

# **The Pay Gap: Pay Inequality but Pay Equity Found in the Construction Industry**

**Richard Beyer**  
Roosevelt University

**Travis Hensersky**  
Roosevelt University

**Adrian Thomas**  
Roosevelt University

*Pay inequality was found for Project Managers (N=317) in an organization with a history of high pay satisfaction and that has been deemed a “best place to work.” Women made 87 cents on the male dollar. However, Hayes conditional process modeling found that when productivity-relevant inputs (company experience, previous experience, performance ratings, education) were included there were neither direct effects of gender on pay nor were there indirect effects of gender on company experience–pay, previous experience–pay, performance rating–pay or education–pay relationships. Implications include support for the notion that equality and equity may not be synonymous.*

## **INTRODUCTION**

The literature is replete with findings indicating that there is a gender pay gap. Blau and Kahn (1999) found a gender pay gap and reported that in 1979 women were paid 71 cents on the male dollar. In subsequent years, the exact nature, causes, and meaning of the gender pay gap have been and continue to be hotly debated. Nevertheless, *a gap* in pay between men and women remains. Eagly and Carli (2007) reported the results from a Government Accountability Office (GAO) study that indicated women made 78% of what men made. Later, Olson (2013) found that females received 75 cents on the male dollar. In the Huffpost, Bassett (2013) reported that women earned 77% of what men earned as recently as 2012. Evidence indicates the observed gender pay gap in the U. S. is prevalent and that it appears as early as when men and women leave college. The pay women earned on their first jobs was 82% of that earned by men on their first jobs in 2012 (American Association of University Women, 2012). This “first paycheck” difference likely indicates that the gender pay gap is not simply a relic of our discriminatory past that will disappear as previous generations exit the workforce. Even today, women entering the work force face a sizable gender pay gap. Additionally, Shore et al. (2009) reported the disparity in the rate of pay for women and minorities, compared to Caucasian men, widens over the employment life cycle (Barnum, Linden, & DiTamaso, 1995; Barth, Goldin, Kerr, & Olivetti, 2017).

### **Persistence of the Gender Pay Gap**

Although many efforts have been made to reconcile the gender pay gap, evidence attests to its persistence over time. Goldin (2014) reported that gender differences in median earnings were *gradually* decreasing but still clearly existed. Women earned 56% of that earned by men in 1980, 72% in 2000, and 77% in 2010. Myra Strober (Gittleston, 2016), acknowledged that female employees earned as much as 77 cents on the male dollar, in some geographic areas and in some occupations. Compared to men, Quintana-Garcia and Elvira (2017) reported that women were disadvantaged both in terms of base and variable compensation, providing further evidence of the enduring gender pay gap. Xiu and Gunderson (2013) reported women received 75% that of men for the dimensions of base pay, performance pay, and total pay. This incessant presence of gender pay inequality, after decades of efforts to eliminate unequal pay, gives rise to an ever-growing realization that gender pay inequality is a formidable, elusive, and intractable adversary. To focus solely on pay inequality, however, may obfuscate meaningful differences in worker-characteristics and work-characteristics (e.g., education, assertiveness, job complexity) that may manifest themselves in surface-level pay differences. The current study, as well as those previously cited, are edifying and raise legitimate questions about important inequality concerns. However, some of the reported studies do not control for education-level, assertiveness, job complexity, or other worker-related and work-related characteristics (WRCs). Even when WRCs have been taken into account, an overall concern is that measures of productivity-relevant employee inputs (PREI) are imperfect calibrations of the constructs they purport to represent (e.g., performance, job complexity, skill). Each measure contains error, and none yield true scores on the dimensions that are used to differentiate pay. Regardless, because of the lingering presence of the observed gender pay gap, over the preceding five decades, considerable strides have been made to understand some of the more salient determinants of the persistent pay inequality.

### **PARTIAL EXPLANATIONS FOR PERCEIVED GENDER PAY GAP**

Research designed to explain the gender pay gap has often focused solely on the effects of gender. However, there are other relevant factors. Additional factors, such as: differences in negotiation skills, wage structure, occupational choice, differential child-rearing responsibilities, discrimination, and sexism have been hypothesized to partially explain the gender pay gap.

#### **Differences in Propensity to Negotiate**

Differences in the way men and women negotiate pay has been proposed as a potential contributor to the observed gap. Generally, the literature suggests men negotiate higher initial salary offers than women with similar WRCs (Babcock & Laschever, 2003; Bowles & McGinn, 2008; Small, Gelfand, Babcock, & Gettman 2007). In fact, Greig (2008) found that women were less likely than men to negotiate at all. Conducted in a major bank, this study found that employees who negotiated on behalf of themselves received promotions 17 months earlier than non-negotiating fellow associates (Grieg, 2008). While some other literature has been more mixed relative to the willingness of women versus men to negotiate pay, negotiating skill and strategy has often been proffered as one potential explanation for a portion of the gender pay gap (Bowles & McGinn, 2008; Gerhart & Rynes, 1991a; Stevens, Bavetta, & Gist, 1993; Barron, 2003).

#### **Wage Structure, Worker- and Work-Related Characteristics**

Blau and Kahn (1999) advanced the importance of wage structure in attempts to explain the gender pay gap. Wage structure refers to the array of prices set for labor market skills and alternative rewards received for employment. Wage structure has affected women who over time and on average have tended to possess less experience in a given industry or worked in lower paying industries. In their meta-analytic study, Jarrell and Stanley (2004) identified 12 factors (e.g., annual salary, weeks worked per year, hours worked in a week, age, industry, experience, productivity) that were used to explain the gender wage gap. These 12 factors explained greater than 80% of the gender wage gap reported in their meta-analysis.

Jarrell and Stanley argued that the way wages were determined produced the largest upward bias in gender wage discrimination estimates. Although wage structure and WRCs play a prominent role in the observed wage gap, most likely, neither factor explains the gap entirely.

