specific factors must correlate with both the junior's decision to coauthor with a superstar of a particular gender and their publication outcomes, beyond the matched characteristics. Notably, examining the difference in the superstar effect by gender (a second-order effect) adds a layer of variation to the key coefficient, potentially providing a more robust estimate less susceptible to selection bias than simply comparing any superstar collaboration to none. Regardless, even if this bias exists, the findings remain noteworthy and merit further investigation. A more detailed discussion of this potential bias and its implications will follow in Section 5 after the results.

Construction of the Matched Sample

To address potential selection biases, I construct a matched sample using coarsened exact matching (CEM). This involves selecting key covariates and creating strata across their joint distribution. Each observation is then allocated to a unique strata, and treated observations are matched with controls from within the same strata. This aims to balance treated and controls across these covariates, when can be checked.

A major concern guiding covariate selection is unobserved ability differences. To mitigate this, I tighten matching criteria by requiring a pre-treatment period for all treated and potential controls, enabling more stringent matching based on pre-treatment publication history as a proxy for ability. CEM allows guaranteeing covariate balance by adjusting criteria and strata cutoffs. However, finer strata (more balance) can lead to more unmatched treated observations, creating a trade-off with sample size (full support).

Figure1a illustrates the matching pool. Treated candidates are juniors who coauthored with a superstar in years 2-5 of their career (2,079), establishing a pre-treatment period. Control candidates are juniors who did not coauthor with a superstar within the 12-year analysis (10,465).

[Figure 1 about here.]

The following covariates are used for matching (measured at the year prior to the first superstar collaboration, t-1): the cumulative stock of publications in year t-1, the flow of publications into year t-1, the cumulative stock of SNIP-weighted publications in year t-1, the flow of SNIP-weighted publications into year t-1, the number of previous co-authorships at t-1, the average team size per publication at t-1, the share of coauthored publications at t-1, the rank of affiliated institution in t-1, and the presence of superstars within affiliated institution in t-1. Strata are also defined to guarantee exact match in gender and to guarantee that both treated and controls have a coauthored publication in year t. The CEM procedure is applied yearly (by career age), and it involves one-to-one matching without replacement.

Of the 2,079 treated juniors who exhibited prior publication history, 1,687 (81.5%) were successfully matched with 1,687 controls, resulting in a total of 3,374 juniors. Ensuring equal post-treatment observation periods for this group of juniors, this yields a panel of 36,106 author-year observations. I refer to this dataset as the matched sample.

Using my matched sample, I confirm that CEM successfully balances pre-treatment outcomes and key covariates across treated and control groups. The results in Table 1 show that the matched sample is comparable in publication productivity, coauthorship history, and institutional affiliations.

[Table 1 about here.]

There are three key features of my matched sample:

1. *Pre-publication history.* Both treated and control researchers must have published before the collaboration (superstar or non-superstar). This excludes treated juniors whose first publication was with a superstar (year 1). While this sacrifices sample size compared to some prior work (Li et al., 2019), it allows for stronger control for pre-existing publication ability.

2. *Non-treated controls.* To avoid bias from staggered treatment adoption and time-varying effects (Goodman-Bacon, 2021), controls are matched to never collaborate with a superstar during the 12-year analysis (determined by data availability: 2010-2021). Focusing on early-career superstar coauthorship (within the first five years) further limits treatment heterogeneity and avoids potential negative ATE weights from controls becoming treated (De Chaisemartin and d'Haultfoeuille, 2020).

3. *Equal follow-up periods.* To ensure balanced post-treatment observation and minimize bias from varying follow-up durations, the matched sample uses a 7-year panel following the star collaboration for all researchers. This 7-year window, combined with the 5-year early-career treatment window and the panel's end (2021 for the 2010 cohort), provides a minimum of 12 observed years and prevents treatment effects in control groups (who would be treated after 12 years). Figure 2b graphically illustrates this balanced panel structure.

The matched sample is not perfectly representative of junior economists. It includes only Scopus-indexed peer-reviewed publications and requires at least two separate years of pre-treatment Scopus pub-

lications and a 5-year publication career, potentially excluding some junior economists. Consequently, estimates reflect the average treatment effect for the matched sample (ATM), not necessarily the entire population. Despite these limitations, the matched sample offers a more robust approach to studying gender differences in superstar coauthorship effects.

3.3 Empirical Specification

Using the matched sample, I examine the effect of early superstar coauthorship on juniors' publication outcomes in a difference-in-differences. I conduct this analysis separately for junior female and male economists. The following equation compares changes in publication outcomes for junior researchers i coauthoring with any superstar versus those coauthoring with a non-superstar, before and after the star collaboration:

$$Y_{it} = \alpha_1 PostTreat_{it} + \beta(PostTreat_{it} \times Superstar_i) + f(age)_{it} + \gamma_i + \delta_t + \epsilon_{it} \tag{1}$$

where Y_{it} is the annual publication outcome of junior author i in year t. The key independent variable, $(PostTreat \times Superstar)$, indicates years after superstar collaboration for treated juniors (those collaborating with a superstar within their first 5 years). The model includes career age fixed effects, $f(age)_{it}$, denoting years since first publication. γ_i and δ_t represent author and year fixed effects, respectively. Standard errors are clustered at the individual level.

My primary analyses, however, focus on differential effects by superstar gender using a triple-differences approach. This compares publication changes pre- and post-collaboration across three groups: 1) juniors coauthoring with a female superstar, 2) juniors coauthoring with any superstar, and 3) matched juniors coauthoring with a non-superstar. I estimate the following equation separately for female and male junior researchers:

$$\begin{aligned} Y_{it} =& \alpha_1 PostTreat_{it} + \alpha_2(PostTreat_{it} \times Superstar_i) \\ &+ \beta(PostTreat_{it} \times FemaleSuperstar_i) \\ &+ f(age)_{it} + \gamma_i + \delta_t + \epsilon_{it} \end{aligned} \tag{2}$$

where the variable of interest, $(PostTreat \times FemaleSuperstar)$, is an interaction term capturing the differential effect of collaborating with a female superstar compared to a male superstar.

Estimates are reported using ordinary least squares models with inverse hyperbolic sine transformed outcome variables. This is a common approach for count data (like annual publication counts) with censoring at zero and skewness.

Estimates are robust to maximum-likelihood Poisson regression, also suited for count data (see Appendix).

4 Results

Before regression analysis, I examine trends in the matched sample's raw data. Figure 2 shows average annual publication counts for junior economists, categorized by gender. The x-axis represents years relative to first superstar coauthorship (treatment): year 0 is treatment, -4 to -1 are pre-treatment, and 1 to 7 are post-treatment. Each point represents average annual publication counts for junior women (red) and men (blue) who coauthor with a superstar (solid lines) and their matched controls (dotted lines).

[Figure 2 about here.]

From Figure 2, we can visually see that pre-treatment annual publication rates trend similarly for treated and control groups of both genders. This adds credibility that, absent treatment, these groups would likely continue to trend similarly (parallel trends).

Panel 2a shows that post-treatment, both genders publishing with any superstar have higher rates than controls. However, men publishing with a superstar (blue) appear to have higher rates than women (red), suggesting a larger benefit for men when superstar gender is ignored.

However, disaggregating by superstar gender reveals a more nuanced pattern. Panel 2b shows men consistently outperforming women after male superstar collaboration, likely due to the higher prevalence of male superstars. But, after female superstar collaboration (Panel 2c), the gender gap in junior publication rates narrows significantly, suggesting superstar gender plays a key role, especially in female-female collaborations. When the superstar is female, junior women's productivity becomes comparable to junior men coauthoring with a star, indicating potential gender-specific knowledge transfer boosting women's publications.

Panels 2d and 2e further illustrate this by comparing the impact of superstar gender within each junior gender. Female juniors show a marked publication rate increase after coauthoring with a female star (Panel 2d), indicating a strong gender effect. In contrast, male juniors show less impact from their superstar coauthor's gender, with similar trends after coauthoring with either male or female stars (Panel 2e).

Turning to regression analyses, I compare the change in publication outcomes of juniors who coauthor with superstars to matched controls. Table 3 presents OLS regression results with inverse-hyperbolic sine-transformed outcomes of annual publication counts (Columns 1-4) and SNIP-weighted publications (Columns 5-8). The estimated coefficients, interpretable as elasticities, represent the average treatment effect in the matched sample.

[Table 3 about here.]

