OR-02 Leadership, hormones and sex

The intersection of biological sex, neuroendocrinology, and leadership constitutes one of the most rigorously scrutinized domains in the behavioral, biological, and social sciences. To understand how men and women navigate, acquire, and execute leadership requires moving beyond monolithic conceptualizations of gender and power. It requires navigating a complex matrix of biological predispositions, statistical behavioral differences, and deeply entrenched cultural expectations. To examine this subject with requisite rigor, this analysis separates the evidence into three distinct but interacting layers: physiology (measurable endocrine and biological functions), behaviour (statistical averages with overlapping normal distributions), and culture (variable, socially constructed norms and expectations).

A foundational epistemological caveat must precede this analysis: the scientific literature on sex differences describes population-level averages, not deterministic individual traits. When effect sizes are reported—typically as Cohen's *d* (the standardized mean difference) or Pearson's *r* (the correlation coefficient)—they universally describe two bell curves with massive overlap. Even where statistically significant sex differences exist, predicting an individual's leadership capacity, behavioral style, or physiological baseline based solely on their sex is mathematically and scientifically fallacious. The variance within a single sex is almost always larger than the variance between the sexes. Thus, what can be said about averages provides profound insight into societal macro-dynamics, institutional biases, and evolutionary history, but it offers virtually no diagnostic utility for evaluating the individual leader.

Layer 1: Physiology—Hormones and the Biological Infrastructure of Status

The physiological layer of leadership research has historically fixated on the human endocrine system, specifically isolating the roles of testosterone (an androgen) and cortisol (a glucocorticoid). Evolutionary biologists and endocrinologists have long conceptualized testosterone as the primary biological substrate of dominance, competition, and status-seeking behavior across mammalian species. Conversely, cortisol, the end-product of the hypothalamic-pituitary-adrenal (HPA) axis, is the primary biomarker for stress, physiological arousal, and the processing of social threat.

The Emergence of the Dual-Hormone Hypothesis

Historically, researchers attempted to draw a direct, unmoderated line between high basal testosterone and high social dominance or leadership emergence. However, empirical results were highly inconsistent. In an attempt to move beyond the simplistic model that "testosterone equals dominance," the dual-hormone hypothesis was formalized. Posited prominently by Mehta and Josephs in a 2010 publication in *Hormones and Behavior*, and subsequently expanded upon by researchers such as Sherman et al. (2016) in the *Journal of Personality and Social Psychology*, this hypothesis argues that the behavioral effects of testosterone on status-seeking and leadership are intimately moderated by cortisol.

Specifically, the dual-hormone hypothesis posits that testosterone promotes dominant, status-seeking, and leader-like behavior exclusively when cortisol levels are low. When cortisol

is high—indicating a state of high stress, anxiety, or social threat—the status-seeking effects of testosterone are theoretically blocked. The proposed mechanism relies on biological cross-talk between the hypothalamic-pituitary-gonadal (HPG) axis (which produces testosterone) and the HPA axis (which produces cortisol). From an evolutionary perspective, this interaction makes theoretical sense: the biological imperative to survive an immediate environmental stressor (regulated by cortisol) must override the biological drive for social status (regulated by testosterone). For several years, this hypothesis was widely accepted as a highly sophisticated, neurobiologically grounded explanation for leadership emergence, particularly among male executives, politicians, and military personnel[1].

Methodological Controversies and Replication Failures

Despite immense early enthusiasm and widespread citation, the dual-hormone hypothesis has recently faced severe methodological and empirical scrutiny, rendering it one of the most highly contested topics in behavioral endocrinology. The strongest critique of the hypothesis comes from rigorous, large-scale meta-analyses and replication efforts that have largely failed to find robust, replicable support for the interaction.

Dekkers et al. (2019), publishing in *Hormones and Behavior*, conducted a comprehensive meta-analysis evaluating the dual-hormone hypothesis. The researchers analyzed 30 papers encompassing 33 studies, yielding 49 effect sizes and a total sample of N = 8,538 participants. The results provided only marginal, practically negligible support for the hypothesis.