Another potential contributor to the gender pay gap is occupational choice. Eagly and Carli (2007) presented findings from a GAO study that indicated women earned 44% less than men, but after statistical controls (e.g., part-and full-time work, education) the gender gap fell to 22%. These WRCs contribute to an understanding of the gender pay gap, although, employment sector, major, occupation, hours worked, and other factors associated with pay, were unable to explain approximately one-third of the observed 18% gender pay gap (American Association of University Women, 2012). In citing this 2012 study, Bassett (2013) reported that the remaining gender pay gap was attributable to yet other factors, such as occupation. Still, after controlling for occupation, major, hours worked, employment sector, and additional factors, Bassett showed that the gender pay gap had shrunk to only 7%, but, importantly, a significant gender pay gap persisted.

### **Occupational Choice**

The magnitude of the observed gap has also been found to depend on occupation. Prokos and Padavic (2005) reported that female scientists earned 11% less than their male counterparts. Among engineers, the gap was also 11%, though among computer scientists the gender gap was higher at 18%. As disconcerting as those gaps in high paying science and engineering jobs are, another important consideration is that women are commonly over-represented in lower-paying jobs (Blau & Kahn, 2000). Bassett (2013) found that females composed the preponderance of employees in the 10 most common jobs, which paid less than \$10 per hour. Additionally, Bassett found that females were underrepresented in higher-earning fields. Women dominate the nursing profession and comprise 89.9% of all nurses. By contrast, 98.5% of operating engineers, a higher paying job, are men (U. S. Department of Labor, 2018). Sorensen (1989) reported that women in female-dominated jobs earned 6% to 15% less than women who have the same attributes in other less female-dominated occupations. Further, some have noted a decline in the size of the gender pay gap as women have moved into jobs once dominated by men (Blau & Kahn, 2000). Models have indicated that gender-based differences in career choice are instrumental in explaining as much as 50% of the pay gap (Blau & Kahn, 2016; Schieder & Gould, 2016). Several plausible reasons exist for the differences in career choices between men and women.

One potential cause for differences in professional preferences of men and women are their innate biological differences. In societies where there is less pressure to behave consistent with gender-stereotypical roles, differences in personality manifest themselves more clearly in career choices (Schmitt, Realo, Voracek, & Allik, 2008). In addition, based on studies of twins, 25–40% of gender differences in masculinity and femininity are attributable to genetic factors (Loehlin et al., 2005). The preceding findings align with the discovery that significant gender differences may exist between men and women regarding their Holland interest categories (e.g., Realistic, Investigative), which in turn may indicate that some differences in the occupational distribution between men and women are attributable to innate differences between genders (Su, Rounds, & Armstrong, 2009). Past work has suggested that differences in occupational choice are attributable to differences on Holland interest categories (De Fruyt & Mervielde, 1999; Salgado & De Fruyt, 2005), which implies that a potential cause for the differences in occupation choice may stem from innate differences between men and women. These findings align with occupational sorting theories, which indicate women frequently self-select into lower paying jobs (Blandford, 2003; Dunne, 1997; Skilling, 2014). However, it is possible that self-selection and occupational sorting is not entirely voluntary.

In certain cases, career choice may reflect decisions influenced by labor market barriers and biases embedded in our culture and educational systems that have traditionally restricted the entry of women into higher paying occupations. Women and men may choose to pursue different jobs and careers because of social pressures and economic barriers (American Association of University Women, 2018; Schieder & Gould, 2016) instead of innate differences. Further, although occupational sorting is part-and-parcel of the pay gap discussion, sorting does not completely explain the pay gap. Occupational sorting cannot fully

explain, for instance, the gender pay gap within professions. Other factors, such as the disproportional effect of child-rearing on women versus men, may also account for a portion of the gender pay gap.

### **Differential Effects of Child Rearing**

Another factor that has been proposed to explain the observed pay gap is the differential effects of child-rearing responsibilities on men and women (American Association of University Women, 2018). The effects of child-rearing on the pay gap have been found to be large in some cases. One study involving highly paid lawyers reported 41% of the variance in the gender pay gap was attributable to differences in the number of hours that males versus females spent caring for their offspring (Wood, Corcoran, & Courant, 1993). Prior work has also indicated differences in pay for women, predicated upon hours worked, were more than two times greater for those with children than those without (Bertrand, Goldin, & Katz, 2010). The propensity for women to take time away from work, because women shoulder primary responsibility for child-rearing, affects their pay negatively. Reduced hours of work, and other factors, have led to establishment of a so-called “mommy track” and pay differences for those in high paying jobs, such as lawyers. Over time, membership in the mommy track has resulted in significantly lower pay for women over their careers (Wood, Corcoran, & Courant, 1993). Another differential cost of child-rearing, which includes child-birthing, that reduces the income of women stems from the number of mothers who leave the workforce because of child-rearing responsibilities. Twenty-seven percent of mothers fell outside the labor force in 2010 (Bureau of Labor Statistics, 2010). By contrast, only 11% of fathers were outside the labor force in 2014 (Bureau of Labor Statistics, 2014). These findings correspond with human capital theory, which posits that a division of household responsibilities and specialization occurs. Traditionally, married men have tended to focus on the accumulation of human capital required for acquiring education, skills, and higher paying jobs (e.g. soldiering, hunting, farming); and married women have tended to focus on child-rearing and other domestic responsibilities (Becker, 1981). A traditional division of family roles has placed more child-rearing responsibility on women and has caused women to interrupt, or leave, their careers to rear children (Berg & Lien, 2002). Therefore, child-rearing obligations affect the pay of women and men differently and add to the observed gender pay gap.

