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Polygyny, Western Egalitarianism, and the Relative Status of Women in Society

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ABSTRACT

It is commonly believed that women experience lower relative status in polygynous societies, whereas it is mathematically the case that the average woman benefits materially (and the average man suffers reproductively) from the polygynous institution of marriage. In 1999, Kanazawa and Still hypothesized that the apparent negative correlation between polygyny and women's status was spurious and can be explained by "Western egalitarianism," which simultaneously decreases inequality among men and thereby polygyny (according to the female choice theory of marriage institution) and decreases inequality between the sexes, thereby elevating women's status. However, their hypothesis was never empirically tested. I put Kanazawa and Still's hypothesis to an empirical test. Analyses of three widely varied international measures of gender inequality show that polygyny was not associated with women's relative status in society net of Western egalitarianism. Robustness checks confirm that the results are not unique to a specific measure of Western egalitarianism. The international data leave very little doubt that women experience lower relative status in polygynous societies, not because they are polygynous, but because they are inegalitarian and citizens (both women and men) lack civil liberties.

It is commonly believed that polygyny—marriage of one man concurrently to more than one woman—is associated with lower status of women across societies (Hudson et al. 2023; McDermott 2018, 2020). It is not difficult to find evidence for such an association. Polygyny is most prevalent in sub-Saharan Africa (Aboagye et al. 2025; Agadjanian 2020; Chae and Agadjanian 2022; Paintsil et al. 2023; Treleaven and Banchoff 2024) and Muslim societies in the Middle East (Kanazawa 2007; Thayer and Hudson 2010; Commercio 2020, 2024), where women suffer particularly low status (Seligson and McCants 2022; World Economic Forum 2022). In sharp contrast, polygyny is universally illegal and very rare in post-industrial societies in Europe and North America, where women enjoy relatively high status (World Economic Forum 2022). In their analyses of the WomanStats data, McDermott and Cowden (2015) show that women's relative status is universally lower in polygynous societies, measured by such varied indicators as primary and secondary school enrollment, maternal mortality, life expectancy, and domestic violence. McDermott and Cowden (2015) also report that the degree of polygyny in society has some macrosocial consequences, such as higher defense expenditures, less political freedom, and diminished civil liberties. Yet, as many have pointed out, it is mathematically the case that the institution of polygyny benefits the average woman materially and hurts the average man reproductively, because most women can marry husbands with greater wealth under polygyny than under monogamy, and many men in polygynous societies are left mateless (Becker 1974; Blake and Brooks 2023; Grossbard 1978, 2016; Kanazawa and Still 1999; Ridley 1993, pp. 173–207; Sukiati and Mohd Nor 2023; Wright 1994, pp. 96–99). How can we reconcile these divergent perspectives on polygyny?

In 1999, Kanazawa and Still speculated that the apparent negative association between polygyny and women's relative status in society may be spurious, and could be explained by what they called "Western egalitarianism." They suggested that the institution of Western egalitarianism could simultaneously decrease inequality among men and inequality between men and women. Reduced inequality among men could then reduce the prevalence of polygyny, according to the female choice theory of marriage institution (Grossbard 1980, Proposition 5; Kanazawa and Still 1999), and reduced inequality between men and women necessarily elevates women's relative status in society. However, their hypothesis has never been empirically tested.

In this paper, I subject Kanazawa and Still's (1999) hypothesis to a direct empirical test. Analyses of three widely varied measures of gender inequality across nations show that gender inequality is not associated with polygyny, once a measure of "Western egalitarianism," operationalized as the recognition of political rights and civil liberties to the citizens, is statistically controlled. The empirical data suggest that women suffer relatively low status in polygynous societies across the world, not because they are polygynous *per se*, but because they lack Western egalitarianism and citizens—both women and men—suffer from a lack of political rights and civil liberties in such societies. Additional analyses show that, while both McDermott and Cowden (2015) and Kanazawa and Still (1999) predict an association between polygyny and gender inequality—the former as a consequence and the latter as a correlate—the data are more consistent with the latter's view.

This paper, therefore, is about the interplay and causal relationships among one major economic institution (resource inequality among men), and three significant political institutions ("Western egalitarianism," the institution of marriage—monogamy vs. polygyny; and gender inequality). The empirical results presented in the paper show that "Western egalitarianism" simultaneously impacts the political institutions of marriage and of gender inequality, but, net of "Western egalitarianism," the political institution of marriage in itself does *not* impact gender inequality. Contrary to popular belief, polygyny in itself is *not* injurious to women—in fact, polygyny favors most women and disfavors most men. It is the absence of the political institution of "Western egalitarianism" that is simultaneously injurious to both women and men, by impacting the economic institution of resource inequality among men and the political institution of gender inequality.

1 | Mathematics and Biology of Polygyny

While polygyny and gender inequality (relatively lower status of women) in society are positively correlated across societies, there are numerous reasons to doubt that polygyny directly increases gender inequality and lowers the status of women in society.