Metric Evaluated in Dekkers et al. (2019)	**Statistical Finding**	**Interpretation**
Total Sample Size (*N*)	8,538	Large, robust aggregate sample.
Number of Effect Sizes (*k*)	49	Sufficient for meta-analytic power.
Interaction Effect Size (*r*)	-0.061	Statistically significant ($p = 0.026$) but practically negligible.
Replication Status	Failed to replicate robustly.	The interaction does not reliably predict status-relevant behavior across broad populations.

Further devastating to the dual-hormone hypothesis was a critical review and *p*-curve analysis conducted by Grebe et al. (2019). The researchers examined the evidential value of the

published literature supporting the dual-hormone hypothesis and revealed that the published studies possessed only 16% statistical power to detect the claimed effects. This finding heavily implies that publication bias, small sample sizes, and false positives drove the early foundational literature. Furthermore, when Grebe et al. opened the "file drawer" to analyze seven previously unpublished datasets, they found absolutely no robust interactions between testosterone and cortisol in predicting status-striving personality features[2].

The Female Endocrine Blind Spot

Critics also point to a significant sex bias in the physiological literature surrounding leadership and status. Testosterone immunoassays—the standard method for measuring hormones in saliva and blood—are notoriously less reliable at the lower basal concentrations typically found in females. Consequently, weaker testosterone-cortisol effects observed in women may be an artifact of measurement error rather than a true biological difference[1].

Furthermore, the role of estradiol—the predominant estrogen in pre-menopausal females—is rarely integrated into dual-hormone paradigms. Emerging evidence suggests that estradiol is linked to implicit power motivation and assertiveness in females, serving a parallel function to testosterone in males[1]. Because male status hierarchies and their corresponding endocrine profiles have been the default model in neurobiology, the hormonal architecture of female status-seeking remains underexplored and poorly understood. Ultimately, while hormones undeniably modulate foundational human behavior, the direct line from basal testosterone and cortisol to complex, modern organizational leadership has not reliably replicated. The data strongly suggests that human leadership is heavily insulated from simple neuroendocrine determinism, mediated instead by higher-order cognitive and social processes.

Layer 2: Behaviour—Statistical Realities in Leadership Style and Emergence

Moving from the microscopic realm of endocrinology to the macroscopic realm of observable behavior, researchers have utilized decades of psychometric and organizational data to measure how men and women actually lead. This behavioral layer examines statistical manifestations—leadership styles, emergence patterns, and risk-taking profiles—where significant gender differences do exist, albeit generally with small effect sizes.

Leadership Styles: Task, Interpersonal, and Democratic

The most foundational systematic review of gender differences in leadership style was conducted by Eagly and Johnson (1990) in *Psychological Bulletin*. Analyzing 162 studies, the authors sought to test the widely held cultural stereotype that women are highly interpersonally oriented (focused on morale and relationships) while men are highly task-oriented (focused on rules, procedures, and performance standards)[5].

The meta-analysis revealed that in actual organizational field settings, the stereotypical differences between the sexes in task-oriented and interpersonal styles virtually disappeared. The socialization process of ascending corporate hierarchies appeared to strip away gendered behavioral differences, forcing both men and women to adapt to the objective demands of the managerial role. However, Eagly and Johnson (1990) did find one robust behavioral difference

that persisted across laboratory, assessment, and field settings: women were significantly more likely to adopt a democratic and participative leadership style, whereas men were more likely to adopt an autocratic and directive style.

Leadership Style Dimension	Cohen's d Effect Size	Interpretation of Difference
Task-Oriented Style	*d* = 0.00	Complete parity between men and women in focus on task completion.
Interpersonal Style	*d* = 0.04	Near-zero difference; women are only fractionally more interpersonally oriented.
Democratic vs. Autocratic	*d* = 0.22	Small but robust difference; women lean democratic, men lean autocratic.

