H1 FRONT MATTER

H2: Title

- **How Many Cents on the Dollar? Women and Men in Product Markets.**

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H2:Abstract

Gender inequality in contemporary U.S. society is a well-documented, widespread phenomenon. Little is known, however, about gender disparities in product markets. This study is the first to use actual market data to study the behavior of women and men as sellers and buyers and differences in market outcomes. We analyze a unique and large dataset containing all eBay auction transactions of most popular products by private sellers between the years 2009 and 2012. Women sellers received a smaller number of bids and lower final prices than did equally qualified men sellers of the exact same product. On average women sellers received about 80 cents for every dollar a man received when selling the exact same new product and 97 cents when selling the same used product. These findings held even after controlling for the sentiments that appear in the text of the sellers' listings. Nonetheless, it is worth noting that this gap varied by the type of the product being sold. As a policy, eBay does not reveal the gender of users. We attribute the price differences to the ability of buyers to discern the gender of the seller. We present results from an experiment that shows that people accurately identify the gender of sellers based on typical information provided in postings. We supplement the analysis with an additional off-eBay experiment showing that in a controlled setting people are willing to pay less for money-value gift cards when they are sold by women rather than men.

H1 MAIN TEXT

H2:Introduction

This study tests for gender disparities in online product markets. It analyzes new and unique data on all transactions of 420 most popular products conducted on eBay in the years 2009-2012, to discern differences in the behavior of women and men as sellers and buyers, and differences in market outcomes. The study explores whether women behave differently as sellers and buyers than men do, and when they behave similarly, whether they are paid less for the same product being sold. The crux of the

findings is that women receive a smaller number of bids and lower final prices than do equally qualified men sellers of the same products. On average women sellers received about 80 cents for every dollar a man received when selling the exact same new product and 97 cents when selling the same used product. We complement the analysis with two experiments: One demonstrating that the gender of sellers on eBay can be accurately assessed based on typical information provided in postings. The other demonstrating that buyers report a lower willingness to pay for a specific product (a gift card) when sold by a woman compared to a man.

Gender inequality persists in U.S. society to this day. In the labor market, progress toward equality in employment, occupation, and earnings has been at a standstill since the 1990s (*1, 2, 3, 4*). In 2014, 74% of women aged 25-54 were participating in the paid labor force and 88% of men (*5*). When participating in the labor force, a considerable number of women and men still work in substantially sex-segregated occupations and jobs (*6*). Women in the U.S. are less likely than men to hold lucrative positions and positions with authority and decision making power (*7,8,9*). In 2014, women's median wages for full-time, year-round work were only 82% of their male counterparts' median wages (5). At home, women –regardless of their employment status - tend to do more household work compared to men (*10*).

Little is known about gender inequality and discrimination in product markets. The limited evidence is based on the findings of field experiments, which indeed suggest discrimination against women buyers in product markets (*11,12*). It has been hypothesized that women are discriminated against in the rental and insurance markets because they are believed to have a lower ability to meet payments (*13*) or because gender is used as a proxy for reservation price (*12*).

The focus on product markets and in particular on identical new products that are sold in auctions by women and men sellers, enables us to rule out explanations for the gender price gap that are related to the quality of the products being sold. Thus, we improve on the existing literature on the gender wage gap in the labor force. Gender disparities and wage penalties in the labor market have been extensively documented by economists and sociologists. Nonetheless, in such studies it is hard to control for the actual (and the perceived) productivity of women and men and the quality of their work. Thus, in the context of the labor force, it is hard to refute that what drives the gender wage gap is also differences in productivity and quality of work between women and men. In this study, by focusing on identical new products – a new blue iPod shuffle, second generation, for instance - the quality of the products sold is controlled for, so that quality related explanations for the gender price gap become irrelevant and only beliefs about sellers, their status and the quality of the transaction matter.