1.1 | Polygyny Benefits Most Women Materially, While It Hurts Most Men Reproductively

Before I can discuss how polygyny has a differential impact on the sexes, I need to clarify the terminology and draw a clear distinction between *marriage* and *marriage institution*. Strictly biologically and evolutionarily, marriage is the reproductive union of a man and a woman, whereas marriage institution refers to the societal rules and laws about what types of marriage may occur in the society (Kanazawa and Still 2001). A mathematical paradox is that, although a polygynous marriage disproportionately benefits men (because polygynously married men could have much higher reproductive success than monogamously married men), a polygynous institution of marriage disproportionately benefits women (because many men are left mateless under a polygynous institution of marriage whereas women are more or less guaranteed a mate under either the polygynous or monogamous institution of marriage).

More than a century ago, in 1903, George Bernard Shaw succinctly captured the essence of the mathematics of polygyny when he stated "the maternal instinct leads a woman to prefer a tenth share in a first rate man to the exclusive possession of a third rate one" (Shaw 1903/1957, p. 254; see also Commercio 2020, 2024; Larsen 2023). Assume a hypothetical society with 1000 men and 1000 women, rank-ordered by sex in terms of desirability as mates from #1 to #1000. Under the monogamous institution of marriage and perfect matching, Man #1 would be married to Woman #1, Man #2 would be married to Woman #2, all the way down to Man #1000 being married to Woman #1000. Even if the matching does not operate perfectly, the monogamous institution of marriage more or less guarantees a mate for each man and each woman, *as long as the number of men and women are equal*. The mathematical model below assumes the normal 50–50 sex ratio, not special cases of extremely skewed sex ratios, as posited in Gaddy et al. (2025). See Schacht et al. (2022) on how skewed adult sex ratios could potentially lead to varied mating systems in human and other societies.

Then introduce the polygynous institution of marriage. Woman #400 now decides to leave Man #400 and chooses to become the second wife of Man #1. This will benefit Woman #400 *materially*, if Man #1 is more than twice as desirable as Man #400, for example, if Man #1 is more than twice as wealthy as Man #400. Then, as Shaw put it, the maternal instinct would lead Woman #400 to prefer a one half share of Man #1 ("a first rate man") to the exclusive possession of Man #400 ("a third rate one"). After Woman #400 leaves Man #400 and becomes the second wife of Man #1, there is now a vacancy in the marriage market. Woman #401 now marries Man #400, Woman #402 now marries Man #401, all the way down to Woman #1000 now being married to Man #999. Man #1000 is now left wifeless.

Thus, after only one polygynous marriage, here's the scorecard:

One woman (Woman #400) is greatly better off materially, by possessing one half of the most desirable man in the society (Man #1), instead of the exclusive possession of a much less desirable man (Man #400).

Six hundred women (Woman #401–#1000) are slightly better off, because now their husband in their monogamous marriage under the polygynous institution of marriage is slightly more desirable than their previous husband under the monogamous institution of marriage.

One woman (Woman #1) is greatly worse off, because she now has to share her husband with Woman #400.

One man (Man #1) is greatly better off, because he now has two wives instead of one, and can now expect to have twice as many children as before.

Six hundred men (Man #400–#999) are slightly worse off, because their new wife in their monogamous marriage under the polygynous institution of marriage is slightly less desirable than their previous wife under the monogamous institution of marriage.

One man (Man #1000) is greatly worse off, because he is now left wifeless.

Then, on the second day, Woman #401 decides to leave Man #400 in order to become the second wife of Man #2, and the new upward shift begins for Woman #402–#1000. Now, two women (Woman #401–#402) are greatly better off; 599 women (Woman #402–#1000) benefit even more materially compared to the first day of the polygynous institution of marriage; and two women (Woman #1–#2) are greatly worse off. On the men's side, 599 men (Man #400–#998) suffer even more reproductively; two men (Man #999–#1000) are left wifeless; and two men (Man #1–#2) benefit greatly.

The general conclusion is that, as the prevalence of polygyny increases in society, more women benefit materially, and more men suffer reproductively (Becker 1974; Blake and Brooks 2023; Grossbard 1978; Kanazawa and Still 1999; Ridley 1993, pp. 173–207; Sukiati and Mohd Nor 2023; Wright 1994, pp. 96–99). The exception to this pattern is the highly desirable women (like Woman #1–#2), who suffer greatly materially by having to share their husbands, and the highly desirable men (like Man #1–#2), who benefit greatly reproductively by being able to have multiple wives. Since, by definition, highly desirable women and men are a small minority in any society, the average woman (who is not highly desirable) benefits materially under the polygynous institution of marriage, and the average man (who is not highly desirable) suffers reproductively under the polygynous institution of marriage. The important mathematical point is that, given a roughly 50–50 sex ratio (as in the hypothetical society in the numerical example above), polygynous *marriages* are always limited to a small minority of men in society with the polygynous *institution* of marriage. Thus, even though polygynous men (who have multiple wives) benefit from the polygynous institution of marriage that allows their polygynous marriages, such men are always in the minority, and the majority of men suffer reproductively under the polygynous institution of marriage. The more prevalent polygynous marriages are, the more men suffer reproductively (although a few benefit). In sharp contrast, the more prevalent polygynous marriages are, the more women benefit materially (although a few suffer). Ross et al. (2018) note that extreme forms of resource inequality among men, where there are a very few, very wealthy men, might not facilitate increases in the prevalence of polygynous marriages, measured as the proportion of women who are polygynously married, because of diminishing fitness returns to additional wives.