Coefficients for (Post Treat $\times$ Any SS) show the average increase in annual publication outcomes after any superstar coauthorship, compared to controls. Consistent with Figure 2a, coauthorship with any superstar boosts junior researchers' annual publication rate and quality (Equation 1). Specifically, junior women on average produce an estimated 18% more publications and a 25% increase in SNIP-weighted publications

(Columns 1 & 5), while junior men produce 20% more publications and a 28% increase in SNIP-weighted publications (Columns 3 & 7), supporting prior findings (Li et al., 2019; Yadav et al., 2023).

However, the paper's primary focus is the superstar effect by gender. Columns 2-6 and 9-12 of Table 3 present results from a regression (Equation 2) interacting superstar treatment with a female superstar dummy. The key coefficient $(PostTreat \times FemaleSuperstar)$ captures the differential outcome change from coauthoring with a female superstar, controlling for the general superstar effect. Consistent with Figure2d, positive and significant coefficients for junior women (Columns 2 & 6) indicate a stronger increase in publication frequency and impact when collaborating with a female star than with any superstar. In contrast, superstar gender shows no significant impact on junior men's publication changes (Columns 4 & 8). This reinforces that superstar gender significantly benefits junior women, who gain more from female coauthors, while junior men benefit similarly from any superstar.

To test if the positive female superstar effect is lasting or merely due to continued collaboration, Table 4 excludes subsequent publications with the initial star. The positive and significant $(PostTreat \times FemaleSuperstar)$ coefficients for junior women persist, suggesting a lasting improvement in their publishing abilities beyond the initial partnership. This suggests that female star coauthorship may facilitate a persistent transfer of skills, knowledge, or resources that enhance junior women's publication performance.

[Table 4 about here.]

The evidence thus far shows a significant boost in publication outcomes for female junior economists coauthoring with female superstars, a gender-specific effect absent for junior men. This raises the question: which junior women benefit most from female superstar coauthorship?

It's plausible that junior women facing greater publishing challenges stand to gain the most from experienced women's guidance, potentially overcoming significant obstacles with superstar knowledge. Alternatively, more accomplished junior women might better leverage female superstars' insights to enhance their research productivity.

To explore these heterogeneous effects, I investigate whether the publication boost from female superstar collaboration varies with a junior's pre-existing publication ability. I divide junior women and men into groups based on their pre-treatment (year prior) cumulative SNIP-weighted publications. Focusing on SNIP-weighted publications, a more continuous proxy for publication quality than publication counts, I use the median to create upper and lower groups and run separate regression analyses on superstar coauthorship effects within each.

[Table 5 about here.]

Table 5 presents results for junior women and men divided into below- and above-median pre-collaboration (t-1) cumulative SNIP-weighted publications.

For junior women (Columns 1-4), the positive and significant $(PostTreat \times AnyGenderSuperstar)$ in both groups shows that any superstar coauthorship improves publication outcomes compared to controls. How-

ever, comparing $(PostTreat \times FemaleSuperstar)$ coefficients reveals a larger additional positive effect of female (vs. male) superstar coauthorship for women with higher prior publication ability, suggesting that leveraging female star benefits requires existing ability.

For junior men (Columns 5-8), little differential effect by superstar gender is seen, consistent with the main analysis. $(PostTreat \times AnyGenderSuperstar)$ remains positive and significant. Interestingly, higher-ability men show a negative $(PostTreat \times FemaleSuperstar)$ coefficient for publication rate (Column 8, top panel), suggesting female superstar coauthorship might be less beneficial for them, though these estimates are relatively imprecise.

Overall, Table 5 suggests that junior women with stronger pre-existing publication ability may better leverage female superstar coauthorship, implying they gain valuable gender-specific knowledge from superstars, but the effective application of this knowledge may depend on their prior research capabilities.

Causal Interpretation and Alternative Explanations

Establishing a causal link between coauthoring with female superstars and positive outcomes for female juniors relies on the assumption that the matching process effectively controls for all relevant factors. Specifically, any difference in publication outcomes between juniors coauthoring with female versus male superstars should not stem from unobserved characteristics influencing both their coauthor choice and their publication success. While directly testing this is impossible, this paper's focus on the differential impact of female versus male superstars, rather than the general effect of superstar coauthorship, adds a layer of comparison that may reduce potential selection bias. Nevertheless, the gender differences observed in star coauthorship for junior women raise important implications, and promps a discussion of the plausibility of selection effects and alternative interpretations.

Given that the matching process accounts for observable factors like publication and coauthorship history, institutional rank, and proximity to stars, significant selection bias, if present, would likely manifest through the following potential channels: 1) highly productive junior women preferentially choose female superstars over male superstars due to unobserved factors that also enhance their publications, or 2) superstar women actively recognize and select high-potential junior female coauthors based on unobservable traits that male superstars do not.

On the one hand, while productive, ambitious individuals might exhibit gender preferences in their coauthors, evidence suggests these decisions are complex and varied. For instance, an ambitious junior woman might seek a male star's established reputation (Sekara et al., 2018), whereas another, equally ambitious, might favor a female star to mitigate potential gender bias in credit allocation (Sarsons, 2017). This variety in motivations makes a systematic selection effect a less compelling explanation for the observed results. That said, if high-potential junior female talent systematically seek collaborations with superstar women, it could indicate a strong female demand for female mentors. In a male-dominated field, the scarcity of established women might then act as a deterrent, creating a self-fulfilling prophecy that hinders

the attraction of female talent.

On the other hand, selection bias could also arise if superstar women systematically select high-performing junior women based on unobserved talent that male superstars miss. Because the matching process controls for observable characteristics, this scenario implies a unique ability among superstar women to identify and select based on unmeasured qualities. While direct research on women's ability to recognize unobserved female talent is limited, the literature on gender biases offers a nuanced perspective on individual behavior. For example, while some studies show senior women aiding the career advancement of junior women (Hilmer and Hilmer, 2007; Kunze and Miller, 2017), others have identified scenarios where leading women in male-dominated organizations may discourage junior female talent (Derks et al., 2016; Kanter, 1977; Staines et al., 1974). This mixed evidence suggests that even if star women are better at recognizing unobserved potential in other women, the variability in their responses makes it less likely they systematically select junior women based solely on higher productivity. However, if this selection bias is indeed at play, it could suggest that the ability of female superstars to select unobserved female talent, coupled with their scarcity, may point to a broader failure within the field to recognize and nurture promising women.

Finally, this leaves a third explanation: that coauthorship with a female superstar causally leads to improved publication outcomes for junior women. While identifying the exact mechanisms is beyond the scope of this paper, there are potential explanations. For instance, superstar women might impart skills and knowledge particularly helpful for junior women, such as effective communication, relationship building, work habits and character, and strategic savvy pertinent to navigating economics publishing, especially as a woman in the field. Alternatively, coauthoring with a female superstar might expose junior women to more valuable resources, such as a network that is more supportive of a woman's career. Or, positive association effects might be at play, where affiliation with a female superstar gives female coauthors more credibility or visibility, which in turn encourages their research productivity and publication success. Future research could delve into these potential mechanisms.

5 Conclusion

This study investigates how coauthorship with "superstar" economists affects the publication outcomes of junior economists, with a specific focus on gender differences. Using publication data of U.S. economists, this paper employs coarsened exact matching to control for potential confounding factors related to the decision to coauthor with a superstar and publication outcomes. In a difference-in-differences framework, I compare the publication outcomes of junior men and women coauthoring with male or female superstars to those of matched controls. The findings reveal that junior women who coauthor with female superstars experience a greater increase in publication frequency and journal impact factor compared to those who coauthor with male superstars. In contrast, junior men's publication outcomes did not significantly differ based on the superstar's gender, implying that gender-specific star spillovers may be less crucial for male

success. These effects persist even when excluding subsequent re-collaborations between the junior coauthor and the same star. Furthermore, this effect is particularly salient for junior women with higher prior publication ability, indicating that the benefits of female star coauthorship are amplified by pre-existing talent.

These findings offer valuable implications for addressing economics' persistent gender gap. To the extent that matching on observables effectively controls for selection, the results suggest that superstar women impart a "star secret"—be it skills, knowledge, or resources—to their junior female coauthors, contributing to their subsequent publication success. This implies that the skills required for a successful publication career in economics may differ for men and women and highlights the transferable nature of these "star secrets," which could inform strategies for supporting women in economics.

Alternatively, if selection effects are at play, the results may indicate a demand among junior women with hidden potential for working with star women, underscoring the need to promote female success to address the gender gap. Or, if female superstars select female talent based on unobservables in ways that male superstars do not, it could point to a broader inability within the field to recognize female talent. Although directly testing these alternative explanations is not feasible, they still provide valuable implications.