By analyzing auctions (where sellers do not interact with buyers), differences in the negotiation skills of women and men sellers, also become irrelevant. Finally, by controlling for the actual reputation of sellers and the texts they use in their ads as well as for all the characteristics of the listings that buyers can observe, we are also able to rule out all other explanations related to the actual quality of the seller and the nature of the transaction. Thus, what drives the gender price gap we observe are beliefs about gender and the effects they have on the willingness to pay for desired products.

As is well-known, eBay is an online commerce company where people and businesses buy and sell a broad range of products and services worldwide. As noted, previous studies on gender discrimination in product markets have been mostly experimental in nature, yielding only a relatively small number of observations and focusing mostly on women as buyers. The sheer size of the dataset used for the present study (1,106,741 transactions) and the ability to access all data available to the parties at the time they made their transactions allowed for a much broader research and analysis than was possible in previous investigations. Using this dataset, we were able to assess the behavior of women and men as sellers and buyers, as well as the divergences in outcomes in the entire market being studied. We were also able to analyze the effects of such factors as reputation, use of reserve prices, and use of sentiment in listing texts.

Data were extracted in 2014 at the eBay Research Lab. Four hundred and twenty most popular products from each of the meta-categories in the eBay catalogue were selected for analysis.[1] For each product we analyzed all completed transactions in which private sellers from the U.S. were involved. Private sellers were defined as sellers who are not categorized as stores by eBay and who have a feedback score of less than 1000. The feedback score is the number of positive feedbacks minus the number of negative feedbacks received. Given that most feedbacks are positive, the feedback score approximates the number of the members' transactions on eBay. The gender of sellers and buyers was identified based on the gender reported by users at the time of registration. Because data were extracted with the cooperation and support of eBay, we had all the information that was known to the parties at the time of the transaction, together with additional data such as the final outcome and the *ex-post* evaluation of the seller's performance by the buyer. Data related to the transactions (product details, including type, condition, and price; dates of the item listing and the completion of the transaction; text contents and the number and type of pictures in the item listing; whether a reserve price had been set;

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[1] The meta-categories are as follows: antiques; art; baby; books; business and industrial; cameras and photo; cell phones and accessories; clothing, shoes, and accessories; coins and paper money; collectibles, computers/tablets, and networking; consumer electronics, crafts, DVDs, and movies; dolls and bears; gift cards and coupons; health and beauty; home and garden; jewelry and watches; music, musical instruments, and gear; pet supplies; sporting goods; sports memorabilia, cards, and fan shop; tickets and experiences; toys and hobbies; travel, video games, and consoles. For the list of all product categories on eBay, see http://www.ebay.com/sch/allcategories/all-categories.

feedback given to the seller; and so on), the sellers (gender, reputation, experience, state of residence), and the buyers (gender, state of residence) were used to analyze gender disparities in behavior and transaction outcomes.

H2: Results
Women and Men as Sellers and Buyers

We found that there were fewer women sellers than men. Women tended to have less experience as sellers but better reputations than did the men. As sellers, they tended to set a higher start price in auctions and were slightly more willing to pay for setting a hidden reserve price than their male counterparts were (there is a fee on eBay for setting a reserve price).

Women represented only 23.07% of the private sellers in the dataset. Of the four main sale platforms available on eBay, women were most represented as sellers in completed transactions listed as "Buy It Now" transactions, in which sellers set a price for an immediate purchase of an item (24.08% of sellers on this platform were women). Women were least represented as sellers in completed transactions listed as "Buy It Now or Best Offer" transactions, which, in addition to purchase at a set price, allow for direct negotiations between the buyer and seller (16.52% of sellers on this platform were women). Women made up 23.44% of completed transactions listed as "Auctions," and 22.77% of completed transactions listed as "Auctions or Buy It Now" (see Table S1). In a multinomial logistic regression model predicting the platform of sale, in which "Auction" was the baseline comparison platform, being female was negatively associated with the choices of the "Buy It Now or Best Offer" and "Auction or Buy It Now" platforms, and positively associated with choosing the "Buy It Now" platform (p<0.001, N= 1,106,741, see Table S2).