1.2 | Humans Are Naturally Polygynous

Both across primate and non-primate species, the species-typical degree of polygyny—how polygynous members of a given species are on average—highly correlates with the degree of sexual dimorphism in size (the extent to which males of a species are larger in size than females) (Alexander et al. 1979; Leutenegger and Kelly 1977). Thus, in the extremely polygynous elephant seals, with a polygyny ratio of 1:50 (one male mates with 50 females on average), the body dimorphism is 8:1 (males are eight times as large as females), whereas in the strictly monogamous trumpeter swans, with a polygyny ratio of 1:1, the body dimorphism is 1:1 (males and females are the same size). Similarly, among apes, in polygynous gorillas, with a polygyny ratio of 1:4, the body dimorphism is 2:1 (males are twice as large as females), whereas among the strictly monogamous gibbons, the body dimorphism is 1:1. On this scale, human sexual dimorphism in size is 1.2:1 by weight and 1.1:1 by height (Mealey 2000, p. 306). These data suggest that humans are naturally *mildly* polygynous throughout evolutionary history (Larsen 2023; Thomas et al. 2024), not as extremely polygynous as gorillas, but not strictly monogamous like gibbons, either. It suggests that our ancestors likely practiced mild polygyny throughout human evolutionary history. It is difficult to maintain that a mating system that is part of evolved human nature and that our ancestors always practiced throughout human evolutionary history is inherently injurious to one sex or the other.

1.3 | Polygyny *Increases* as Women Gain More Power

If polygyny were inherently injurious to women, it stands to reason that the prevalence of polygyny in society should decrease as women gain more political and economic power. Available evidence suggests that it is actually the opposite—the prevalence of polygyny *increases* as women gain more political and economic power.

A cross-cultural study of 127 nations (Kanazawa and Still 1999) shows that the prevalence of polygyny increases in society as women gain more power, measured by the proportion of female pupils in secondary schools and the percentage of women who marry after the age of 20. A study of sub-Saharan African societies reaches the same conclusion: "A higher productive value of women in indigenous African economies is very strongly associated with a higher incidence of both polygyny and long post-partum abstinence. This... holds just as firmly within sub-Saharan Africa as across the Eurasian-African cultural watershed" (Lesthaeghe et al. 1994, p. 39). If women suffer, and men benefit, from the polygynous institution of marriage, as is commonly believed, why does the prevalence of polygyny *increase* in society as women gain more political and economic power?

1.4 | Polygyny Creates a Shortage of Reproductive Women

By allowing a minority of men to monopolize exclusive access to all reproductive women, polygyny creates an artificial shortage of reproductive women in society, even when the sex ratio is 50–50 (Blake and Brooks 2023; Kanazawa 2007; Thayer and Hudson 2010). The more men are married polygynously, the more severe the shortage and the larger the number of men who are left wifeless. The law of supply and demand in

economics suggests that the "commodity" in short supply, relative to demand, becomes more valuable. It therefore follows women become more valuable in polygynous societies, relative to monogamous societies, where every man is more or less guaranteed a mate. Why, then, would women's status be lower in societies where they are more valuable?

2 | The Female Choice Theory of Marriage Institution

In every species in which the female makes greater obligatory parental investment in the offspring than the male, such as all mammalian species including humans, the female is always the more choosy sex because she has more to lose by making a mistake, and therefore all mating decisions are essentially left up to the female (Trivers 1972). This is the principle of female choice in evolutionary biology (Small 1993). Accordingly, Kanazawa and Still (1999) propose the female choice theory of marriage institution and aver that society's institution of marriage (monogamy vs. polygyny) emerges out of millions of independent choices that women make individually to marry either monogamously or polygynously in order to maximize their reproductive interests (Grossbard in press). Kanazawa and Still (1999) argue that, when the resource inequality among men is large, more women will choose to marry polygynously (because, under such condition of extreme resource inequality, "a tenth share in a first rate man" will be preferable to "the exclusive possession of a third rate one," and women benefit materially by marrying polygynously), and the polygynous institution of marriage will emerge at the societal level (Grossbard 1980, Proposition 5). In contrast, when the resource inequality among men is small, more women will choose to marry monogamously (because, under such condition of limited resource inequality, "the exclusive possession of a third rate one" will be preferable to "a tenth share in a first rate man," and women benefit materially by marrying monogamously), and the monogamous institution of marriage will emerge at the societal level (Grossbard in press).

The female choice theory of marriage institution is a theory of initial institutional *emergence*: "Of course, once the institution is in place, it will independently affect the future marriage choices of women. Our theory explains only the original emergence of the marriage institution" (Kanazawa and Still 1999, p. 33; see the discussion of the "Coleman Fleet" in Kanazawa 2001a). Kanazawa and Still's (1999) analyses of cross-cultural data strongly support their female choice theory of marriage institution against the rival theory of the male compromise theory (Alexander 1987; Alexander et al. 1979; Betzig 1986; MacDonald 1990).