This work contributes to the understanding of superstar effects, gender dynamics in academia, and how to promote gender equity in economics. First, it expands our knowledge of how superstar coauthorship affects peers by considering gender. Second, it highlights superstar economists as potential sources of knowledge transfer, particularly for junior women. Third, it contributes to research on "women helping women" in academia by demonstrating coauthorship as a channel for skill transfer. Finally, this study emphasizes the influence of gender-specific skills and knowledge in supporting women in economics.

This study has limitations. One is its reliance on publication outcomes as the sole measure of success, which can perpetuate existing biases in academic valuation. Future research should also consider other forms of research contributions. Additionally, the precise nature of the knowledge transfer from female superstars remains unclear, warranting future work to delve deeper into the specific skills and contexts that influence successful knowledge transfer across genders. Finally, while this paper highlights coauthorship with superstar women as a potential channel for promoting female success, the ultimate goal should be to create a truly equitable research environment.

Altogether, this paper highlights the potential of gender-based approaches for supporting women in economics and the role of superstar women in informing such strategies. Moving forward, the field should continue to explore and implement such approaches to cultivate a more equitable and thriving environment for all economists.

References

Abraham, M. (2020). Gender-role incongruity and audience-based gender bias: An examination of networking among entrepreneurs. *Administrative science quarterly*, 65(1):151–180.

Abramo, G., D'Angelo, A. C., and Murgia, G. (2017). The relationship among research productivity, research collaboration, and their determinants. *Journal of Informetrics*, 11(4):1016–1030.

Abramo, G., D'angelo, C. A., and Caprasecca, A. (2009). The contribution of star scientists to overall sex differences in research productivity. *Scientometrics*, 81:137–156.

Agrawal, A., McHale, J., and Oettl, A. (2017). How stars matter: Recruiting and peer effects in evolutionary biology. *Research Policy*, 46(4):853–867.

Aguinis, H., Ji, Y. H., and Joo, H. (2018). Gender productivity gap among star performers in STEM and other scientific fields. *Journal of Applied Psychology*, 103(12):1283.

Antecol, H., Bedard, K., and Stearns, J. (2018). Equal but inequitable: Who benefits from gender-neutral tenure clock stopping policies? *American Economic Review*, 108(9):2420–41.

Avilova, T. and Goldin, C. (2018). What can UWE do for economics? In *AEA Papers and Proceedings*, volume 108, pages 186–190. American Economic Association 2014 Broadway, Suite 305, Nashville, TN 37203.

Azoulay, P., Graff Zivin, J. S., and Wang, J. (2010). Superstar extinction. *The Quarterly Journal of Economics*, 125(2):549–589.

Babcock, L., Recalde, M. P., Vesterlund, L., and Weingart, L. (2017). Gender differences in accepting and receiving requests for tasks with low promotability. *American Economic Review*, 107(3):714–47.

Bagues, M., Sylos-Labini, M., and Zinovyeva, N. (2017). Does the gender composition of scientific committees matter? *American Economic Review*, 107(4):1207–38.

Bagues, M. F. and Esteve-Volart, B. (2010). Can gender parity break the glass ceiling? Evidence from a repeated randomized experiment. *The Review of Economic Studies*, 77(4):1301–1328.

Barnett, A. H., Ault, R. W., and Kaserman, D. L. (1988). The rising incidence of co-authorship in economics: Further evidence. *The review of Economics and statistics*, pages 539–543.

Bayer, A. and Rouse, C. E. (2016). Diversity in the economics profession: A new attack on an old problem. *Journal of Economic Perspectives*, 30(4):221–42.

Beaver, D. (2001). Reflections on scientific collaboration (and its study): Past, present, and future. *Scientometrics*, 52(3):365–377.

Beaver, D. and Rosen, R. (1978). Studies in scientific collaboration: Part I. The professional origins of scientific co-authorship. *Scientometrics*, 1(1):65–84.

Beaver, D. and Rosen, R. (1979a). Studies in scientific collaboration: Part II. Scientific co-authorship, research productivity and visibility in the French scientific elite, 1799–1830. *Scientometrics*, 1(2):133–149.

Beaver, D. and Rosen, R. (1979b). Studies in scientific collaboration Part III. Professionalization and the natural history of modern scientific co-authorship. *Scientometrics*, 1(3):231–245.

Belot, M., Kurmangaliyeva, M., and Reuter, J. (2023). Gender diversity and diversity of ideas. Technical report, Institute of Labor Economics (IZA).

Berland, O., Harman, O., and Moreau-Kastler, N. (2023). Pipelines or pyramids: A review of barriers for women in economics.

Bertrand, M., Black, S. E., Jensen, S., and Lleras-Muney, A. (2019). Breaking the glass ceiling? The effect of board quotas on female labour market outcomes in Norway. *The Review of Economic Studies*, 86(1):191–239.

Bidault, F. and Hildebrand, T. (2014). The distribution of partnership returns: Evidence from co-authorships in economics journals. *Research Policy*, 43(6):1002–1013.

Blau, F. D., Currie, J. M., Croson, R. T., and Ginther, D. K. (2010). Can mentoring help female assistant professors? Interim results from a randomized trial. *American Economic Review*, 100(2):348–52.

Bozeman, B. and Corley, E. (2004). Scientists' collaboration strategies: implications for scientific and technical human capital. *Research policy*, 33(4):599–616.

Bryan, K. A. (2019). Young "stars" in economics: What they do and where they go. *Economic Inquiry*, 57(3):1392–1407.

Buckles, K. (2019). Fixing the leaky pipeline: Strategies for making economics work for women at every stage. *Journal of Economic Perspectives*, 33(1):43–60.

Campos, F., Frese, M., Goldstein, M., Iacovone, L., Johnson, H. C., McKenzie, D., and Mensmann, M. (2017). Teaching personal initiative beats traditional training in boosting small business in West Africa. *Science*, 357(6357):1287–1290.

Card, D., DellaVigna, S., Funk, P., and Iriberri, N. (2020). Are referees and editors in economics gender neutral? *The Quarterly Journal of Economics*, 135(1):269–327.

Ceci, S. J., Ginther, D. K., Kahn, S., and Williams, W. M. (2014). Women in academic science: A changing landscape. *Psychological science in the public interest*, 15(3):75–141.

Cheryan, S., Ziegler, S. A., Montoya, A. K., and Jiang, L. (2017). Why are some STEM fields more gender balanced than others? *Psychological bulletin*, 143(1):1.

Chetty, R., Friedman, J. N., Hilger, N., Saez, E., Schanzenbach, D. W., and Yagan, D. (2011). How does your kindergarten classroom affect your earnings? Evidence from Project STAR. *The Quarterly journal of economics*, 126(4):1593–1660.

Cole, J. R. and Zuckerman, H. (1984). The productivity puzzle. *Advances in Motivation and Achievement*, 2:217–58.

Cole, J. R. and Zuckerman, H. (1987). Marriage, motherhood and research performance in science. *Scientific American*, 256(2):119–125.

Coutts, A., Koh, B. H., and Murad, Z. (2023). The signals we give: Performance feedback, gender, and competition. *Available at SSRN*.

CSWEP (2018). CSWEP News. (1).

De Chaisemartin, C. and d'Haultfoeuille, X. (2020). Two-way fixed effects estimators with heterogeneous treatment effects. *American Economic Review*, 110(9):2964–2996.

De Paola, M. and Scoppa, V. (2015). Gender discrimination and evaluators' gender: Evidence from Italian academia. *Economica*, 82(325):162–188.

Derks, B., Van Laar, C., and Ellemers, N. (2016). The queen bee phenomenon: Why women leaders distance themselves from junior women. *The Leadership Quarterly*, 27(3):456–469.

Doleac, J. L., Hengel, E., and Pancotti, E. (2021). Diversity in economics seminars: Who gives invited talks? In *AEA Papers and Proceedings*, volume 111, pages 55–59. American Economic Association 2014 Broadway, Suite 305, Nashville, TN 37203.

Ductor, L. (2015). Does co-authorship lead to higher academic productivity? *Oxford Bulletin of Economics and Statistics*, 77(3):385–407.

Ductor, L., Goyal, S., and Prummer, A. (2018). Gender and collaboration. *The Review of Economics and Statistics*, pages 1–40.

Dupas, P., Modestino, A. S., Niederle, M., Wolfers, J., et al. (2021). Gender and the dynamics of economics seminars. Technical report, National Bureau of Economic Research.