Auctions are ideal for testing for gender differences in outcomes because after an item has been listed the final price is not affected by the seller's behavior, only by the bidding of potential buyers. For example, in auction-style listings potential buyers do not negotiate with the seller, and thus the seller's bargaining skills do not affect the final price. We therefore proceeded with the analysis of "Auction" transactions only. Table 1 presents the summary statistics of best-selling products posted as "Auction."

(Table 1 about here)

Women sellers in the dataset had less experience than did men sellers. On average, the women in the dataset had been members of eBay for 9.02 years, as opposed to an average of 9.81 years for the men (p<0.001). In an OLS regression model controlling for the year of auction, women's experience was 9.6 months shorter than men's (p<0.001, N= 631,516, see Table S3).

Women sellers, however, had better reputations as sellers than the men sellers did. On eBay, the reputation ("feedback score") of each seller appears in parentheses next to the seller's username and at

the top of the feedback profile. Next to the reputation, there may also appear a star that changes its color when the reputation increases. The reputation is calculated based on the number of past transactions for which a seller received positive feedback minus the number of transactions for which negative feedback was received. Women sellers had an average reputation of 275, as opposed to an average of 260 for the men (p<0.001). Likewise, women had a slightly higher percent of transactions for which positive feedback had been given in the year preceding the current transaction (99.60% for women and 99.58% for men, p<0.05). In OLS regression models predicting the reputation of sellers, women sellers had higher reputation than did men sellers. On average, the reputation score of women sellers was 25.23 higher than of men sellers, controlling for year and sellers' experience (p<0.001, N= 631,516, see Table S3).

On average, women sellers in the dataset had set lower auction start prices than did the men (p<0.001). At the same time women tended to be involved as sellers in auctions for cheaper products than were the men, in which start prices tend to be lower in general. In auctions for the sale of the same products, women set higher start prices than did the men. An OLS regression model controlling for the type of product being sold, its condition, year, and seller's reputation and experience found that women sellers set a start price that was $6.47 *higher* than that set by men (p<0.001, N= 615,735, see Table S3).

Sellers in auctions on eBay can pay to set a hidden minimum price ("reserve price"), so that if the listing ends without any bid meeting this price they are not obligated to sell the item. The fee for setting a reserve price is $2 if the reserve price is below $200 and 1% of the reserve price if it is higher than $200. The maximum fee is $50. On average, women and men were equally likely to set a reserve price, but in auctions for the sale of the same products, women showed a slightly higher willingness to pay for setting a reserve price than men sellers did. In a logistic regression model predicting the choice to pay for a reserve price and controlling for type of product being sold, the marginal effect of a woman seller on the probability of using the option of a reserve price was 0.007, suggesting that the change in the probability of a woman setting a reserve price as opposed to a man is less than 1% (p<0.001, N= 586,400, see Table S3).

Buyers on eBay can confidentially evaluate sellers in four categories, on a scale of 1-5: (a) accuracy of item description; (b) shipping time; (c) shipping charges; and (d) communication. No significant differences were found in the average ratings received by men and women in all four categories. Women and men sellers received similar ratings for shipping charges and communication, and women scored slightly higher on item description (p<0.001) and slightly lower on shipping time (p<0.001). In an OLS regression model controlling for the type of product being sold, its condition, year, seller's reputation and experience, price, and other transaction characteristics, no statistically significant

differences were found between women and men sellers in the average evaluations of transactions (N= 351,076, see Table S3).

Lastly, women buyers were found to prefer purchasing products from women sellers rather than from men sellers. In a logistic regression model predicting whether the buyer was a woman and controlling for type of product being sold and all other characteristics, the marginal effect of a woman seller on the probability of a woman buyer was of 0.01 (p<0.001 N= 260,075, see Table S4).