### **Perceptions of Pay Fairness and Social Justice**

Thus far, cited research has focused on gender pay inequality. There is an increasing tendency for people in America to equate equal outcomes with fair outcomes (e.g., pay). Where disparity of outcomes exists between gender and other demographic groups, there is a tendency for people to infer injustice has occurred. Haidt (2016) challenged this view of justice and provided evidence that equal outcomes often lead to injustice (King, S. 2016). The difficulty is that often equality of pay is judged by looking exclusively at the absolute level, or surface characteristics of pay. People frequently judge whether the pay between employees is fair based on whether their pay is strictly equal. Few can argue with the principle that people ought to receive equal pay when all else is equal. However, seldom is all else equal. Rarely are employees equal in terms of their worker-characteristics (e.g., knowledge, skills, abilities). In addition, specific jobs are often different in terms of their work characteristics (e.g., complexity, risk). Without consideration of the underlying WRCs, upon which pay has been determined, a blind allegiance to equality is not likely warranted. Most employees and employers are, indeed, more willing to accept potential inequality when human capital inputs, such as knowledge, skill, and ability are considered.

National Medal of Science recipient Merton objected to the misallocation of credit for scientific discoveries, which cloaked the contributions of young collaborators. Merton dubbed this phenomenon the “Matthew effect,” which references Matthew 25:14–30 (New International Version). The Matthew effect is an example of inequality caused by misallocation of rewards based on nonproductivity-relevant inputs, which typically leads to reward dissatisfaction. By contrast, in Mathew 20:1–16, a landowner paid all his laborers equally. However, the workers became disgruntled because equal pay was unrelated to their PREI (Beyer, 2017). Fair pay is a curious mix of equality and equity (Homans, 1961). Whether pay is fair depends on the sources of pay equality and pay inequality. Equal pay is fair when based on PREI. Unequal pay may be fair when differences in pay are based on differences in PREI.

Consider the story of Gravity. When Dan Price, Founder and Chief Executive Officer of Seattle-based Gravity Payments, announced he was raising the minimum salary at his company to \$70,000 per year, he was met with overwhelming enthusiasm (Sugar, 2015). Price became a media sensation and celebrated folk hero. An owner of a small business, Price was perceived to have taken income inequality into his own hands. Cohen (2015) reported, “Almost overnight, a decision by a small-business owner in the northwestern corner of the United States became a swashbuckling blow against income inequality” (para. 3).

In the weeks that followed, it became clear not all were pleased with the new pay policy that Price had implemented. Among the many critics were employees of Gravity. Customers who were dismayed by what was viewed as a political statement withdrew their business. Other customers who anticipated fee increases parted with the company as well (Cohen, 2015). Finally, and most importantly for the present discussion, Price lost highly valued employees who quit because they believed Price acted unfairly to double the pay of new hires while the longest-serving employees received small or no raises (Sugar, 2015). Often, it is the most productive, marketable, and highly valued employees who quit when pay and other rewards are no longer commensurate with their inputs. Research indicates organization success is largely determined by highly productive as opposed to average performing employees (Aguinis & O’Boyle, 2014).

The Gravity story suggests it is necessary, although insufficient, to judge pay based on equality. A balanced evaluation of pay requires an assessment of equity, too. After Price raised the minimum wage at Gravity to \$70,000, there were others at Gravity who made more, presumably based on their productivity-relevant inputs. Equity theory describes one way that people evaluate fairness in social exchanges (Adams, 1965; Mowday, 1991; Shields & Johns, 2016). Equity theory presumes employees expect rewards that are consistent with contributions. A core assumption of equity theory is that employees possess job-relevant inputs they can invest in their work, which may include personal assets such as, discretionary effort and skills.

Outcomes are an important dimension of equity theory, the most tangible and relevant of which is monetary compensation. According to Adams (1965), employees compare their returns from investments in work to a comparative standard. Typically, this comparator is others in their organizations who perform the same or similar jobs. Experience suggests that employees often experience cognitive dissonance when rewards are not consistent with their contributions. Employees may adjust their inputs, based on whether the perceived inequity is advantageous or disadvantageous (Adams, 1965; Mowday, 1991; Shields & Johns, 2016). Considering this more balanced focus on pay equality and pay equity, the investigators now turn to findings of Trevor, Reilly, and Gerhart (2012). When judging if pay is fair, one must not focus only on pay equality. Both pay equality and pay equity should be considered when discussing the fairness of pay.

### **Dispersion in Explained Pay (DEP) and Unexplained Pay (DUP)**

Trevor, Reilly and Gerhart (2012) proposed that there are two types of input-based pay dispersion, namely dispersion in explained pay (DEP) and dispersion in unexplained pay (DUP). The acronym DEP represents the amount of pay dispersion explained by PREI. Productivity-relevant inputs may include WRCs such as knowledge, skill, ability, and performance. Further, productivity-relevant inputs may include work related characteristics like job complexity, hours worked, and risk of injury. Alternatively, dispersion in unexplained pay (DUP) is defined as the amount of dispersion unexplained by PREI. To the extent DEP explains differences observed in pay, the proportion not explained by PREI, or DEP, may emanate from unexplained factors, such as politics, gender, or other job irrelevant factors. It is important to note that in the current study investigators used DEP and DUP as more general concepts, derived from the research of Trevor et al. (2012). Although conceptually parallel, the current application does not match the methodological and mathematical presentation of DEP and DUP computed by Trevor et al. Instead, in the current study, we use the general concepts of productivity- and nonproductivity-relevant employee inputs to investigate the gender pay gap in a specific organizational setting.