El-Alayli, A., Hansen-Brown, A. A., and Ceynar, M. (2018). Dancing backwards in high heels: Female professors experience more work demands and special favor requests, particularly from academically entitled students. *Sex Roles*, 79(3):136–150.

Ellison, G. (2002). The slowdown of the economics publishing process. *Journal of Political Economy*, 110(5):947–993.

Fang, F. C., Bennett, J. W., and Casadevall, A. (2013). Males are overrepresented among life science researchers committing scientific misconduct. *MBio*, 4(1):10–1128.

Ginther, D. K. and Kahn, S. (2004). Women in economics: Moving up or falling off the academic career ladder? *Journal of Economic Perspectives*, 18(3):193–214.

Ginther, D. K. and Kahn, S. (2009). Does science promote women? Evidence from academia 1973-2001. In *Science and Engineering Careers in the United States: An Analysis of Markets and Employment*, pages 163–194. University of Chicago Press.

Ginther, D. K. and Kahn, S. (2014). Women's careers in academic social science: Progress, pitfalls, and plateaus. *The economics of economists*, pages 285–315.

Ginther, D. K. and Kahn, S. (2021). Women in academic economics: Have we made progress? In *AEA Papers and Proceedings*, volume 111, pages 138–142. American Economic Association 2014 Broadway, Suite 305, Nashville, TN 37203.

Ginther, D. K. and Na, R. (2021). Does mentoring increase the collaboration networks of female economists? An evaluation of the CeMENT randomized trial. In *AEA Papers and Proceedings*, volume 111, pages 80–85.

Goldfinch, S., Dale, T., and DeRouen, K. (2003). Science from the periphery: Collaboration, networks and'Periphery Effects' in the citation of New Zealand Crown Research Institutes articles, 1995-2000. *Scientometrics*, 57(3):321–337.

Goldin, C. (2014). A grand gender convergence: Its last chapter. *American economic review*, 104(4):1091–1119.

Goodman-Bacon, A. (2021). Difference-in-differences with variation in treatment timing. *Journal of Econometrics*, 225(2):254–277.

Gutman, L. M. and Schoon, I. (2013). The impact of non-cognitive skills on outcomes for young people. A literature review.

Hahn, C. L. and Blankenship, G. (1983). Women and economics textbooks. *Theory & Research in Social Education*, 11(3):67–76.

Hamermesh, D. S. (2013). Six decades of top economics publishing: Who and how? *Journal of Economic Literature*, 51(1):162–72.

Harter, C. L., Becker, W. E., and Watts, M. (2011). Time allocations and reward structures for US academic economists from 1995–2005: Evidence from three national surveys. *International Review of Economics Education*, 10(2):6–27.

Hatamyar, P. W. and Simmons, K. M. (2003). Are women more ethical lawyers-an empirical study. *Fla. St. UL Rev.*, 31:785.

Heckman, J. J. and Kautz, T. (2012). Hard evidence on soft skills. *Labour economics*, 19(4):451–464.

Heckman, J. J. and Moktan, S. (2020). Publishing and promotion in economics: The tyranny of the top five. *Journal of Economic Literature*, 58(2):419–470.

Hengel, E. (2022). Publishing while female: Are women held to higher standards? Evidence from peer review. *The Economic Journal*.

Hilmer, C. and Hilmer, M. (2007). Women helping women, men helping women? Same-gender mentoring, initial job placements, and early career publishing success for economics PhDs. *American Economic Review*, 97(2):422–426.

Hussey, A., Murray, S., and Stock, W. (2022). Gender, coauthorship, and academic outcomes in economics. *Economic Inquiry*, 60(2):465–484.

Jadidi, M., Karimi, F., Lietz, H., and Wagner, C. (2018). Gender disparities in science? Dropout, productivity, collaborations and success of male and female computer scientists. *Advances in Complex Systems*, 21(03n04):1750011.

Jenkins, K. (2008). Practically professionals? Grassroots women as local experts–A Peruvian case study. *Political Geography*, 27(2):139–159.

Jones, B. F. (2009). The burden of knowledge and the "death of the renaissance man": Is innovation getting harder? *The Review of Economic Studies*, 76(1):283–317.

Kanter, R. M. (1977). *Men and Women of the Corporation*. Basic Books.

Katz, J. S. and Martin, B. R. (1997). What is research collaboration? *Research policy*, 26(1):1–18.

Khanna, R. (2021). Aftermath of a tragedy: A star's death and coauthors' subsequent productivity. *Research Policy*, 50(2):104159.

Koffi, M. (2021a). Gendered citations at top economic journals. In *AEA Papers and Proceedings*, volume 111, pages 60–64.

Koffi, M. (2021b). Innovative ideas and gender inequality. Technical report, Working Paper Series.

Kunze, A. and Miller, A. R. (2017). Women helping women? evidence from private sector data on workplace hierarchies. *Review of Economics and Statistics*, 99(5):769–775.

Kurtulus, F. A. and Tomaskovic-Devey, D. (2012). Do female top managers help women to advance? A panel study using EEO-1 records. *The Annals of the American Academy of Political and Social Science*, 639(1):173–197.

Laband, D. N. and Tollison, R. D. (2000). Intellectual collaboration. *Journal of Political Economy*, 108(3):632–662.

Lee, S. and Bozeman, B. (2005). The impact of research collaboration on scientific productivity. *Social studies of science*, 35(5):673–702.

Li, E. Y., Liao, C. H., and Yen, H. R. (2013). Co-authorship networks and research impact: A social capital perspective. *Research Policy*, 42(9):1515–1530.

Li, W., Aste, T., Caccioli, F., and Livan, G. (2019). Early coauthorship with top scientists predicts success in academic careers. *Nature Communications*, 10(1):1–9.

Liu, J., Song, Y., and Yang, S. (2020). Gender disparities in the field of economics. *Scientometrics*, 125(2):1477–1498.

Lundberg, S. and Stearns, J. (2019). Women in economics: Stalled progress. *Journal of Economic Perspectives*, 33(1):3–22.

Maddi, A. and Gingras, Y. (2021). Gender diversity in research teams and citation impact in Economics and Management. *Journal of Economic Surveys*, 35(5):1381–1404.

Maida, A. and Weber, A. (2022). Female leadership and gender gap within firms: Evidence from an Italian board reform. *Ilr Review*, 75(2):488–515.

Manchester, C. and Barbezat, D. (2013). The effect of time use in explaining male–female productivity differences among economists. *Industrial Relations: A Journal of Economy and Society*, 52(1):53–77.

Mas, A. and Moretti, E. (2009). Peers at work. *American Economic Review*, 99(1):112–145.

Matsa, D. A. and Miller, A. R. (2011). Chipping away at the glass ceiling: Gender spillovers in corporate leadership. *American Economic Review*, 101(3):635–639.

May, A. M. (2022). *Gender and the Dismal Science: Women in the Early Years of the Economics Profession*. Columbia University Press.

May, A. M., McGarvey, M. G., and Whaples, R. (2014). Are disagreements among male and female economists marginal at best?: A survey of AEA members and their views on economics and economic policy. *Contemporary Economic Policy*, 32(1):111–132.

McDowell, J. M. and Melvin, M. (1983). The determinants of co-authorship: An analysis of the economics literature. *The review of economics and statistics*, pages 155–160.

McDowell, J. M., Singell Jr, L. D., and Stater, M. (2006). Two to tango? Gender differences in the decisions to publish and coauthor. *Economic Inquiry*, 44(1):153–168.

McDowell, J. M., Singell Jr, L. D., and Ziliak, J. P. (2001). Gender and promotion in the economics profession. *ILR Review*, 54(2):224–244.

Medoff, M. H. (2003). Collaboration and the quality of economics research. *Labour Economics*, 10(5):597–608.

Melin, G. (2000). Pragmatism and self-organization: Research collaboration on the individual level. *Research policy*, 29(1):31–40.

Merton, R. K. (1968). The Matthew Effect in Science: The reward and communication systems of science are considered. *Science*, 159(3810):56–63.

Oettl, A. (2012). Reconceptualizing stars: Scientist helpfulness and peer performance. *Management Science*, 58(6):1122–1140.

Paredes, V. A., Paserman, M. D., and Pino, F. (2020). Does Economics Make You Sexist? Technical report, National Bureau of Economic Research.

Rossiter, M. W. (1993). The Matthew Matilda effect in science. *Social Studies of Science*, 23(2):325–341.