In the final paragraph of their paper, Kanazawa and Still (1999, pp. 45–46) offer a speculation as to why one might observe a positive correlation between polygyny and gender inequality across societies.

> *Our female choice theory of marriage institution can potentially solve one empirical puzzle: Why is it that there appears to be a negative correlation between polygyny and women's status across societies? Why is it that polygyny seems to occur in societies (mostly in Africa and Middle East) where women's status is low? We speculate that the negative correlation between polygyny and women's status might be spurious, created by an antecedent variable that might be called "Western egalitarianism." Western egalitarianism simultaneously posits that all men are and ought to be equal* and *that men and women are and ought to be equal. The former tenet should function to reduce extreme resource inequalities among men, and the latter should function to elevate the status of women in society. If our female choice theory of marriage institution is correct, as our initial data analyses seem to indicate, then the former should reduce the extent of polygyny among societies with such Western egalitarianism and therefore create a spurious negative correlation between polygyny and women's status in society.*

Then, in a 2001 book chapter, Kanazawa and Still present their hypothesis in a causal diagram (Figure 1). However, in a quarter of a century hence, their hypothesis has never been empirically tested and therefore remains a speculation. In what follows, I put Kanazawa and Still's (1999) hypothesis to an empirical test, using three widely varied measures of gender inequality across nations.

3 | Empirical Analyses

3.1 | Dependent Variables: Gender Inequality

I used three different international statistics on gender inequality:

1. *World Gender Gap Index*, compiled by the World Economic Forum (2022). It assesses gender inequality across four dimensions: economic participation and opportunity, educational attainment, health and survival, and political empowerment. It measures gender inequality on the scale from 0 (higher gender inequality) to 1 (lower gender inequality) and varies from 0.435 for Afghanistan to 0.908 for Iceland.
2. *Gender Empowerment Measure*, compiled by the United Nations Development Program (2009). It assesses gender inequality across three dimensions: economic participation and decision-making, political participation and decision-making, and power over economic resources. It measures gender inequality on the scale from 0 (higher gender inequality) to 1 (lower gender inequality) and varies from 0.135 for Yemen to 0.988 for Sweden.
3. *Social Institutions and Gender Index*, compiled by the Organization for Economic Cooperation and Development (https://www.oecd-ilibrary.org/development/data/oecd-international-development-statistics/social-institutions-and-gender-index-edition-2023_33beb96e-en). It assesses gender inequality across four dimensions: discrimination in the family, restricted physical integrity, restricted access to productive and financial resources, and restricted civil liberties. It assesses gender inequality on the scale of 0 (lower gender inequality) to 100 (higher gender inequality) and varies from 6.7 for Norway to 67.4 for Mauritania. (Note that this indicator of gender inequality measures it inversely from the first two.) For all variables used in the empirical analyses, I used the most recent available year.

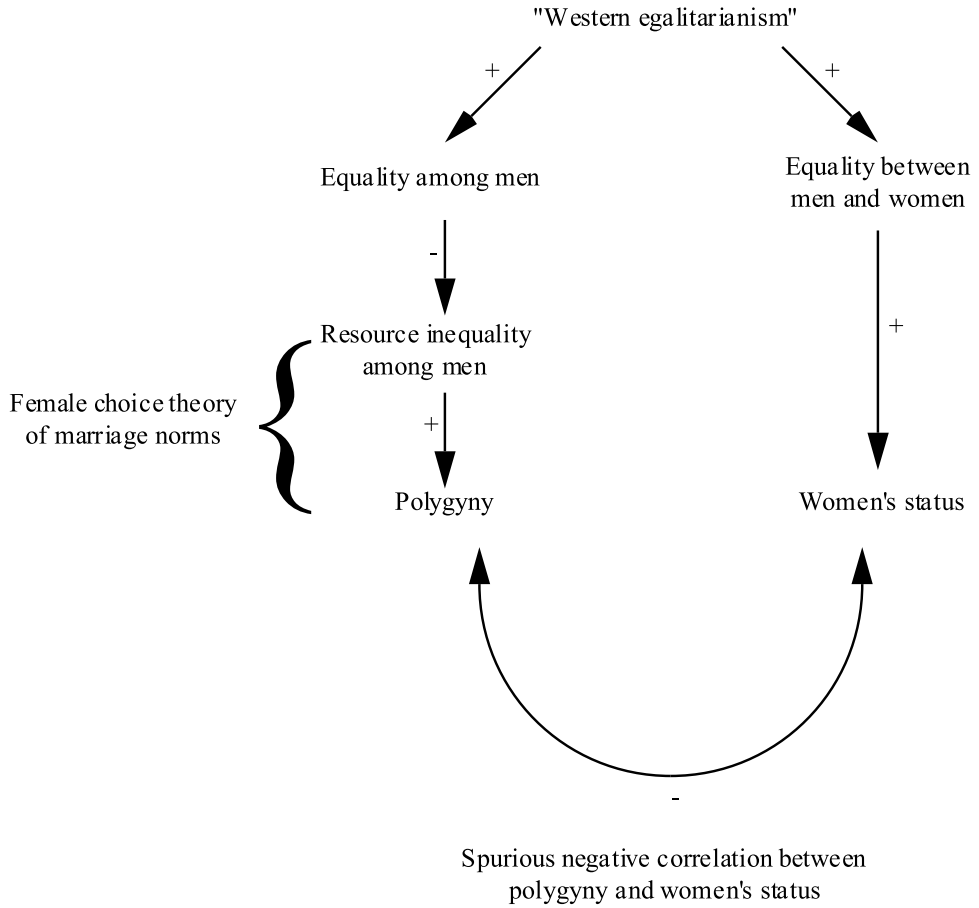

FIGURE 1 | How there might be a spurious negative correlation between polygyny and women's status.