## THE CURRENT STUDY

Based on the pervasive nature of pay inequality, the current authors expected to find pay differences between genders in the current setting. Investigators expected to find differences even though the present company has made exemplary efforts to treat women and men fairly. Thus, the first hypothesis became:

*H<sub>1</sub>: Statistically significant differences in actual pay will exist between genders.*

### Direct and Indirect Effects of PREI

The investigators hypothesized that observed differences in gender pay may have their basis in PREI. Gender discrimination is a serious issue (Blau & Kahn, 2000; Eagly & Carli, 2007). However, unequal pay outcomes may not necessarily indicate unfair and unlawful pay discrimination (King, 2016). As indicated, there are a myriad of factors that might explain pay differences among a specific set of employees. Thus, it is fair to expect a gender pay gap will exist at the company at which the current research occurred. When evaluating whether pay is fair, however, one must not conflate inequality and inequity. In recognition of that fact, the current study hypothesized observed pay differences between groups will at least be partially explained by PREI. Therefore, the second hypothesis was:

*H<sub>2</sub>: Gender will not have a direct effect on pay when accounting for the effects of productivity-relevant inputs included in the current study, namely: current company experience, previous company experience, performance rating, and years of education.*

It is insufficient to look only at the direct effect of gender on pay. Due to the potential for interaction effects, it is necessary also to look at potential indirect effects of gender on pay. Hypothesis 3 examined indirect effects of gender on the relationship between each PREI and pay. To examine potential moderating effects of gender on PREI-pay relationships, it was necessary to examine whether each individual PREI was influenced by gender indirectly. Thus, given there were four PREI in the current study, hypothesis three was:

*H<sub>3a</sub>: Gender will not moderate the relationship between current company experience and pay.*

*H<sub>3b</sub>: Gender will not moderate the relationship between prior company experience and pay.*

*H<sub>3c</sub>: Gender will not moderate the relationship between performance rating and pay.*

*H<sub>3d</sub>: Gender will not moderate the relationship between education level and pay.*

## Methods

Investigators analyzed pay differences in a field setting. The current study was conducted at a general commercial-building company that has been consistently recognized as an excellent place to work. Pay satisfaction at this company has consistently been rated high by employees.

### Participants

The study included project managers ( $N = 317$ ), located across the United States. The mean age was 37.6 ( $SD = 8.0$ ). The sample was 89.3% male, 94.3% Caucasian, 1.3% African American, and less than 1% Hispanic, American Indians/Alaskan Natives, Asian, or Pacific Islander.

### Procedures

The pay of company project managers (i.e., annual salary, bonus) was analyzed to assess whether the determinants of pay differences were based on PREI, or predicated on other factors, such as gender.

## Measures

The PREI variables were: years of experience in the current company, years of experience prior to entering the current company, performance rating, and years of education. Performance ratings were completed by managers to whom the project managers report during the biannual performance rating process. Employees were evaluated by their respective managers on a scale comprised of four performance intervals: Needs Improvement (NI), Effective (E), Highly Effective (HE), and Outstanding (O). Current company experience consisted of calendar years incumbents worked at the company. Previous company experience included the relevant years of experience at prior construction companies, functioning in a project manager role. Gender was entered into the model as the main variable of interest. Finally, race and age were entered as covariates.

## RESULTS

### Direct Effect of Gender on Pay—Before PREI

To test  $H_1$ , an independent samples  $t$ -test found men ( $M = \$110,087$ ) received more pay than women ( $M = \$95,428$ ),  $t(315) = -2.57$ , ( $p < .05$ ), such that women made 87% of that which men made in the current company (See Table 1).

### Absence of Significant Direct Effect of Gender on Pay—When Accounting for PREI

Conditional process modeling (Hayes, 2012) was used to test the remaining hypotheses. Specifically, for  $H_2$ , Table 2 presents the model summary showing the effects of DEP variables on the relationship between gender and pay. Results indicate no direct effect of gender on pay differences was present when accounting for current company service, prior company service, performance scores, and education,  $t(9) = -1.22$ ,  $p = .22$ . Although not a part of the hypotheses, it is worth noting the direct effects of current company experience,  $t(9) = 6.72$ ,  $p < .01$ , previous company experience  $t(9) = 8.01$ ,  $p < .01$ , and performance rating,  $t(9) = 2.02$ ,  $p < .05$  on pay differences were significant. Taken together,  $H_2$  was fully supported. As hypothesized, there were no direct effects of gender on pay when PREI variables were taken into account.

### Moderating Effects of Gender

Next, the indirect effects of gender on each of the four PREI-pay relationships was assessed independently. It is worthy of note that the interaction terms from Table 2 indicate that there were no indirect effects of gender in a model where all four PREI variables were included. Although this supports our hypotheses, we also wanted to analyze each PREI-pay relationship separately. Gender was not shown to moderate the relationship between company experience and pay  $t(7) = -1.36$ ,  $p = .17$  as reported in Table 3.1. Thus,  $H_{3a}$  was supported. Gender was not found to moderate the relationship between the previous company experience and pay relationship  $t(7) = .25$ ,  $p = .80$ , as reflected in Table 3.2. Thus,  $H_{3b}$  was supported. Gender was not found to moderate the relationship between performance ratings and pay  $t(7) = .51$ ,  $p = .61$ , as indicated in Table 3.3. Thus,  $H_{3c}$  was supported. Gender did not moderate the relationship between education and pay,  $t(7) = -.02$ ,  $p = .99$ , as shown in Table 3.4. Thus,  $H_{3d}$  was supported. Taken together,  $H_{3a-d}$  were fully supported. None of the PREI-pay relationships were moderated by gender when each PREI was analyzed individually nor was there any evidence of indirect effects of gender when all four PREI variables were entered in the model.

## DISCUSSION

### Presence of Observed Pay Differences

Past literature has highlighted the presence of a consistent and stubborn pay gap between men and women. Blau and Kahn (1999) reported women earned 71 cents on the dollar earned by men in 1979. Eagly and Carli (2007) presented findings from a GAO study indicating women earned 78% of that

earned by men. Olson (2013) reported females earned 75 cents on the male dollar. Bassett (2013) reported in the Huffpost that women earned only 77% that of their male counterparts. Findings in the current study appear to align with the existing literature identifying a somewhat consistent and stubborn gender pay gap.

As predicted, gender pay level differences were present even in a company thought to be at the leading edge of gender issues. Though data was collected from a company that has continually been recognized as an excellent place to work with high pay satisfaction, a gender pay gap still existed. Pay differences at the company were similar in size to those found in the literature (particularly in this occupation), with women making 87% of that which was made by men. On the surface, the gender pay gap appears troublesome. However, the matter of greater importance is whether observed pay differences are adequate measures of pay equality. Factors, other than illegal discrimination, may explain pay differences, such as PREI. Perhaps equity is an equally, if not more, relevant factor than equality in the present instance. As stated previously, it may be imprudent to conflate the concepts of inequality and inequity (or equality and equity).