Market Outcomes in Auctions

Below we describe the differences in auction outcomes between women and men, after controlling for all the characteristics discussed above. In all the models predicting market outcomes, we controlled for the type of product being sold using eBay's very precise and specified product classification (product fixed effect). This means that we compared the number of bids and final prices achieved when equally qualified women and men sold the exact same product. For example, we compared the number of bids and the final price received by women and men who have the same reputation, experience, number of pictures in the ad, etc. in an auction for a new "Bulova 18K Gold 95G07 Wrist Watch for Women".

Women sellers in our dataset received a smaller number of bids for their products and obtained lower final prices than did equally qualified men selling the same products. Table 2 shows the disparities in market outcomes for women and men in auctions.

(Table 2 about here)

In OLS regression models predicting the final number of bids obtained in an auction, women received 0.89 fewer bids than did men, controlling for type of product, its condition, seller's reputation and experience, auction start price, presence of a reserve price, upgrading of a listing (using a bold title), number and type of pictures used in a listing, and the day, month, and year of the sale transaction (Model 1; p<0.001, N=615,735). Likewise, in auctions women received final prices that were lower by $4.88 than the prices received by men (Model 2; p<0.001, N=615,115, the type of the product and all other control variables added). In order to pull outlying data, the final price in Model 3 was log transformed. In this model, women sellers received final prices that were 5.3% lower than the prices received by men. Thus, on average, when selling a product, women received 94.7 cents for every dollar received by men.

In Model 4 we test whether price disparities are affected by the item's condition. Thus, we interact the seller of the gender with the condition of the product sold. Overall, the effect of being a woman seller is greater for new products than for old ones. Whereas when selling used products, women

received final prices that were 2.9% lower than the prices received by men, for new products women received prices that were 19.7% lower ($p<0.001$, N=615,115, the type of the product and all other control variables added). Thus, when selling a new product, women received 80 cents for every dollar received by men.

Most of the products sold on eBay by private sellers are used products. As a result the average effect found in Models 2 and 3 are closer to the effect of being a women who sells used products. Note however that with new products, women and men sellers are selling the exact same products, whereas with used products the specific condition of the product cannot be assessed. It is therefore possible, that what reduces the price gap in the context of used products (as compared to new products) is that potential buyers trust women's account of the condition of used products more than they trust men's - even when they enjoy the same reputation on eBay. Nonetheless, for the main purpose of this paper the price gap found for new products is the one of interest: with new identical products the gender price gap cannot be attributed to the quality of the product, but rather to beliefs about gender.

The control variables of reputation, bold listing title, more pictures, and longer experience on eBay all had a statistically significant positive effect on the number of bids and on the final price. A higher auction start price had a statistically significant negative effect on the number of bids but a statistically significant positive effect on the final price obtained.

Recall that women sellers tend to use the reserve price option slightly more than men sellers do (1% more likely). If buyers on eBay knew that women sellers tend to do so, they may avoid buying from women, which could explain a small part of the difference in the number of bids and final prices. But because on average there are no differences between women and men in the tendency to set a reserve price (differences are found only when controls are added to the models), there is no reason to assume that buyers are aware of such a difference, especially given the overall tendency to set a reserve price is itself very low (only 3% of sales).

To highlight the findings, we focus on the example of money-value gift cards. In an OLS model predicting the final price in auctions (log transformed), women selling money-value gift cards obtained 6.8% less, on average, than men sellers did for the same gift cards (Model 6, $p<0.001$, N=10,979, all control variables added, including the venue at which the gift card can be used). This example is especially telling because with gift cards buyers can easily evaluate the worth of the product with no additional information; because the condition of the product is irrelevant; and because the ownership and usage of gift cards is not associated with one gender.

Our findings also show that women buyers tend to pay more than men buyers for the same products. In OLS regression models predicting the final transaction price obtained in an auction, women

buyers pay 3% more than men buyers (see Model 5, p<0.001, N=259,777, all control variables added). Note, however, that whereas women tended to buy more from women than from men, the effect of the interaction between being a woman seller and being a woman buyer was insignificant. Being a female buyer was not included in all the models we describe because adding it to the models did not change the main effect of being a woman seller but significantly reduced the number of observations.