Despite its foundational status, the Eagly and Johnson (1990) meta-analysis has faced methodological critiques. Critics, notably Vecchio (2002), raised concerns regarding the construct validity of the measures used in the older primary studies (such as Fiedler's Least Preferred Co-Worker scale). Furthermore, 197 of the original 370 primary studies relied exclusively on leaders' self-ratings, meaning the findings could be partially driven by leaders' self-stereotyping or social desirability bias rather than objectively observed behaviors[6].

The Shift to Transformational and Transactional Leadership

As leadership theory evolved in the 1990s and 2000s, organizational psychology shifted its focus from the task-interpersonal dichotomy to the Full Range Leadership Model, contrasting transformational, transactional, and laissez-faire styles. Transformational leadership, widely considered the most effective modern leadership paradigm, is defined by four core behaviors (often termed the "Four I's"): idealized influence (acting as a trusted, ethical role model), inspirational motivation (articulating a compelling organizational vision), intellectual stimulation (encouraging innovation and challenging the status quo), and individualized consideration (mentoring, coaching, and supporting followers)[8].

To ascertain whether gender differences existed within this modern framework, Eagly, Johannesen-Schmidt, and van Engen (2003) published an updated meta-analysis in *Psychological Bulletin* encompassing 45 studies. The results demonstrated a clear statistical divergence between the sexes.

Full Range Leadership	Gender Displaying	Relationship to

Construct	Behavior More Frequently	Organizational Effectiveness
Transformational (Overall)	Female	Highly Positive
Idealized Influence	Female	Highly Positive
Inspirational Motivation	Female	Highly Positive
Intellectual Stimulation	Female	Highly Positive
Individualized Consideration	Female	Highly Positive
Contingent Reward (Transactional)	Female	Positive
Management by Exception (Active)	Male	Neutral to Negative
Management by Exception (Passive)	Male	Negative
Laissez-Faire (Absentee)	Male	Highly Negative

The 2003 meta-analysis demonstrated that female leaders were slightly but significantly more transformational than male leaders, particularly on the subscale of individualized consideration. Women also scored higher on contingent reward, which involves establishing clear expectations and rewarding followers for meeting them—the most effective component of transactional leadership. Conversely, male leaders were statistically more likely to exhibit management-by-exception (waiting for problems to occur before intervening) and laissez-faire leadership (the total abdication of leadership responsibilities). Because transformational leadership and contingent reward are empirically linked to higher organizational effectiveness, the authors concluded that female leaders, on average, utilize slightly more effective behavioral styles than their male counterparts[9].

Leadership Emergence and the GAP Model

Leadership *emergence*—the phenomenon of individuals organically rising to leadership roles in unstructured, initially leaderless groups—presents a different statistical reality than leadership

style. In a classic meta-analysis published in the *Journal of Personality and Social Psychology*, Eagly and Karau (1991) found a robust tendency for men to emerge as task leaders and general leaders in mixed-sex groups, while women had a weak tendency to emerge as social leaders[13].

This literature was recently subjected to a massive update and theoretical overhaul by Badura et al. (2018) in the *Journal of Applied Psychology*. Analyzing 1,632 effect sizes across 120 samples with a total N = 32,579, the authors found that while the gender gap in leader emergence has steadily decreased over recent decades, a contemporary gap remains, favoring men.

To explain the psychological mechanisms driving this gap, Badura et al. proposed the Gender-Agency/Communion-Participation (GAP) Model. The model theorizes that leadership emergence is heavily predicted by agentic personality traits (e.g., assertiveness, dominance, competitiveness). Because agentic traits are statistically higher in men, men participate more actively and assertively in group discussions. This high rate of verbal participation directly triggers leadership emergence in the eyes of peers. Conversely, communal traits (e.g., kindness, sympathy, nurturance), which are statistically higher in women, negatively predict leadership emergence in unstructured settings.

However, Badura et al. (2018) also identified a powerful counter-mechanism. While high agency drives initial leader emergence, ability-based emotional intelligence (EI) drives the perception of transformational leadership. Because ability-based EI is a cognitive trait that is statistically much higher in women, women who do manage to emerge as leaders are subsequently perceived as highly transformational by their peers[15].