### **Inequality Versus Inequity**

There is an erroneous perception in our society that all discrimination is harmful. The notion of treating employees the same is appealing. However, paying employees equally who contribute unequally is inconsistent with equity theory. Well-intentioned zeal to avoid unequal pay may have unintentionally caused organizations to myopically focus on avoidance of legal risks to the detriment of pay equity. Considerations, such as normative employee expectations, extant theory, and empirical research findings all provide the basis for a strong argument that unequal pay may be legal, equitable, and more productive, if inequality is predicated upon PREI.

According to Adams (1963), employees exchange their services for pay, in the form of inputs. Employee inputs in the exchange may include education, skill, intelligence, experience, training, and amount of effort necessary to perform a job. When employee inputs are valued by employers in the exchange, employee receipts (e.g., pay, rewards) should correspond with their inputs. In fact, Aguinis and O'Boyle (2014) provide evidence indicating organization success is largely dependent on the contributions of high performing employees, as opposed to employees who are average performers. Typically, it is the highest performing, most marketable, and highly valued employees who quit when they perceived pay and other rewards are not commensurate with their inputs. Top employees expect to receive an appropriate return on their investments in work. Reciprocity defines equality in the employee-employer exchange. Employees may rely on social comparisons to evaluate pay received (Adams 1963; Festinger, 1954; Pfeffer & Langton, 1993) and frequently respond based on their degree of perceived advantage. When employees perceive that relationships between their outcomes-to-inputs are inappropriate, and there is no distributive justice, inequality exists (Pfeffer & Langton, 1993). Inequity exists when employees perceive their outcomes-to-inputs ratios, and ratios of comparative others, are not equal (Adams, 1965). Inequality and inequity may therefore not be synonymous. Inequality refers to differences in amounts of pay received. Equity refers to perceived fairness or relative justice in the amount of pay received. Though pay inequality exists at the company, hypotheses  $H_1$ , and  $H_2$ , as well as  $H_{3a-3d}$ , attempted to determine whether pay, though unequal, might prove equitable.

### **Explaining the Pay Gap**

Current results are important because they incorporate concepts advanced by Trevor et al., (2012). Although observed gender pay differences are initially disconcerting, as reported in findings pertaining to  $H_2$ , in this sample observed pay differences are accounted for by PREI. Therefore, one might reasonably argue that unequal pay is equitable when pay differences are based upon PREI, which may include variables such as those contained in the current study and perhaps variables not included in the current study (e.g., training, opportunity costs). Even though inequality was observed, after accounting for PREI, there was no direct effects of gender. Further gender did not moderate any of the PREI-pay relationships when analyzed by PREI or when analyzed across all four PREIs.

Others have found that inequality and equity may coexist in the real world. John List, Chairman of The University of Chicago Economics Department and leader of the Uber economics team, reported that his team of researchers had found something counterintuitive at Uber. Male drivers at Uber make 7% more per hour than women, even though Uber uses a gender-blind algorithm to pay its male and female drivers. List and his team neither discovered discrimination from dispatchers nor setting wages. In addition, List et al. reported there was no discrimination from customers who preferred men drivers over women drivers. The gender pay gap occurred because of differences in the time of day, day of the week, and area where males versus females chose to drive. List et al. reported that roughly 20% of the gender pay gap was a function of differences in choices male versus female drivers made regarding when and where to transport passengers (Cook, Diamond, Hall, List, & Oyer, 2018; Rosalsky, 2018). Men and women choose to drive in different areas of the city. Males tend to complete more profitable routes (e.g., airport) than women. Men are more likely to drive the graveyard shift, a time when many people are returning home late and risks are greater. List reported that women tend to work fewer hours per week, at Uber, and in the broader economy, and accumulate less experience in the job. Thus, evidence suggests that the gender pay differences at Uber are a function of driver choice and probably do not indicate illegal discrimination based on gender (Cook, Diamond, Hall, List, & Oyer, 2018; Rosalsky, 2018).

### **Consider Pay Gaps Where None are Indicated**

By incorporating concepts advanced by Trevor et al. (2012), evidence from the current study shows that pay may vary markedly by gender and initially appear worrisome from a legal perspective. Nevertheless, if pay level differences are explained by PREI, then these differences in pay equality may cause less concern, particularly from the perspective of a single company. While there may be obvious inherent sexism built into some of the PREI (level of education as a prime example) some may argue that is not a given company's issue.

Still, one overarching concern is that the study assumes PREI are exact measures of constructs they purport to represent. In truth, each contains error and therefore none yield true scores on dimensions used to differentiate pay. Each variable exists on a continuum, from non-productivity relevant inputs to productive-relevant inputs, at a location near the productivity-relevant end of the continuum. However, each PREI variable likely contains error. Error from prejudice or bias, measurement error, and other potential sources of error may contaminate the mechanisms employers use to evaluate productivity. While these PREI variables are among the best available, employers must remain vigilant in their efforts to reduce error from instruments used to distinguish between levels of job performance, evaluate education, determine experience, and otherwise measure true scores. Nonetheless, the methods presented in this paper provide a more systematic approach for determining whether the mix of pay equality and pay equity coincide in a manner that results in "fair" pay.

In short, although pay is not equal in the present example it may prove to be equitable. This is particularly true from a given company's point of view. Lack of equality should still concern us socially, but organizations may breathe a little easier knowing their pay is at least partially defensible from an equity perspective. Obviously, socially conscious organizations and individuals would do well to continue to search for places where ingrained societal gender issues work their way into these, allegedly, productivity (only) related variables. Further, social debates concentrating on the relative importance of equality over equity, or equity over equality, or some point in between absolute equality and absolute equity are clearly warranted. Nonetheless, the take home point of the current work is that observed pay equality or observed pay inequality is not the end of the story.