Women's willingness to pay more than men for identical products may be related to the cultural beliefs and stereotypes about women being less instrumental and agentic than men. Studies have shown that women learn to conform to such beliefs and stereotypes and to behave according to them (*14,15*). It may also be that women buyers on eBay are less instrumental than men buyers on eBay because of the selection of women and men into auctions on eBay. It may be that the women who prefer to buy in auctions are less instrumental than the average woman buyer on eBay, because the more instrumental women prefer other platforms (or avoid buying on eBay). We do not, however, have the data on buyers to support this possibility.

Finally, in order to better understand the mechanisms responsible for the price differences between women and men sellers, we further explored variations across product categories. In Figure 1 and Table S5, we present the effects of being a woman seller on the final price (log transformed) for each product category in our sample. Whereas gaps seem to vary across categories and products, we found no systematic patterns: the size of the market and the "gender of the product" (whether the product is bought or sold more by women or by men than the average product) did not explain the variations found across products. Therefore, further research and additional external measures of the "gender of the product" are required in order to fully explore the variation across products.

Texts and Sentiments

To identify differences in the listing texts of women and men sellers and test for the possible effects of these differences on market outcomes, we conducted a sentiment analysis of the titles and subtitles of all auction listings, using Semantria, a text analysis software. The software detected the contextual polarity of the listing: whether the description of the product was positive, negative or neutral and then gave each listing a score ranging from -2 to 2. The sentiment analysis showed that women and men sellers do, indeed, resort to different sentiments in their listing texts. The average sentiment score for texts posted by women was 0.032, and for texts posted by men was 0.030 (p<0.01, N= 629,357). Since in Semantria texts are given a score between -2 and 2, the difference we found is relatively small. In an OLS regression model predicting the sentiment score for the text of any given listing, being female

was associated with a sentiment score that is lower than that associated with being male in auctions for the same products (p<0.001, N= 612,983, all control variables added, see Table S6).

Lastly, although the sentiments expressed in listing texts positively affect the final transaction price, disparities in the final price between women and men are hardly affected when controlling for the effects of the sentiments used in the texts. When controlling for sentiments, women sellers still receive 3% less for the same used products and 19% less for the same new products (p<0.001, N= 612,983, all controls added, see S7).

Gender Categorization on eBay

Potential buyers do not receive direct information from eBay about the sellers' gender. Yet, the gender of a private seller can be gleaned from the range of items a merchant is offering for sale (for example, selling female clothing suggests that the seller is likely a woman), and at times, from the seller's username. To verify that people do accurately categorize sellers on eBay as either male or female, we conducted an experiment on Amazon Mechanical Turk, in which participants were asked to report whether they could identify the gender of five actual eBay sellers. One hundred sellers were randomly selected from among all the sellers in our main dataset who were selling more than one product on eBay at the time.

Four hundred people participated in the experiment, each evaluating 5 user profiles. Out of the 2000 evaluations, the gender was correctly identified in 1,127 cases and mistakenly identified in 170. In 701 cases, participants reported that they could not discern whether the sellers were male or female (Z<0.001, see Table S8). We also found that the probability of correctly identifying the gender of the seller increased by 5% with every additional item for sale on display on the seller's profile (see Table S9).

The relative success in identifying seller gender is not surprising. Together with race and age, gender is a primary category of difference in the U.S. (*16*). This means that people automatically and intuitively gender-categorize every person they encounter and later rely on these categories in their perceptions and evaluations of others (*17*). Indeed, we rarely leave encounters, however short they are, without determining whether the person we have met was a woman or a man. In real-world human interactions, gender categorization is based on salient physical features that are easily and quickly recognized. In the online world, however, these are less evident. The fact that people have little difficulty in finding clues for the gender of individuals with whom they interact online is indicative of how important gender categories are for the way in which people make sense of their interactions.