Risk, Crisis, and the "Lehman Sisters" Debate

The behavioral layer of sex and leadership also profoundly encompasses decision-making under risk and crisis. A landmark meta-analysis by Byrnes, Miller, and Schafer (1999) in *Psychological Bulletin* established that men, on average, are more likely to take risks than women across a wide variety of domains, from physical risks to financial gambles[19]. Croson and Gneezy (2009), publishing a highly influential review in the *Journal of Economic Literature*, corroborated that women generally exhibit higher risk aversion in financial and laboratory contexts.

However, Croson and Gneezy (2009) emphasized that female risk preferences are highly malleable and sensitive to context. For instance, women who self-select into highly competitive, male-dominated fields—such as female entrepreneurs in emerging markets—sometimes exhibit higher risk tolerance than their male counterparts, likely because a higher threshold of risk tolerance is required for a woman to enter the arena in the first place[21].

This gender difference in risk aversion became the centerpiece of the "Lehman Sisters" hypothesis following the 2008 global financial crisis. Proponents of this hypothesis argued that the aggressive, hyper-masculine, risk-seeking culture of Wall Street precipitated the catastrophic market crash. The rhetorical argument suggested that a hypothetical "Lehman Sisters" would have survived due to greater female risk aversion and prudential, long-term decision-making. While largely a rhetorical framing, empirical investigations provide some substantive support: corporate boards with higher gender diversity are systematically associated

with less volatile corporate performance, lower corporate debt, and fewer risky acquisitions[24]. This dynamic regarding sex, leadership, and crisis management was studied in real-time during the COVID-19 pandemic. Garikipati and Kambhampati (2021), publishing in *Feminist Economics*, analyzed the crisis responses of male and female national leaders globally. Controlling for institutional, geographic, and economic variables, they found that female-led countries locked down significantly earlier and suffered fewer initial fatalities than male-led countries. The authors attributed this to a fundamental behavioral difference in risk tolerance: female leaders were systematically more risk-averse regarding human life, willing to incur immediate and severe economic costs to protect the populace. Conversely, male leaders were statistically more likely to take massive public health risks in an attempt to protect the national economy[26].

Layer 3: Culture—Role Congruity, Evaluation Biases, and the Glass Cliff

The physiological and behavioral layers of leadership do not exist in a vacuum; they operate within a powerful, pervasive cultural matrix. Societal expectations, deeply encoded gender stereotypes, and evolutionary precedents shape not only how men and women lead, but crucially, how their leadership is perceived, evaluated, and penalized by others.

Role Congruity Theory and the Double Bind

To understand the immense cultural friction women face when assuming leadership roles, Eagly and Karau (2002) proposed *Role Congruity Theory* in *Psychological Review*. The theory posits that prejudice against female leaders arises from a perceived incongruity between the descriptive and prescriptive stereotypes of women, and the stereotypes of leaders. Culturally, the concept of leadership is strongly coded as requiring agentic traits (assertiveness, dominance, competitiveness, instrumental competence). Conversely, the female gender role strictly prescribes communal traits (warmth, nurturance, collaboration, emotional sensitivity). Because of this profound incongruity, female leaders face a psychological and professional "double bind." If a woman acts in accordance with her gender role (communally), she is viewed as a "good woman" but an ineffective, weak leader, suffering from *descriptive bias* (the belief that she lacks the traits necessary to lead). However, if a woman acts in accordance with the leadership role (agentically), she is viewed as a competent leader but is actively penalized for violating the female gender role. She suffers from *prescriptive bias*, being perceived by subordinates and peers as aggressive, abrasive, or unlikeable. This theory elegantly explains why women must meet a significantly higher threshold of competence to achieve the exact same leadership evaluations and promotions as men[29].