Roter, D. L. and Hall, J. A. (2004). Physician gender and patient-centered communication: A critical review of empirical research. *Annual Review of Public Health*, 25(1):497–519.

Sarsons, H. (2017). Recognition for group work: Gender differences in academia. *American Economic Review*, 107(5):141–45.

Schmoch, U. and Schubert, T. (2008). Are international co-publications an indicator for quality of scientific research? *Scientometrics*, 74:361–377.

Sekara, V., Deville, P., Ahnert, S. E., Barabási, A.-L., Sinatra, R., and Lehmann, S. (2018). The chaperone effect in scientific publishing. *Proceedings of the National Academy of Sciences*, 115(50):12603–12607.

Staines, G., Tavris, C., and Jayaratne, T. E. (1974). The queen bee syndrome.

Stephens, N. M. and Levine, C. S. (2011). Opting out or denying discrimination? How the framework of free choice in American society influences perceptions of gender inequality. *Psychological science*, 22(10):1231–1236.

Taylor, S. W., Fender, B. F., and Burke, K. G. (2006). Unraveling the academic productivity of economists: The opportunity costs of teaching and service. *Southern Economic Journal*, 72(4):846–859.

Uhlmann, E. L. and Cohen, G. L. (2007). "I think it, therefore it's true": Effects of self-perceived objectivity on hiring discrimination. *Organizational Behavior and Human Decision Processes*, 104(2):207–223.

Van den Brink, M. and Benschop, Y. (2014). Gender in academic networking: The role of gatekeepers in professorial recruitment. *Journal of Management Studies*, 51(3):460–492.

Waldinger, F. (2010). Quality matters: The expulsion of professors and the consequences for PhD student outcomes in Nazi Germany. *Journal of Political Economy*, 118(4):787–831.

Waldinger, F. (2016). Bombs, brains, and science: The role of human and physical capital for the creation of scientific knowledge. *Review of Economics and Statistics*, 98(5):811–831.

Walstad, W. B. (1992). Economics instruction in high schools. *Journal of economic Literature*, 30(4):2019–2051.

Wu, A. H. (2018). Gendered language on the economics job market rumors forum. In *AEA Papers and Proceedings*, volume 108, pages 175–79.

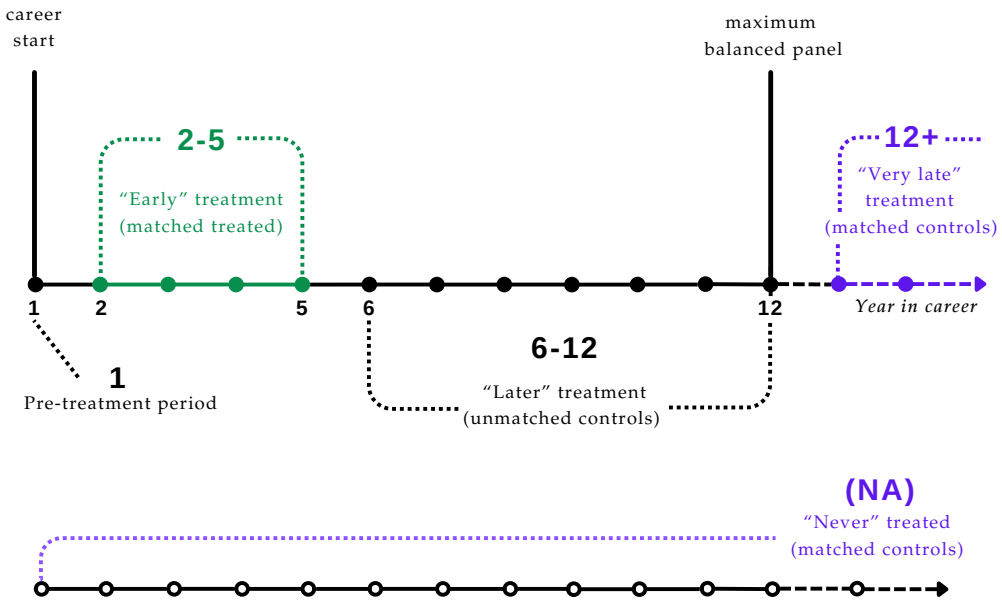
Wuchty, S., Jones, B. F., and Uzzi, B. (2007). The increasing dominance of teams in production of knowledge. *Science (New York, N.Y.)*, 316(5827):1036–1039.

Xie, Y. and Shauman, K. A. (1998). Sex differences in research productivity: New evidence about an old puzzle. *American Sociological Review*, pages 847–870.

Yadav, A., McHale, J., and O'Neill, S. (2023). How does co-authoring with a star affect scientists' productivity? Evidence from small open economies. *Research Policy*, 52(1):104660.

Figure 1: Visualizing the Matched Sample Construction

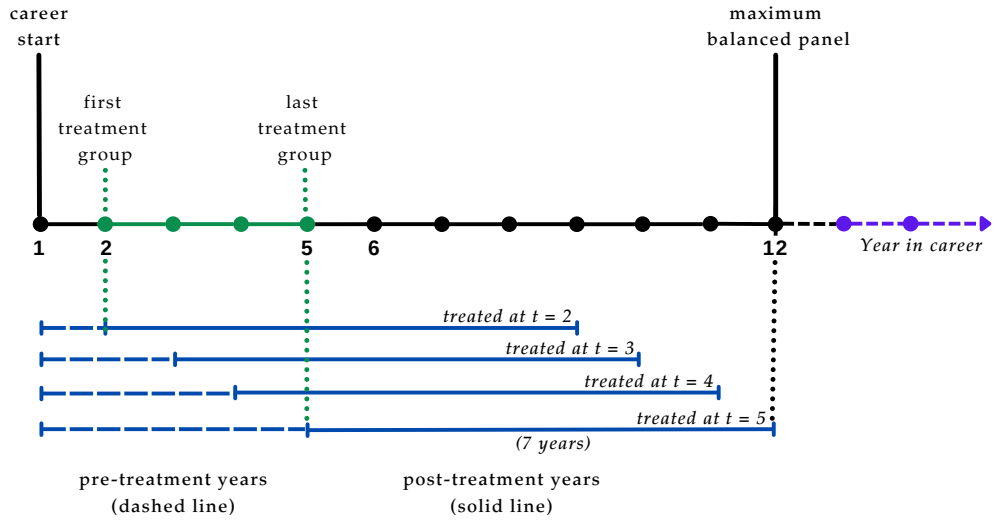
(a) Definition of Treated and Control Groups



Notes: This figure demonstrates how treatment groups are defined, the treatment group for which controls are matched, and the pool of potential controls for matching. [a] The timeline represents the years of a junior economist's publication career, and each solid dot indicates the year in which a junior first collaborates with a superstar. Given that the last cohort begins their publication careers in 2010 and the latest publication data is from 2021, a 12-year window represents the maximum balanced panel I can construct. [b] Pre-treatment period: Years before the first superstar collaboration (year 1). [c] Treated group: Juniors who collaborate with a superstar in years 2-5. [d] "Later" treated group: Juniors who collaborate with a superstar in years 6-12 (excluded from the matched sample due to staggered treatment concerns). [e] Clean controls: Juniors who never collaborate with a superstar or collaborate after year 12. [f] Matching criteria: Only juniors who have published prior to collaborating with a superstar (or non-superstar) are eligible for matching to ensure pre-treatment comparability.