Woman, Man, and the Value Assigned to Products

One mechanism that could generate disparities between women and men in product markets is the attribution of a lower value to a product sold by a woman than to a product sold by a man. Findings in the "Goldberg paradigm" experiment support this hypothesis. In this experiment, an article was assessed slightly less highly when participants thought it had been written by a woman rather than a man (*18*). Likewise, there is some evidence that people's attributed status reflects on the status of the objects they possess (*19*), and that in the labor force, women's roles tend to be culturally devalued and associated with lower pay (*20, 21, 22*) than roles held by men. This may suggest that a lower status (and therefore a lower price) is assigned to the products that women possess and sell.

To test whether people evaluate products that women sell as less valuable than the same products when sold by men, we conducted another experiment on Amazon Mechanical Turk, asking participants to report the monetary value they assign to an Amazon $100 money-value gift card ("How much are you willing to pay?") when sold by either Alison or Brad.

The results of the experiment, shown in Figure 2, support the hypothesis that a lower value is assigned to products when sold by women than by men. One hundred and sixteen people participated in the experiment; 59 were asked to report their evaluation of a $100 gift card sold by Alison, and 57 asked to report their evaluation of a $100 gift card sold by Brad. The average value assigned to the gift card sold by a woman was $83.34, whereas the average value assigned to the same card sold by a man was $87.42 (p<0.05, see Table S10). Recall that similar differences in price between women and men sellers were found when we analyzed transactions of gift cards on eBay (Table 2).[2]

(Figure 2 about here)

H2: Discussion

Our study demonstrates the gender differences in the behavior of men and women sellers and buyers on eBay, which can be considered as representative of the U.S. product markets in general. The data from our study show that women sellers on eBay have fewer years of experience and are more risk-averse than men sellers, but have more positive reputations. The data also show that women obtain a smaller number of bids and lower final prices in auctions of both used and new products. One explanation for this disparity is that people tend to assign a lower value to products when sold by women

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[2] The gender of the participants in the experiments did not affect the final price, nor did it affect the differences between the prices of gift cards sold by a woman and the prices of gift cards sold by a man.

rather than by men. This rationale was supported by the results of an experiment we conducted. Furthermore, we found that women buyers tend to pay more for products they purchase than men do.

The results of our study are particularly noteworthy when we consider the market we studied. As a policy, eBay does not explicitly state the gender of its users. Nevertheless, men and women are easily gender-categorized by other users. We suspect that even greater divergences are present in other product markets, where gender is always known.

H2: Materials and Methods

Main eBay data analysis
Data were extracted in 2014 at the eBay Research Lab. Four hundred and twenty most popular products from each of the meta-categories in the eBay catalogue were selected for analysis. The gender of sellers and buyers was identified based on the gender reported by users at the time of registration. Data related to the transactions (product details, including type, condition, and price; dates of the item listing and the completion of the transaction; text contents and the number and type of pictures in the item listing; whether a reserve price had been set; feedback given to the seller; and so on), the sellers (gender, reputation, experience, state of residence), and the buyers (gender, state of residence) were used to analyze gender disparities in behavior and transaction outcomes. We used OLS and Logistic Regression Models (product fixed effects) to predict the number of bids and final prices, as well as other interesting sales characteristics.

Sex Categorization on eBay
The experiment was conducted on Amazon Mechanical Turk. One hundred sellers were randomly selected from among all the sellers in our main dataset who were selling more than one product on eBay at the time. Four hundred research participates were asked to report whether they could identify the gender of five of these actual eBay sellers by their profiles. Each participant was asked to evaluate 5 user profiles. Probability tests (z scores) were used to evaluate the results.

Woman, Man, and the Value Assigned to Products
To test whether people evaluate products that women sell as less valuable than the same products when sold by men, we conducted an experiment on Amazon Mechanical Turk, asking participants to report the monetary value they assign to an Amazon $100 money-value gift card ("How much are you willing to pay?") when sold by either Alison or Brad. T-tests were used to evaluate the results.