3.2 | Independent Variable: Polygyny

I used Kanazawa and Still's (1999) *Polygyny Index*, which was compiled from the *Encyclopedia of World Cultures* (Levinson 1991–1995). The *Encyclopedia* codes the marriage system of each ethnic and cultural group within a country on the following four-point scale:

0 = monogamy is the rule and is widespread

1 = monogamy is the rule but some polygyny occurs

2 = polygyny is the rule or cultural ideal but is limited in practice

3 = polygyny is the rule and is widespread

Kanazawa and Still (1999, p. 37) then weigh the score by the relative proportion of the ethnic and cultural group within the country's population to derive a single polygyny index score for each country. Kanazawa and Still's (1999) Polygyny Index has been used successfully in several subsequent studies (Henrich et al. 2012; Kanazawa 2001b, 2009a, 2009b).

3.3 | Antecedent: Western Egalitarianism

For a measure of Western egalitarianism, I used Freedom in the World score, compiled by Freedom House (2023). It measures political freedom and civil liberties afforded to citizens of each country. It measures Western egalitarianism on the scale of 0 (least egalitarian) to 100 (most egalitarian) and varies from 1 for Syria and 100 for Finland, Norway, and Sweden.

3.4 | Control Variable: GDP Per Capita

Following McDermott and Cowden's (2015) lead, I controlled for GDP per capita in current US dollars, compiled by the World Bank (https://data.worldbank.org/indicator/NY.GDP.PCAP.CD). As McDermott herself explains, GDP per capita is a "monster variable" that can explain away a lot of spurious associations in international statistics: "If you can find a variable that still emerges significant controlling for GDP, that really means you have something" (quoted in Wray 2018, p. 134).

3.5 | Results

Table 1, Panel (A), presents the results of the regression analysis with the World Gender Gap Index as the dependent variable. Column (1) shows that, when entered alone, polygyny was significantly negatively associated with World Gender Gap Index ($b = -0.026$, $p < 0.001$, standardized coefficient = −0.326), and Column (2) shows that the significant association survived statistical control for the "monster variable" ($b = -0.016$, $p = 0.007$, standardized coefficient = −0.225). It means that, even net of GDP per capita, women suffered from a relatively lower status in polygynous societies. Column (3) shows, however, that, once the measure of Western egalitarianism is statistically controlled, polygyny was no longer significantly associated with gender inequality ($b = -0.006$, $p = 0.326$, standardized coefficient = −0.080). Western egalitarianism itself was significantly and very strongly associated with gender inequality ($b = 0.001$, $p < 0.001$, standardized coefficient = 0.411).

TABLE 1 | Associations between polygyny and gender inequality.

(A) World gender gap index			
	(1)	(2)	(3)
Polygyny	−0.026***	−0.016**	−0.006
	(0.005)	(0.006)	(0.006)
	−0.371	*−0.225*	*−0.080*
GDP per capita		9.448^{-7}***	5.403^{-7}*
		(0.000)	(0.000)
		0.339	*0.194*
Western egalitarianism			0.001***
			(0.000)
			.411
Constant	0.735	0.709	0.649
	(0.007)	(0.009)	(0.015)
R^2	0.138	0.231	0.340
Number of cases	145	145	145
(B) Gender Empowerment Measure			
	(4)	(5)	(6)
Polygyny	−0.080***	−0.032*	−0.009
	(0.016)	(0.013)	(0.013)
	−0.437	*−0.177*	*−0.047*
GDP per capita		4.432^{-6}***	3.622^{-6}***
		(0.000)	(0.000)
		0.636	*0.520*
Western egalitarianism			0.002***
			(0.000)
			0.366
Constant	0.649	0.519	0.385
	(0.018)	(0.020)	(0.032)
R^2	0.191	0.528	0.619
Number of cases	110	110	110
C) Social Institutions and Gender Index			
	(7)	(8)	(9)
Polygyny	13.282***	6.433***	2.961
	(2.191)	(1.744)	(1.760)
	0.571	*0.277*	*9.127*
GDP per capita		−0.001***	−0.001***
		(0.000)	(0.000)
		−0.652	*−0.539*
Western egalitarianism			−0.233***
			(0.054)
			−0.344
Constant	72.268	89.877	103.744
	(2.722)	(2.800)	(4.068)
R^2	0.326	0.664	0.732
Number of cases	78	78	78

Note: Main entries are unstandardized regression coefficients. (Numbers in parentheses are standard errors.)
Italicized numbers are standardized regression coefficients.
*$p < 0.05$; **$p < 0.001$; ***$p < 0.001$.