Figure 1: Visualizing the Matched Sample Construction (Continued)

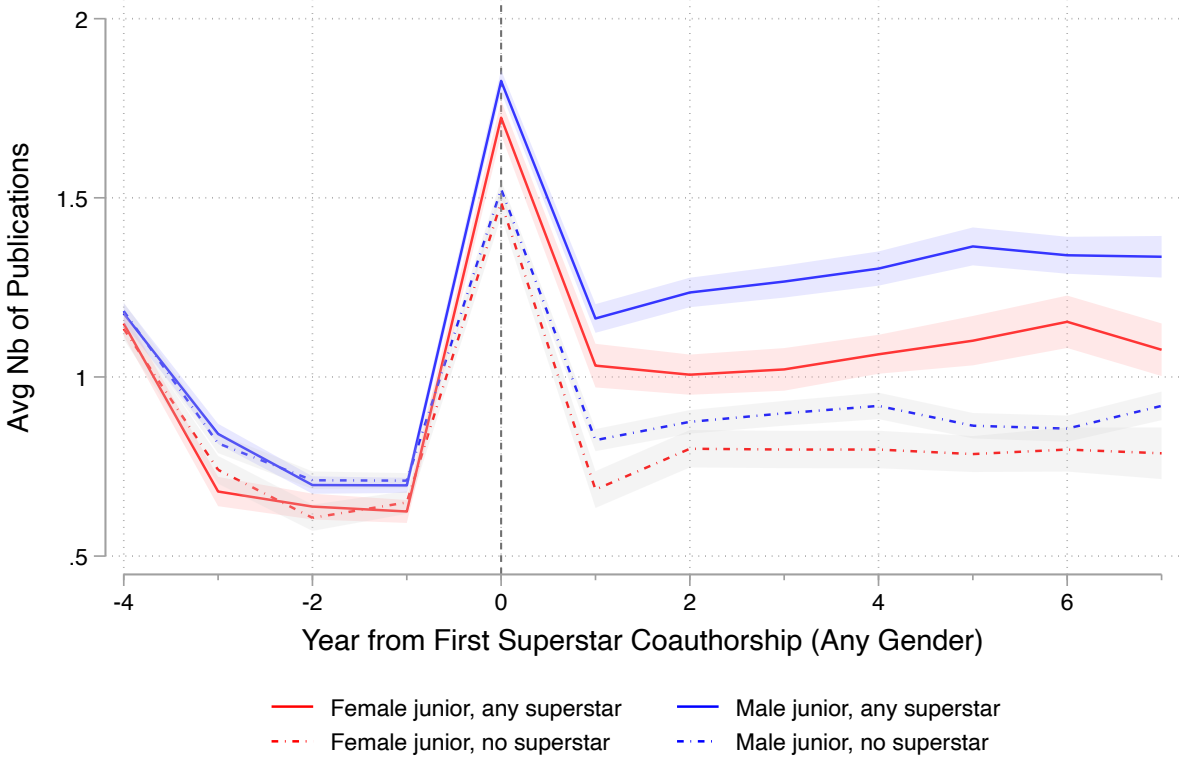
(b) Graphical Representation of Matched Sample Panel Data



Notes: After matching is executed, this figure illustrates the years included in the panel data of the matched treatment and controls (represented by blue segments). [a] The timeline represents the years of a junior economist's publication career, and the 12 year panel used for matching. [b] Blue segments indicate the years included in the matched sample panel data for each researcher, of which the dashed portion represents the pre-treatment years, and the solid portion represents the post-treatment years. [c] To ensure a balanced comparison, the panel is restricted to 7 years post-treatment for all matched researchers. [d] The lengths of the blue segments vary based on the career age at which the researcher first collaborates with a superstar. For example: A junior who coauthors with a superstar in their second year will have 1 pre-treatment year and 7 post-treatment years, for a total of 8 observed periods in the panel.

Figure 2: Trends in Annual Publication Counts

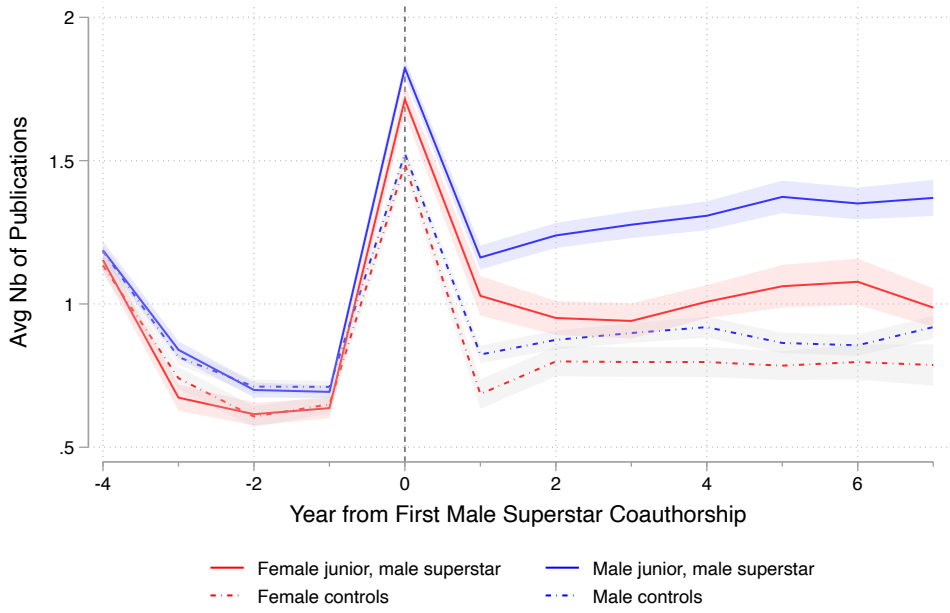
(a) Following coauthorship with any gender superstar



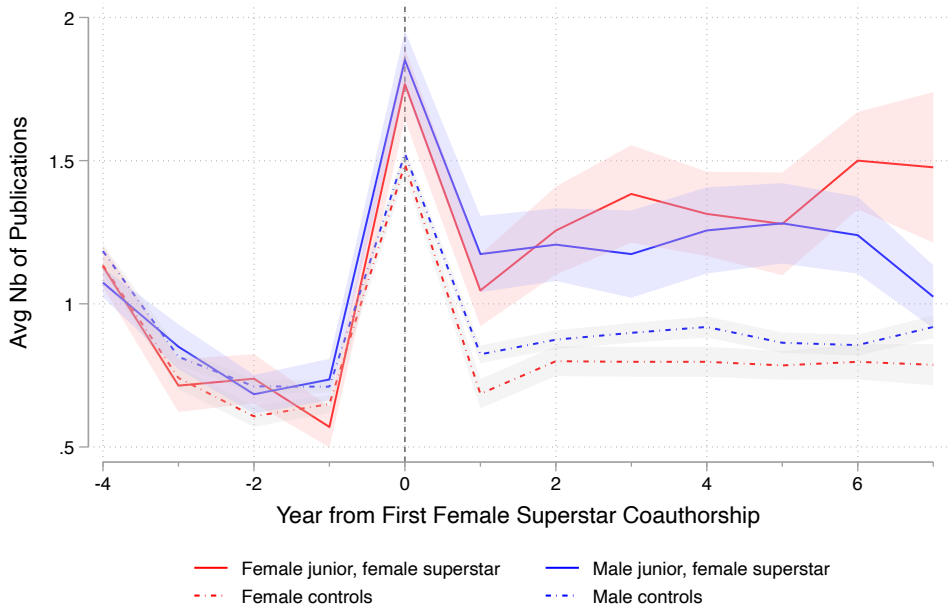
Source: Open Alex Notes: [a] The sample consists of junior economists matched on CEM criteria, who initiated their publication careers between 2000 and 2010. [b] The treated group includes junior economists who coauthored with a superstar within 2-5 years of their career start. The control group includes junior economists who did not coauthor with a superstar during the analysis period (years 1-12). [c] The matched sample is restricted to a panel covering the subsequent 7 years after treatment for all matched researchers, ensuring a balanced comparison. [d] Each data point represents the average number of publications per year for junior women (red) and junior men (blue) who collaborate with a superstar (solid line) and their respective controls (dotted line). [e] The x-axis represents years relative to the year of treatment (star collaboration). Negative values indicate pre-treatment years, while positive values represent post-treatment years.

Figure 2: Trends in Annual Publication Counts (Continued)