**TABLE 1**  
**INDEPENDENT-SAMPLE t-TEST OF PAY FOR FEMALE AND MALE EMPLOYEES**

Employees	Female		Male		<i>t</i> (315)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Project Managers	95,427.65	28,282.54	110,086.57	31,707.39	-2.57	.01
Total Salary and Bonus						

**TABLE 2**  
**CONDITIONAL PROCESS MODELING EXAMINING THE EFFECTS OF DEP VARIABLES ON THE RELATIONSHIP BETWEEN GENDER AND PAY**

<i>R</i>	<i>R</i> <sup>2</sup>	<i>F</i>	<i>df</i> 1	<i>df</i> 2	<i>p</i>
.65	.42	12.36	9	152	.000

**CONDITIONAL PROCESS MODELING EXAMINING THE EFFECTS OF DEP VARIABLES ON THE RELATIONSHIP BETWEEN GENDER AND PAY MODEL SUMMARY**

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Constant	10,691.43	87,260.21	.12	.90
Current Co. Experience	3,250.46	483.99	6.72	.00
Gender	-293,061.07	240,446.17	-1.22	.22
Gender x Cur. Co. Exp.	893.44	1,904.55	.47	.64
Prior Co. Experience	2,694.12	336.53	8.01	.00
Gender x Prior Co. Exp.	663.08	1,503.43	.44	.65
Performance Score	-5,417.49	2672.52	2.02	.04
Years of Education	9,601.94	5,400.99	.45	.66
Gender x Performance	688.68	10,304.45	.93	.35
Gender x Education	15,709.35	14,381.57	1.09	.28

**TABLE 3.1**  
**CONDITIONAL PROCESS MODELING EXAMINING THE EFFECTS OF DUP VARIABLES**  
**ON THE RELATIONSHIP BETWEEN CURRENT COMPANY EXPERIENCE AND PAY**

<i>R</i>	<i>R</i> <sup>2</sup>	<i>F</i>	<i>df 1</i>	<i>df 2</i>	<i>p</i>
.73	.53	49.36	7.00	301.00	.000

**CONDITIONAL PROCESS MODELING EXAMINING THE EFFECTS OF DUP VARIABLES ON**  
**THE RELATIONSHIP BETWEEN CURRENT COMPANY EXPERIENCE AND**  
**PAY MODEL SUMMARY**

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Constant	-11262.88	15310.59	-.74	.463
Age	2589.34	250.59	10.33	.000
Current Company Exp.	4658.49	2325.75	2.00	.046
Current Co. Exp. x Age	-76.45	26.4356	-2.90	.004
Gender	6317.25	6554.15	.96	.336
Current Co. Exp. x Gender	-1626.40	1192.77	-1.36	.174
Race	7003.62	12676.87	.55	.581
Current Exp. x Race	688.68	2120.22	.32	.746

**TABLE 3.2**  
**CONDITIONAL PROCESS MODELING EXAMINING THE EFFECTS OF DUP VARIABLES**  
**ON THE RELATIONSHIP BETWEEN PREVIOUS COMPANY**  
**EXPERIENCE AND PAY**

<i>R</i>	<i>R</i> <sup>2</sup>	<i>F</i>	<i>df 1</i>	<i>df 2</i>	<i>p</i>
.58	.33	12.07	7.00	168	.000

**CONDITIONAL PROCESS MODELING EXAMINING THE EFFECTS OF DUP VARIABLES**  
**ON THE RELATIONSHIP BETWEEN PREVIOUS COMPANY**  
**EXPERIENCE AND PAY MODEL SUMMARY**

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Constant	21734.95	21190.80	1.03	.307
Age	2064.04	383.03	5.39	.000
Previous Company Exp.	-512.24	2375.81	-.22	.830
Previous Co. Exp. x Age	-14.45	30.60	-.47	.637
Gender	-7939.12	7743.84	-1.03	.307
Previous Co. Exp. x Gender	282.67	1137.20	.25	.804
Race	5367.32	16906.08	.32	.751
Previous Co. Exp. x Race	1320.89	2124.99	.62	.535

**TABLE 3.3**  
**CONDITIONAL PROCESS MODELING EXAMINING THE EFFECTS OF DUP VARIABLES**  
**ON THE RELATIONSHIP BETWEEN PERFORMANCE RATING AND PAY**

<i>R</i>	<i>R</i> <sup>2</sup>	<i>F</i>	<i>df</i> 1	<i>df</i> 2	<i>p</i>
.72	.54	47.70	7.00	288	.000

**CONDITIONAL PROCESS MODELING EXAMINING THE EFFECTS OF DUP VARIABLES ON THE**  
**RELATIONSHIP BETWEEN PERFORMANCE RATING AND PAY MODEL SUMMARY**

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Constant	9210.24	61458.76	1.50	.135
Age	413.91	879.84	.47	.638
Perf. rating	-26311.80	15182.29	-1.73	.084
Perf. rating x Age	651.14	236.65	2.75	.006
Gender	-20378.24	28992.78	-.70	.483
Perf. rating x Gender	3986.34	7760.56	.51	.608
Race	-39928.27	54890.88	-.73	.468
Perf. rating x Race	13236.23	13234.49	1.00	.318

**TABLE 3.4**  
**CONDITIONAL PROCESS MODELING EXAMINING THE EFFECTS OF DUP VARIABLES**  
**ON THE RELATIONSHIP BETWEEN YEARS-OF-EDUCATION**  
**AND PAY MODEL SUMMARY**

<i>R</i>	<i>R</i> <sup>2</sup>	<i>F</i>	<i>df</i> 1	<i>df</i> 2	<i>p</i>
.65	.43	26.90	7	254	.000

**CONDITIONAL PROCESS MODELING EXAMINING THE EFFECTS OF DUP VARIABLES**  
**ON THE RELATIONSHIP BETWEEN EDUCATION**  
**AND PAY MODEL SUMMARY**