Table 1, Panel (B), shows that the results were identical when the measure of gender inequality was the Gender Empowerment Measure. Column (4) shows that, when entered alone, polygyny was significantly associated with gender inequality ($b = -0.080$, $p < 0.001$, standardized coefficient = −0.437), and Column (5) shows that the association remained statistically significant when the "monster variable" was controlled ($b = -0.032$, $p = 0.017$, standardized coefficient = −0.177). Even net of GDP per capita, gender inequality was greater in polygynous societies. However, Column (6) shows that, once again, once the measure of Western egalitarianism was statistically controlled, polygyny was no longer statistically significantly associated with gender inequality ($b = -0.009$, $p = 0.510$, standardized coefficient = −0.047). Western egalitarianism itself was once again significantly and strongly associated with gender inequality ($b = 0.002$, $p < 0.001$, standardized coefficient = 0.366).

Table 1, Panel (C), shows that the results were once again identical when the measure of gender inequality was Social Institutions and Gender Index. Column (7) shows that, when entered alone, polygyny was significantly associated with gender inequality ($b = 13.282$, $p < 0.001$, standardized coefficient = 0.571), and Column (8) shows that the association remained unchanged when GDP per capita was statistically controlled ($b = 6.433$, $p < 0.001$, standardized coefficient = 0.277). Even net of GDP per capita, women's relative status was lower in polygynous societies. However, once again, Column (9) shows that polygyny was no longer associated with gender inequality when Western egalitarianism was statistically controlled ($b = 2.961$, $p = 0.097$, standardized coefficient = 0.127). Western egalitarianism itself was significantly and strongly associated with gender inequality ($b = -0.233$, $p < 0.001$, standardized coefficient = −0.344).

3.6 | Robustness Checks

As robustness checks, in order to ascertain that the results obtained above and presented in Table 1 are not unique and specific to the particular measure of Western egalitarianism that I have chosen, I have repeated the analyses with two other measures.

Legatum Prosperity Index (Legatum Institute 2023) is an annual measure of prosperity developed by the Legatum Institute, and is a weighted mean of 12 subindices in three domains: Inclusive societies (safety and security; personal freedom; governance; and social capital); open economies (investment environment; enterprise conditions; infrastructure and market access; and economic quality); and empowered people (living conditions; health; education; and natural environment). It is on a scale from 0 to 100, and varies from 30.40 for South Sudan to 84.55 for Denmark. It was measured in 2023.

Human Freedom Index (Vásquez et al. 2024) is an annual measure of human freedom compiled by the Cato Institute and the Fraser Institute. It uses 86 distinct indicators of personal and economic freedom in the following areas: Rule of law; security and safety; movement; religion; association, assembly, and civil society; expression and information; relationships; size of government; legal system and property rights; sound money; freedom to trade internationally; and regulation. It is on a scale from 0 to 10, and varies from 3.10 for Syria to 9.14 for Switzerland. It was measured in 2024.

Table 2 presents the results of the robustness checks. It shows that the results presented in Table 1, with the Freedom in the World score as the measure of Western egalitarianism, were *perfectly* and *completely* replicated with the two other measures of it *without a single exception*, regardless of what the dependent measure of the relative status of women is. Every single one of

TABLE 2 | Associations between polygyny and gender inequality, with alternative measures of western egalitarianism.

(A) Legatum prosperity index	(1) World gender gap index	(2) Gender empowerment measure	(3) Social institutions and gender index
Polygyny	0.002	0.009	3.532
	(0.007)	(0.015)	(1.966)
	0.022	*0.045*	*0.155*
GDP per capita	-3.483^{-7}	1.177^{-6}	0.000***
	(0.000)	(0.000)	(0.000)
	−0.126	*0.171*	*−0.399*
Langum prosperity index	.004***	.009***	−0.642**
	(0.001)	(0.002)	(0.230)
	0.708	*0.675*	*−0.372*
Constant	0.490	−0.043	127.064
	(0.045)	(0.111)	(13.688)
R^2	0.357	0.632	0.692
Number of cases	139	105	76

(B) Human freedom index	(4) World gender gap index	(5) Gender empowerment measure	(6) Social institutions and gender index
Polygyny	0.000	0.017	3.461
	(0.006)	(0.013)	(1.924)
	0.005	*0.092*	*0.152*
GDP per capita	3.197^{-7}	2.957^{-6}***	−0.001***
	(0.000)	(0.000)	(0.000)
	0.123	*0.429*	*−0.520*
Human freedom index	0.026***	0.067***	−4.244**
	(0.005)	(0.010)	(1.378)
	0.538	*0.555*	*−0.296*
Constant	0.524	0.029	118.772
	(0.034)	(0.074)	(9.815)
R^2	0.379	0.677	0.697
Number of cases	142	105	75

Note: Main entries are unstandardized regression coefficients.
(Numbers in parentheses are standard errors.)
Italicized numbers are standardized regression coefficients.
*$p < 0.05$; **$p < 0.001$; ***$p < 0.001$.

the six equations in Table 2 shows that, net of GDP per capita and Western egalitarianism, polygyny was *not at all* associated with the relative status of women in society. In sharp contrast, Western egalitarianism was always significantly associated with the relative status of women. The effect size, measured by the standardized regression coefficient, was often extremely large (Cohen 1992).