(b) Following coauthorship with male superstar



(c) Following coauthorship with female superstar

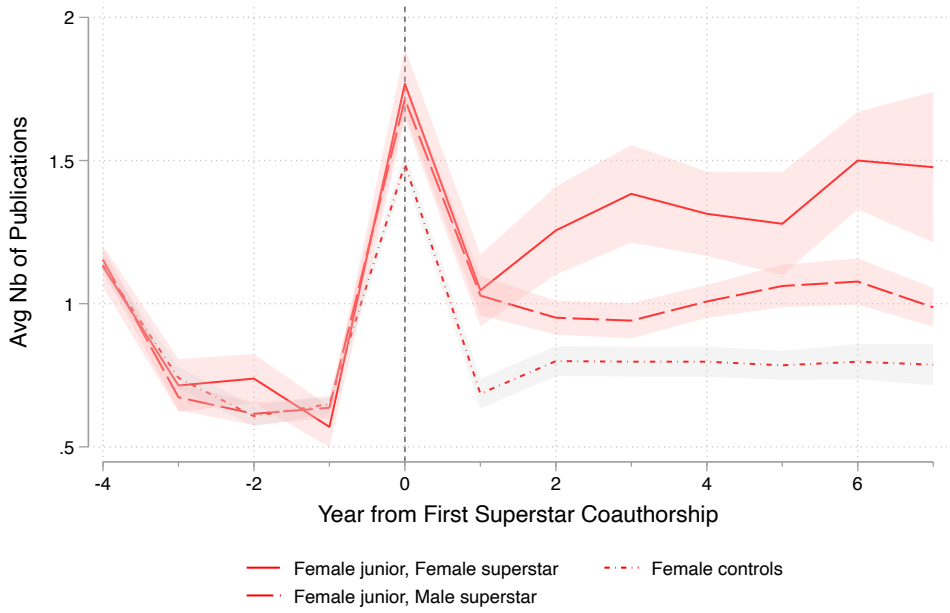


Source: Open Alex

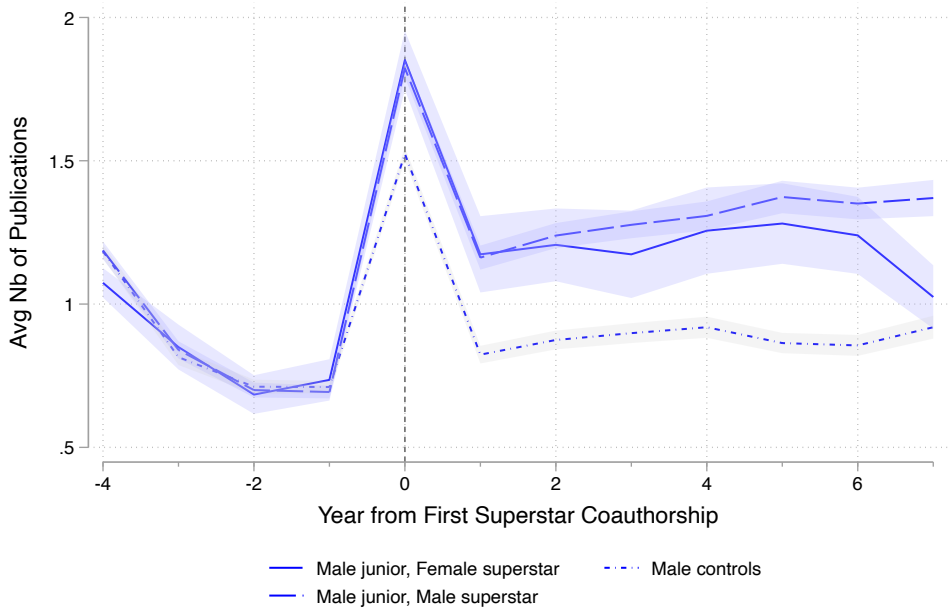
Notes: [a] The sample consists of junior economists matched on CEM criteria, who initiated their publication careers between 2000 and 2010. [b] The treated group includes junior economists who coauthored with a superstar within 2-5 years of their career start. The control group includes junior economists who did not coauthor with a superstar during the analysis period (years 1-12). [c] The matched sample is restricted to a panel covering the subsequent 7 years after treatment for all matched researchers, ensuring a balanced comparison. [d] Each data point represents the average number of publications per year for junior women (red) and junior men (blue) who collaborate with a superstar (solid line) and their respective controls (dotted line). [e] The x-axis represents years relative to the year of treatment (star collaboration). Negative values indicate pre-treatment years, while positive values represent post-treatment years.

Figure 2: Trends in Annual Publication Counts (Continued)

(d) Sample of female junior economists



(e) Sample of male junior economists



Source: Open Alex

Notes: [a] The sample consists of junior economists with at least 5 years of publishing career, matched on CEM criteria, who initiated their publication careers between 2000 and 2010. [b] The treated group includes junior economists who coauthored with a superstar within 2-5 years of their career start. The control group includes junior economists who did not coauthor with a superstar during the analysis period (years 1-12). [c] The matched sample is restricted to a panel covering the subsequent 7 years after treatment for all matched researchers, ensuring a balanced comparison. [d] Each data point represents the average number of publications per year for junior women (red) and junior men (blue) who collaborate with a superstar (solid line) and their respective controls (dotted line). [e] The x-axis represents years relative to the year of treatment (star collaboration). Negative values indicate pre-treatment years, while positive values represent post-treatment years.

Table 1: Comparing Pre-Treatment Covariates of Treatment and Control Researchers
(Sample of CEM Matched Junior Economists)

	(1) Full Sample mean/sd	(2) Control mean/sd	(3) Treated mean/sd	(4) Difference diff/se
Female (exact match)	0.28	0.28	0.28	0.00
	(0.45)	(0.45)	(0.45)	(0.02)
Coauthored a publication in year t (exact match)	1.00	1.00	1.00	0.00
	(0.04)	(0.04)	(0.04)	(0.00)
Career age in t-1 (exact match)	2.50	2.50	2.50	0.00
	(1.13)	(1.13)	(1.13)	(0.04)
Average year of first publication	2005.42	2005.30	2005.54	-0.24**
	(3.11)	(3.12)	(3.10)	(0.11)
Nb. publications in t-1	1.89	1.90	1.88	0.02
	(1.26)	(1.26)	(1.26)	(0.04)
Change in pub rate from t-2 to t-1	0.18	0.19	0.17	0.02
	(1.05)	(1.05)	(1.06)	(0.04)
Nb. solo-authored pubs in t-1	0.51	0.51	0.50	0.01
	(0.79)	(0.81)	(0.78)	(0.03)
Nb. coauthored pubs in t-1	1.38	1.39	1.38	0.01
	(1.16)	(1.14)	(1.17)	(0.04)
Cumulative nb. coauthorships in t-1	1.34	1.37	1.32	0.05
	(1.23)	(1.27)	(1.19)	(0.04)
Cumulative SNIP weighted pubs in t-1	1.03	1.02	1.04	-0.02
	(1.16)	(1.14)	(1.18)	(0.04)
Cumulative H-index in t-1	1.75	1.73	1.78	-0.05
	(1.14)	(1.13)	(1.16)	(0.04)
Affiliated in top 30 US econ dept in t-1 (exact match)	0.25	0.25	0.25	0.00
	(0.43)	(0.43)	(0.43)	(0.01)
In institution with SS in t-1 (exact match)	0.72	0.72	0.72	0.00
	(0.45)	(0.45)	(0.45)	(0.02)
N	3,374	1,687	1,687	3,374

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Notes: [a] The sample consists of junior economists with at least 5 years of publishing career, matched on CEM criteria, who initiated their publication careers between 2000 and 2010. All statistics are based on the year prior to first superstar coauthorship (t-1). [b] The treated group includes junior economists who coauthored with a superstar within 2-5 years of their career start. The control group includes junior economists who did not coauthor with a superstar during the analysis period (years 1-12). [c] The table reports the means and standard deviations of pre-treatment levels of select covariates, calculated individually and then averaged across the full sample, treated group, and control group. Column 4 presents the difference in means between matched controls and matched treated, along with the standard error of a t-test for this difference. [d] The cumulative H-index at t-1 is calculated using the stock number of publications at t-1 and how often they are cited (based on total citations at 2021, the year of collection). Because of the lack of panel data on citation counts, this value may not be fully reflective of the true H-index at t-1.

Table 2: Comparing Matched and Unmatched Treated Researchers, Prior to Collaboration (Sample of Treated Junior Economists)

	(1)	(2)	(3)	(4)
	Full Sample	Not Matched	Matched	Difference
	mean/sd	mean/sd	mean/sd	diff/se
Female	0.29	0.31	0.28	0.03
	(0.45)	(0.46)	(0.45)	(0.03)
Career age at first superstar collab	3.52	3.59	3.50	0.09
	(1.11)	(1.01)	(1.13)	(0.06)
Collab w/ female star in t	0.12	0.12	0.12	-0.01
	(0.33)	(0.32)	(0.33)	(0.02)
Collab w/ male star in t	0.88	0.88	0.88	0.01
	(0.33)	(0.32)	(0.33)	(0.02)
Becomes superstar during career	0.17	0.29	0.14	0.16***
	(0.37)	(0.46)	(0.34)	(0.02)
Career age at first superstar status	7.22	6.81	7.42	-0.61**
	(2.59)	(2.41)	(2.66)	(0.29)
Nb. publications in t-1	2.42	4.72	1.88	2.84***
	(2.07)	(3.05)	(1.26)	(0.10)
Nb. solo-authored pubs in t-1	0.63	1.16	0.50	0.66***
	(0.98)	(1.46)	(0.78)	(0.05)
Nb. coauthored pubs in t-1	1.79	3.56	1.38	2.18***
	(1.86)	(2.95)	(1.17)	(0.09)
Avg nb of coauthors per pub in t-1	1.43	1.92	1.32	0.59***
	(1.59)	(2.66)	(1.19)	(0.09)
Cumulative SNIP weighted pubs in t-1	3.64	7.02	2.86	4.16***
	(3.16)	(4.57)	(2.05)	(0.15)
Cumulative H-index in t-1	2.22	4.12	1.78	2.35***
	(1.78)	(2.55)	(1.16)	(0.09)
Affiliated in top 30 US econ dept in t-1	0.27	0.36	0.25	0.11***
	(0.45)	(0.48)	(0.43)	(0.02)
Initiate career in top 5%ile grad program	0.61	0.63	0.60	0.03
	(0.49)	(0.48)	(0.49)	(0.03)
Affiliated in institution with star in t-1	0.73	0.77	0.72	0.05*
	(0.44)	(0.42)	(0.45)	(0.02)
N	2,079	392	1,687	2,079