H2: Supplementary Materials

Supplementary material for this article is available at:

According to our agreement with eBay we cannot use, reproduce or access the data. The STATA do-file used for conducting the analysis is available on-line. We also provide the data and do-files for the two experiments conducted.

H2: References and Notes

1. F.D. Blau, & L. M. Kahn. Gender Differences in Pay. *Journal of Economic Perspectives* 14: 75–99. (2000).

2. Claudia Goldin. *Understanding the Gender Gap: An Economic History of American Women.* New York: Oxford University Press. (2000).

3. J. O'Neill & S. Polachek. Why the Gender Gap in Wages Narrowed in the 1980s. *Journal of Labor Economics* 11: 205–228 (1993).

4. M. Bertrand. New Perspectives on Gender. *Handbook of Labor Economics*, David Card and Orley Ashenfelter, Editors. 4: 1543-1590 (2011).

5. Current Population Survey (CPS) 2014, available at: http://www.bls.gov/cps/cpsaat03.pdf.

6. Charles, Maria and David Grusky. 2004. Occupational Ghettos: The Worldwide Segregation of Women and Men. Stanford, CA: Stanford University Press.

7. Mandel Hadas. 2013. "Up the Down Staircase: Women's Upward Mobility and the Wage Penalty for Occupational Feminization, 1970-2007". Social Forces 91 (4): 1183-1207

8. Reskin, Barbara and Patricia Roos. 1990. Job Queues, Gender Queues: Explaining Women's Inroads into Male Occupations. Philadelphia, PA: Temple University Press.

9. Smith, Ryan A. 2002. "Race, Gender, and Authority in the Workplace: Theory and Research." Annual Review of Sociology 28:509-42.

10. Bianchi, Suzanne M., John P. Robinson, and Melissa Milkie. 2006. Changing Rhythms of American Family Life. New York, NY: Russell Sage Foundation.

11. P. A. Riach & J. Rich, Judith. Field Experiments of Discrimination in the Market Place, *Economic Journal*, 112: 480-518 (2002).

12. I. Ayres & P. Siegelman, Peter. Race and Gender Discrimination in Bargaining for a New Car. *American Economic Review* 85: 304-21 (1995).

13. G. Galster & P. Constantine, P. Discrimination against female-headed households in rental housing. *Review of Social Economy* (1991).

14. Eagly, A. (1987). *Sex differences in social behavior: A social role interpretation*. Hillsdale, NJ: Erlbaum.

15. Eagly, A. H., Wood, W., & Diekman, A. B. (2000). *Social role theory of sex differences and similarities: A current appraisal*. In T. Eckes & H. M. Trautner (Eds.), The developmental social psychology of gender (pp. 123-174). Mahwah, NJ: Erlbaum.

16. M. B. Brewer & L. N. Lui. The primacy of age and sex in the structure of person categories. *Social Cognition*, *7*: 262-274(1989).

17. Cecilia Ridgeway, *Framed by gender: How gender inequality persists in the modern world*. Oxford University Press. (2011).

18. P. Goldberg. Are women prejudiced against women? *Transaction*, 5: 316-322 (1968).

19. S.R. Thye. A Status Value Theory of Power in Exchange Networks. *American Sociological Review* 65(3):407-432 (2000).

20. Paula England. *Comparable Worth: Theories and Evidence*. Aldine de Gruyter (1992).

21. Elaine Sorensen. *Comparable Worth: Is It a Worthy Policy?* Princeton University Press. (1994).

22. Ronnie J.Steinberg. Comparable Worth in Gender Studies. Pp. 2393-97. International Encyclopedia of the Social & Behavioral Sciences, Volume 4. Neil J. Smelser and Paul B. Baltes, editors. Elsevier. (2001).

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H2: Figures and Tables

H2: Supplementary Materials