The main analysis presented in Table 1, and the robustness checks presented in Table 2, taken together leave very little doubt that polygyny per se is not injurious to women's relative status in society, and the apparent negative correlation between polygyny and women's relative status is spurious and explained away *entirely* by Western egalitarianism. No matter how it is measured, in societies that ascribe to Western egalitarianism, women have relatively high status, whether the prevailing institution of marriage is monogamous or polygynous. Polygyny is indeed *not* evil; the absence of Western egalitarianism is.

3.7 | A Crucial Test: Is Polygyny a Cause or a Correlate of Gender Inequality?

The fact that Western egalitarianism was significantly associated with polygyny does not in itself uniquely vindicate Kanazawa and Still's (1999) hypothesis. McDermott and Cowden (2015) also predict that Western egalitarianism and polygyny are significantly correlated with each other, because they argue that the former is a consequence of the latter, whereas Kanazawa and Still's hypothesis stipulates the opposite causal direction. In fact, in their analyses, McDermott and Cowden (2015) themselves use Freedom House's Freedom in the World measure of political freedom and civil liberties to show that it is significantly negatively correlated with polygyny. How then can one adjudicate between the two perspectives?

Figure 2 presents the two theories in causal diagrams. McDermott and Cowden (2015) argues that polygyny increases

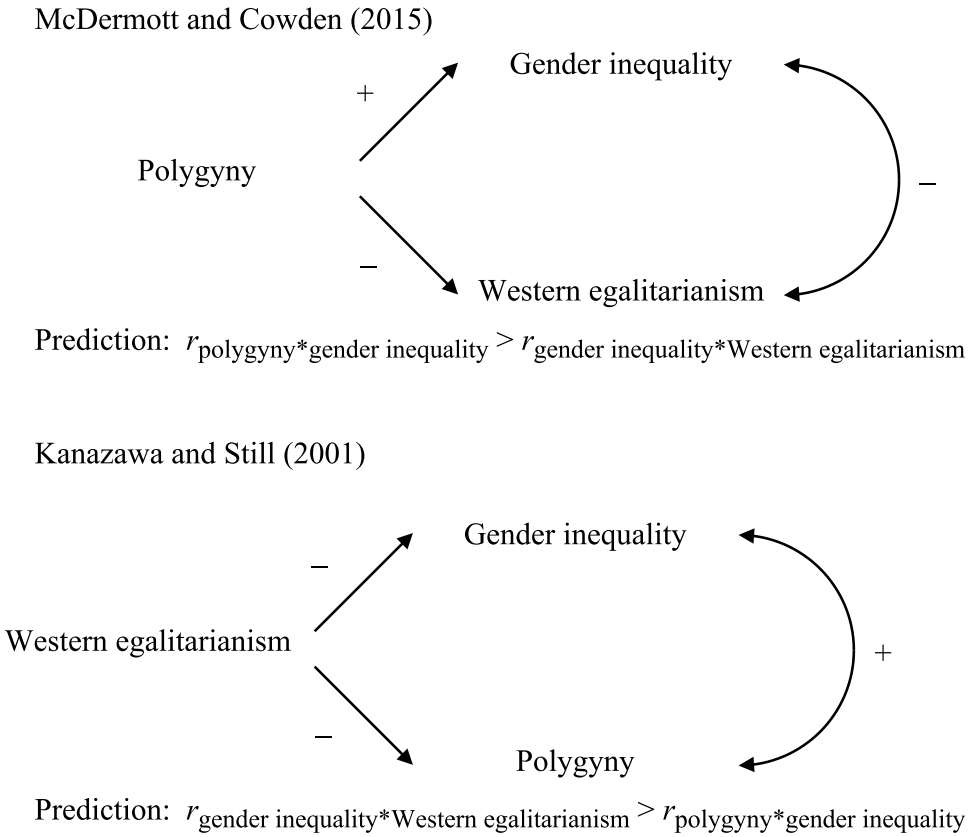

FIGURE 2 | Divergent predictions for the relative size of the association between polygyny and gender inequality and that between gender inequality and Western egalitarianism.

gender inequality and decreases Western egalitarianism, and thus there is a spurious negative association between gender inequality and Western egalitarianism. In contrast, Kanazawa and Still (1999) aver that Western egalitarianism decreases both gender inequality and polygyny, and thus there is a spurious positive association between gender inequality and polygyny. If McDermott and Cowden (2015) are correct, then the association between polygyny and gender inequality should be larger than the association between gender inequality and Western egalitarianism (because the former represents a genuine causal relationship, whereas the latter represents a spurious correlation). If Kanazawa and Still (1999) are correct, then the association between gender inequality and Western egalitarianism should be larger than the association between polygyny and gender inequality for the same reason. This is because the absolute value of a correlation coefficient is always smaller than 1.0 ($-1.0 \leq r \leq 1.0$), and thus it is mathematically necessarily the case that a product of two correlation coefficients is smaller than either of the coefficients. If W is an antecedent to both X and Y, then it is always the case that $r_{WX} > r_{XY}$ because $r_{XY} = r_{WX}{}^{*}r_{WY}$.