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Constant	256679.15	517095.02	.50	.620
Age	-8774.00	8701.48	-1.01	.314
Education	-16528.66	32139.66	.51	.608
Education x Age	718.32	543.54	1.32	.188
Gender	263.90	251959.83	.00	.999
Education x Gender	-290.27	15638.06	-.02	.985
Race	89169.66	425444.83	.21	.834
Education x Race	-4530.32	26378.84	-.17	.864

## REFERENCES

- Adams, J. S. (1963). Towards an understanding of inequity. *The Journal of Abnormal and Social Psychology*, 67(5), 422–436. doi:10.1037/h0040968
- Adams, J. (1965). Inequity in social exchange. *Advances in Experimental Social Psychology*, 2(267–299).
- Aguinis, H., & O'Boyle Jr., E. (2014). Star performers in twenty-first century organizations. *Personnel Psychology*, 67(2), 313–350.
- American Association of University Women. (2012). *Graduating to a pay gap: The earnings of women and men one year after college graduation*. Retrieved from <http://www.aauw.org/files/2013/03/Graduating-to-a-Pay-Gap-The-Earnings-of-Women-and-Men-One-Year-after-College-Graduation-Executive-Summary-and-Recommendations.pdf>
- American Association of University Women (2018). *The simple truth about the gender pay gap*. Retrieved from [https://www.aauw.org/aauw\\_check/pdf\\_download/show\\_pdf.php?file=The-Simple-Truth](https://www.aauw.org/aauw_check/pdf_download/show_pdf.php?file=The-Simple-Truth)
- Babcock, L., & Laschever, S. (2003). *Women don't ask: Negotiation and the gender divide*. Princeton, N.J: Princeton University Press.
- Barnum, P., Liden, R., & DiTomaso, N. (1995). Double jeopardy for women and minorities: Pay differences with age. *Academy of Management Journal*, 38(3), 863–880.
- Barron, L. A. (2003). Ask and you shall receive? Gender differences in negotiators' beliefs about requests for a higher salary. *Human Relations* 56(6), 635–662.
- Barth, E., Goldin, C., Kerr, S. Olivetti, C. (2017, June). The average mid-forties male college graduate earns 55% more than his female counterparts. *Harvard Business Review*. Retrieved from <https://hbr.org/2017/06/the-average-mid-forties-male-college-graduate-earns-55-more-than-his-female-counterparts>
- Bassett, L. (2013). Women still earned 77 cents on men's dollar in 2012: *Huffpost*. Retrieved from [http://www.huffingtonpost.com/2013/09/17/gender-wage-gap\\_n\\_3941180.html](http://www.huffingtonpost.com/2013/09/17/gender-wage-gap_n_3941180.html)
- Becker, G. (1981). *A treatise on the family* (2<sup>nd</sup> ed.). Cambridge, MA: First Harvard Press.
- Berg, N., & Lien, D. (2002). Measuring the effect of sexual orientation on income: Evidence of discrimination? *Contemporary Economic Policy*, 20, 394–414.
- Bertrand, M., Goldin, C., & Katz, L. (2010). Dynamics of the gender gap for young professionals in the financial and corporate sectors. *American Economic Journal: Applied Economics*, 2(3), 228–255.
- Beyer, R. (2017). *When Pay Dispersion is Equitable*. Master thesis, Roosevelt University. Retrieved from ProQuest. Accession No. ref: 00D30XOy. 5004016eehs: ref
- Blandford, J. M. (2003). The nexus of sexual orientation and gender in the determination of earnings. *ILR Review*, 56(4), 622–642.
- Blau, F., & Kahn, L. (1999). Analyzing the gender pay gap. *Quarterly Review of Economics & Finance*, 39(3), 625.
- Blau, F., & Kahn, L. (2000). Gender differences in pay. *Journal of Economic Perspectives*, 14, 75–99.
- Blau, F., & Kahn, L. (2016). The gender wage gap: Extent, trends and explanations. *The National Bureau of Economic Research*. Retrieved from <https://www.nber.org/papers/w21913>
- Bowles, H., & McGinn, K. (2008). *Gender in job negotiations: A two-level game*. Cambridge: Harvard Kennedy School. Retrieved from <https://research.hks.harvard.edu/publications/getFile.aspx?Id=306>
- Bureau of Labor Statistics (2010, May 7). *Labor force participation rates among mothers*. Retrieved from [https://www.bls.gov/opub/ted/2010/ted\\_20100507.htm](https://www.bls.gov/opub/ted/2010/ted_20100507.htm)
- Bureau of Labor Statistics (2014, June 19). *Labor force participation of fathers in 2014*. Retrieved from <https://www.bls.gov/opub/ted/2015/labor-force-participation-of-fathers-in-2014.htm>
- Cohen, P. (2015, July 31). A company copes with backlash against the raise that roared. *The New York Times*. Retrieved from <https://www.nytimes.com/2015/08/02/business/a-company-copes-with-backlash-against-the-raise-that-roared.html>