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Notes: [a] The sample consists of treated junior US economists who initiated their publication careers between 2000 and 2010, have at least 5 years of publishing experience, and coauthored with a superstar within 2-5 years of their career start. [b] The table reports the means and standard deviations of pre-treatment levels of select covariates, calculated individually and then averaged across the full sample, unmatched treated group, and CEM matched treated group. Column 4 presents the difference in means between unmatched and matched treated, along with the standard error of a t-test for this difference. [c] The cumulative H-index at t-1 is calculated using the stock number of publications at t-1 and how often they are cited (based on total citations at 2021, the year of collection). Because of the lack of panel data on citation counts, this value may not be fully reflective of the true H-index at t-1.

Table 3: Impact of Superstar Coauthorship on Publication Outcomes

Dep Var:	Nb of Pubs				SNIP Weighted Pubs			
	Female Sample		Male Sample		Female Sample		Male Sample	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
POST TREAT × ANY GENDER SS	0.1832***	0.1579***	0.2004***	0.2057***	0.2574***	0.2274***	0.2887***	0.2956***
	(0.030)	(0.031)	(0.019)	(0.020)	(0.037)	(0.039)	(0.024)	(0.025)
POST TREAT × FEMALE SS		0.1403**		-0.0525		0.1664**		-0.0690
		(0.062)		(0.050)		(0.077)		(0.065)
Observations	9996	9996	25442	25442	9996	9996	25442	25442
Mean of Dep. Var	0.9340	0.9340	1.0668	1.0668	1.3739	1.3739	1.5907	1.5907
Author FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Career Age FE	X	X	X	X	X	X	X	X

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Notes: [a] The sample comprises junior economists matched using coarsened exact matching. These economists have at least five years of publishing experience and began their publication careers between 2000 and 2010. Estimates stem from OLS regressions with IHS-transformed publication outcomes. Coefficients represent elasticities. [b] Columns 1-2 and 5-6 present results for junior economists with female-assigned names, while Columns 3-4 and 7-8 present results for those with male-assigned names. Columns 1-4 present results using publication counts per researcher per year, while the Columns 5-8 uses publication counts per researcher per year weighted by the journals' source-normalized impact factor. [c] (Post Treat × Any SS) captures the effect of coauthorship with any gender superstar in the post-treatment period. It equals 1 for junior economists who coauthored with a star after their first superstar coauthorship and 0 otherwise. The interaction term (Post Treat × Female SS) specifically examines the differential change in outcomes associated with collaborating with a female superstar, controlling for the general superstar coauthorship effect. [d] Heteroskedastic robust standard errors, clustered by individual, are given in parentheses.

Table 4: Impact of Superstar Coauthorship on Publication Outcomes
(Excluding Subsequent Star Coauthorships)

Dep Var:	Nb of Pubs				SNIP Weighted Pubs			
	Female Sample		Male Sample		Female Sample		Male Sample	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
POST TREAT × ANY GENDER SS	0.0890***	0.0593**	0.1034***	0.1068***	0.1386***	0.1046***	0.1674***	0.1718***
	(0.029)	(0.030)	(0.019)	(0.019)	(0.037)	(0.038)	(0.024)	(0.025)
POST TREAT × FEMALE SS		0.1647**		-0.0329		0.1887**		-0.0430
		(0.064)		(0.046)		(0.080)		(0.060)
Observations	9996	9996	25442	25442	9996	9996	25442	25442
Mean of Dep. Variable	0.8722	0.8722	1.0039	1.0039	1.2741	1.2741	1.4877	1.4877
Author FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Career Age FE	X	X	X	X	X	X	X	X

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Notes: [a] The sample comprises junior economists matched using coarsened exact matching. These economists have at least five years of publishing experience and began their publication careers between 2000 and 2010. Estimates stem from OLS regressions with IHS-transformed publication outcomes. Coefficients represent elasticities. [b] Publication outcomes for treated junior economists exclude subsequent collaborations with the original treatment star. Columns 1-2 and 5-6 present results for junior economists with female-assigned names, while Columns 3-4 and 7-8 present results for those with male-assigned names. Columns 1-4 present results using publication counts per researcher per year, while the Columns 5-8 uses publication counts per researcher per year weighted by the journals' source-normalized impact factor. [c] (Post Treat × Any SS) captures the effect of coauthorship with any gender superstar in the post-treatment period. It equals 1 for junior economists who coauthored with a star after their first superstar coauthorship and 0 otherwise. The interaction term (Post Treat × Female SS) specifically examines the differential change in outcomes associated with collaborating with a female superstar, controlling for the general superstar coauthorship effect. [d] Heteroskedastic robust standard errors, clustered by individual, are given in parentheses.

Table 5: Impact of Superstar Coauthorship on Publication Outcomes
(Split by Quantile Groups of Cumulative SNIP Publications at t-1)

Dep Var: **Nb. of Publications**

	Female Sample				Male Sample			
	Below Median		Above Median		Below Median		Above Median	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
POST TREAT ×	0.189***	0.177***	0.222***	0.186***	0.195***	0.192***	0.219***	0.230***
ANY GENDER SS	(0.041)	(0.044)	(0.040)	(0.040)	(0.027)	(0.027)	(0.027)	(0.028)
POST TREAT ×		0.066		0.208**		0.031		-0.101*
FEMALE SS		(0.076)		(0.094)		(0.081)		(0.058)
Observations	5258	5258	4738	4738	11780	11780	13662	13662
Mean of Dep. Var.	0.8650	0.8650	1.0106	1.0106	0.9163	0.9163	1.1966	1.1966
Author FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Career Age FE	X	X	X	X	X	X	X	X

Dep Var: **SNIP Weighted Pubs**

	Female Sample				Male Sample			
	Below Median		Above Median		Below Median		Above Median	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
POST TREAT ×	0.272***	0.254***	0.305***	0.264***	0.301***	0.299***	0.304***	0.316***
ANY GENDER SS	(0.050)	(0.055)	(0.049)	(0.050)	(0.033)	(0.034)	(0.033)	(0.034)
POST TREAT ×		0.096		0.232**		0.022		-0.119
FEMALE SS		(0.088)		(0.117)		(0.098)		(0.076)
Observations	5258	5258	4738	4738	11780	11780	13662	13662
Mean of Dep. Var.	1.2253	1.2253	1.5387	1.5387	1.3097	1.3097	1.8330	1.8330
Author FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Career Age FE	X	X	X	X	X	X	X	X

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Notes: [a] The sample comprises junior economists matched using coarsened exact matching. These economists have at least five years of publishing experience and began their publication careers between 2000 and 2010. Estimates stem from OLS regressions with IHS-transformed publication outcomes. Coefficients represent elasticities. [b] Columns 1-4 present results for female-named junior economists, while Columns 5-8 present results for male-named junior economists. These groups are further divided into those with below-median (Columns 1-2 and 5-6) and above-median (Columns 3-4 and 7-8) cumulative SNIP-weighted publications before collaboration (at t- 1). The top panel presents results using publication counts per researcher per year, while the bottom panel uses publication counts per researcher per year weighted by the journals' source- normalized impact factor. [c] (Post Treat × Any Gender SS) interacts between the post-treatment period and superstar coauthorship. It equals 1 for juniors who coauthor with a star for years after first star coauthorship and 0 otherwise. (Post Treat × Female SS) interacts superstar treatment with a female dummy of the star's gender. It captures the differential change in outcomes of collaborating with a female superstar, holding the general superstar effect constant. [d] Heteroskedastic robust standard errors, clustered by individual, are given in parentheses.