The data show that the mean absolute value of the correlation coefficients between polygyny and gender inequality across the three different measures of gender inequality was 0.460, and the mean absolute value of the correlation coefficients between gender inequality and Western egalitarianism was 0.626. (One needs to use the absolute values rather than the signed values because one of the three measures of gender inequality measures it in the opposite direction from the other two.) The association between gender inequality and Western egalitarianism was statistically significantly larger than the association between polygyny and gender inequality ($z = 3.05$, $p = 0.002$). It therefore appears that Kanazawa and Still's (1999) causal model is more consistent with the data than McDermott and Cowden's (2015).

4 | Significance and Implications

What is the big story of the paper? What important significance and implications can readers draw from the empirical results presented above? The big picture points to the direct effect of one important *economic* variable—resource inequality (among men)—on one important *political* variable—the extent of gender inequality and relative social and political status of women.

The most important conclusion to be drawn from the empirical analyses is that, contrary to the nearly universally held view that polygyny is "evil" (Hudson et al. 2023; McDermott 2018, 2020), polygyny per se is *not* injurious to women and does *not* lower women's relative status in society. The apparent negative correlation between polygyny and women's relative status in society is *spurious*, and is *entirely* explained away by what Kanazawa and Still (1999) call Western egalitarianism. It is the absence of such Western egalitarianism that simultaneously causes polygyny (by increasing resource inequality among men) and lowers women's relative status in society. All past studies found a negative association between polygyny and relative status of women and mistook it for genuine causation because they did not control for Western egalitarianism. The results of the quantitative analyses of international data presented above are also consistent with some ethnographic evidence in anthropology (Lawson et al. 2015).

A further implication is that, if one were to legalize polygyny in Western egalitarian societies that already have well-established protection of civil liberties, such as Canada, the United Kingdom, or the United States (Bray 2018; Jankowiak 2022, 2023; Thomas et al. 2024), it would *not* be injurious to women, although it would be injurious to men. However, according to the female choice theory of marriage institution (Kanazawa and Still 1999), such legalization of polygyny in Western egalitarian societies in itself will *not* lead to many polygynous marriages, because, given the relative resource equality among men in such societies, most women will choose to marry monogamously, and will not choose to share (slightly) more resourceful men as cowives. Legalization of polygynous institution of marriage in Western egalitarian societies will *not* lead to proliferation of polygynous marriages.

5 | Conclusion

In 1999, Kanazawa and Still offered a speculative hypothesis as to why there appeared to be a negative association between the degree of polygyny and women's relative status in society across all the nations in the world. They suggested that what they called the institution of "Western egalitarianism" held that all men are and ought to be equal and that men and women are and ought to be equal. The former tenet should function to reduce resource inequality among men, which then, according to their female choice theory of marriage institution, function to reduce the prevalence of polygyny. The latter tenet should function to reduce gender inequality and elevate women's relative status in society. "Western egalitarianism" could therefore create a spurious negative correlation between polygyny and women's relative status in society. In the quarter of a century since it was first proposed, however, Kanazawa and Still's (1999) speculation has never been empirically examined or tested.

In this paper, I subjected Kanazawa and Still's (1999) hypothesis to an empirical test. Using three widely varied measures of gender inequality, I found that gender inequality was significantly and strongly associated with polygyny across societies, even net of GDP per capita; however, once I controlled for Western egalitarianism, the statistical association between polygyny and gender inequality evaporated. While McDermott and Cowden (2015) also predicted (and found) that polygyny was significantly negatively associated with Western egalitarianism, using the same measure of it from the Freedom House, they posited the opposite causal direction from Kanazawa and Still's (1999). Additional analyses suggested that the data were more consistent with Kanazawa and Still's hypothesis than with McDermott and Cowden's (2015). All in all, the empirical analyses suggested that women suffer from lower relative status in polygynous societies, not because they are polygynous, but because they are inegalitarian, and citizens—both women and men—lack the guarantee of political freedom and civil liberties.

Given all the mathematical and biological reasons enumerated above to doubt that polygyny itself is harmful to women, it is likely that it is actually the *cause* of polygyny—lack of Western egalitarianism and consequent absence of guarantee of political freedom and civil liberties—and not polygyny itself that is injurious to women (and men). Among other things, the findings may suggest that polygyny may not necessarily harm women if practiced in otherwise egalitarian societies that already guarantee political freedom and civil liberties to all their citizens, such as Canada, the United Kingdom, or the United States (Bray 2018; Heath 2023; Jankowiak 2022, 2023; Thomas et al. 2024). Given the relatively low levels of resource inequality among men in such egalitarian societies, polygynous marriages, even if legally permitted, are not likely to become common or widespread.

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Data Availability Statement

The data that support the findings of this study are available in OECD at https://www.oecd-ilibrary.org/development/data/oecd-international-development-statistics/social-institutions-and-gender-index-edition-2023_33beb96e-en. These data were derived from the following resources available in the public domain: - OECD, https://www.oecd-ilibrary.org/development/data/oecd-international-development-statistics/social-institutions-and-gender-index-edition-2023_33beb96e-en.

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