- Cook, C., Diamond, R., Hall, J., List, J. A., & Oyer, P. (2018). *The gender earnings gap in the gig economy: Evidence from over a million rideshare drivers*. Retrieved from <https://web.stanford.edu/~diamondr/UberPayGap.pdf>
- De Fruyt, F., & Mervielde, I. (1999). RIASEC types and Big Five traits as predictors of employment status and nature of employment. *Personnel Psychology*, 52, 701–727.
- Dunne, G. (1997). *Lesbian lifestyles: Women's work and the politics of sexuality*. Toronto: University of Toronto Press.
- Eagly, A., & Carli, L. (2007). Women and the labyrinth of leadership. *Harvard Business Review*, 85(9), 62.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117–140.
- Gerhart, B., & Rynes, S. (1991a). Determinants and consequences of salary negotiations by male and female MBA graduates. *Journal of Applied Psychology*, 76(2), 256–262.
- Gittleston, K. (Producer). (2016, July 20). What are gender barriers made of? Retrieved from <http://freakonomics.com/podcast/gender-barriers/>
- Goldin, C. (2014). A grand gender convergence: Its last chapter. *The American Economic Review*, 104(4), 1091–1119.
- Greig, F. (2008). Propensity to negotiate and career advancement: Evidence from an investment bank that women are on a "slow elevator." *Negotiation Journal*, 24(4), 495–508.
- Hayes, F. (2012). The process macro for SPSS and SAS. Retrieved from <http://processmacro.org/index.html>
- Homans, G. C. (1961). *Social behavior: Its elementary forms*. New York: Harcourt, Brace.
- Jarrell, S. B., & Stanley, T. D. (2004). Declining bias and gender wage discrimination? A meta-regression analysis. *Journal of Human Resources*, 39(3), 828–838.
- King, S. (Producer). (2016, October 15). *Two incompatible sacred values in American universities*. Hayek Lecture at the Duke University Department of Political Science by Professor Jon Haidt. Retrieved from <https://www.youtube.com/watch?v=Gatn5ameRr8>
- Loehlin, J., Jonsson, E., Gustavsson, J., Stallings, M., Gillespie, N., Wright, M., & Martin, N. (2005). Psychological masculinity-femininity via the gender diagnosticity approach: Heritability and consistency across ages and populations. *Journal of Personality*, 1295–1320.
- Mowday, R. T. (1991). Equity theory predictions of behavior in organizations. *Motivation and work behavior*, 5, 111–131.
- Olson, J. (2013). Human capital models and the gender pay gap. *Sex Roles*, 68(3–4), 186–197. doi:10.1007/s11199-012-0208-5
- Pfeffer, J., & Langton, N. (1993). The effect of wage dispersion on satisfaction, productivity, and working collaboratively: Evidence from college and university faculty. *Administrative Science Quarterly*, 38(3), 382–407.
- Prokos, A., & Padavic, I. (2005). An examination of competing explanations for the pay gap among scientists and engineers. *Gender & Society*, 19(4), 523–543.
- Quintana-Garcia A., & Elvira, M. (2017). The effect of the external labor market on the gender pay gap among executives. *ILR Review*, 70(1), 132–159. doi:10.1177/0019793916668529
- Rosalsky, G. (2018, February 6). What can Uber teach us about the gender pay gap? (G. Rosalsky, Interviewer). Retrieved from <http://freakonomics.com/podcast/what-can-uber-teach-us-about-the-gender-pay-gap/>
- Salgado, J., & De Fruyt, F. (2005). Personality in Personnel Selection. In A. Evers, N. Anderson, & O. Voskuil, *The Blackwell Handbook of Personnel Selection* (pp. 174–198). Oxford: Blackwell Publishing Ltd.
- Schieder, J., & Gould, E. (2016, July 20). *Women's work and the gender pay gap*. Retrieved from <https://www.epi.org/publication/womens-work-and-the-gender-pay-gap-how-discrimination-societal-norms-and-other-forces-affect-womens-occupational-choices-and-their-pay/>

- Schmitt, D. P., Realo, A., Voracek, M., & Allik, J. (2008). Why can't a man be more like a woman? Sex differences in Big Five personality traits across 55 cultures. *Journal of Personality and Social Psychology*, 168–182.
- Shields, J., & Johns, R. (2016). Managing for engagement. In J. Shields, M. Brown, S. Kaine, C. Dolle-Samuel, A. North-Samardzic, P. McLean, . . . J. Robinson, Managing employee performance & reward: Concepts, practices, strategies (pp. 18–52). United Kingdom: Cambridge University Press.
- Shore, L. M., Chung-Herrera, B. G., Dean, M. A., Ehrhart, K. H., Jung, D. I., Randel, A. E., & Singh, G. (2009). Diversity in organizations: Where are we now and where are we going? *Human Resource Management Review*, 19(2), 117. doi: 10.1016/j.hrmr.2008.10.004
- Skilling, H. (2014). *Maternity risk and the lesbian pay gap: Evidence from the U.S. Decennial Census and American Community Survey*. (Unpublished doctoral dissertation). University of Canterbury, New Zealand
- Sorensen, E. (1989). Measuring the pay disparity between typically woman occupations and other jobs: A bivariate selectivity approach. *ILR Review*, 42(4), 624–639.
- Small, D. A., Gelfand, M., Babcock, L., and Gettman, H. 2007. Who goes to the bargaining table? The influence of gender and framing on the initiation of negotiation. *Journal of Personality and Social Psychology* 93(4), 600–613.
- Stevens, C. K., Bavetta, A. G., and Gist, M. E. 1993. Gender differences in the acquisition of salary negotiation skills: The role of goals, self-efficacy, and perceived control. *Journal of Applied Psychology* 78(5), 723–735.
- Su, R., Rounds, J., & Armstrong, P. (2009). Men and things, women and people: A meta-analysis of sex differences in interests. *Psychological Bulletin*, 859–884. Retrieved from <https://pdfs.semanticscholar.org/47af/4a7e87267aba681fb6971590ec80effce0c3.pdf>
- Sugar, R. (2015, July 31). A CEO raised his company's minimum wage to \$70,000 a year and some employees quit because of it. *Business Insider*. Retrieved from <https://www.businessinsider.com/dan-price-gravity-payments-employees-leave-2015-7>
- Trevor, C. O., Reilly, G., & Gerhart, B. (2012). Reconsidering pay dispersion's effect on the performance of interdependent work: Reconciling sorting and pay inequality. *Academy of Management Journal*, 55(3), 585–610.
- U. S. Department of Labor. (2018). *Labor force statistics from the current population survey*. Retrieved from <https://www.bls.gov/cps/cpsaat11.htm>
- Xiu, L., & Gunderson, M. (2014). Glass ceiling or sticky floor? Quantile regression decomposition of the gender pay gap in China. *International Journal of Manpower*, 35(3), 306–326.
- Wood, R. G., Corcoran, M. E., & Courant, P. N. (1993). Pay differences among the highly paid: The man-woman earnings gap in lawyers' salaries. *Journal of Labor Statistics*, 417–441.