This theoretical framework is supported by extensive empirical data across decades of research. Koenig et al. (2011), in a meta-analysis published in *Psychological Bulletin*, analyzed three distinct research paradigms ("think manager–think male," agency-communion, and masculinity-femininity) spanning 40, 22, and 17 studies respectively. The results confirmed that leadership stereotypes remain overwhelmingly culturally masculine. Though this masculine construal of leadership has decreased incrementally over time—particularly in female-dominated sectors like education—it remains a potent barrier in corporate, military, and

political domains[33].
Furthermore, Eagly, Makhijani, and Klonsky (1992) demonstrated in a meta-analysis published in *Psychological Bulletin* that when female and male leaders exhibit the exact same scripted behavior in experimental settings, women are evaluated significantly more negatively than men when that behavior is highly agentic, directive, or autocratic. The same behavior that makes a man appear "decisive" makes a woman appear "bossy" or "hostile," proving that identical behaviors are filtered through heavily gendered perceptual lenses[34].

Leadership Effectiveness: Self-Ratings vs. Other-Ratings

Given these cultural headwinds and double binds, how effective are male and female leaders in the objective eyes of their organizations? Paustian-Underdahl, Walker, and Woehr (2014) addressed this question in the *Journal of Applied Psychology* via a comprehensive meta-analysis of 99 independent samples involving a massive total N = 101,676 participants. When aggregating all contexts and rating sources, the meta-analysis found no significant difference in the perceived effectiveness of male and female leaders (d = -0.05). However, a fascinating and highly revealing divergence occurred when the rating source was isolated.

Rating Source	Cohen's d Effect Size	Interpretation
Self-Ratings	d > 0 (Positive)	Men rate their own leadership effectiveness significantly higher than women rate themselves.
Other-Ratings (Peers, Subordinates, Bosses)	d = -0.12	Women are rated as significantly *more* effective leaders than men by those they work with.
Overall Combined	d = -0.05	No significant difference overall, driven by the cancellation effect of self vs. other ratings.

The authors hypothesize that because women must navigate the double bind and clear much higher competency thresholds to attain leadership roles in the first place, those women who survive the corporate gauntlet to reach middle and upper management are, on average, exceptionally highly skilled. Conversely, because men fit the cultural prototype of a leader, they require less objective competence to be promoted, resulting in lower average effectiveness scores from their peers and subordinates. The inflated self-ratings of male leaders further highlight the role of male socialization in building agentic self-confidence, irrespective of

objective performance[6].

The Glass Cliff Phenomenon

The cultural friction surrounding female leadership also dictates *when* women are given opportunities to lead. Ryan and Haslam (2005) coined the term "the glass cliff" in the *British Journal of Management* after analyzing the board appointments of FTSE 100 companies. They discovered a stark, counter-intuitive paradox: while women struggle to break through the glass ceiling during prosperous times, they are disproportionately appointed to top leadership positions when a company is in a state of severe financial crisis or facing imminent failure[24].

Haslam and Ryan (2008), publishing in *The Leadership Quarterly*, expanded on the psychological mechanisms driving this phenomenon. The glass cliff occurs for several reasons. First, culturally, during a crisis, organizations often seek a scapegoat; marginalized groups are historically easier to sacrifice and blame if the company ultimately fails. Second, appointing a woman signals a radical departure from the status quo to anxious shareholders. Third, there is a "think crisis–think female" heuristic; stakeholders implicitly believe that communal traits (tact, communication, relationship repair, and empathy) are exactly what is needed to manage a failing organization and pacify angry stakeholders.

There is a tragic paradox inherent in the glass cliff, as highlighted by Ryan and Haslam (2007). As established by Croson and Gneezy (2009), women are generally more risk-averse than men, yet they disproportionately end up accepting the riskiest, most precarious organizational positions. Research indicates this occurs because women, constantly facing the impenetrable glass ceiling, often view the precarious glass cliff position as the *only* opportunity they will ever receive to achieve executive status. Men, possessing higher career self-efficacy and systemic privilege, have the luxury of turning down risky, doomed roles to wait for secure, prosperous ones[38].

Insights from Traditional and Forager Societies

To understand how much of this cultural matrix is a modern artifact of post-industrial capitalism versus an evolved human universal, evolutionary anthropologists look to small-scale traditional and forager societies. Research by Smith et al. (2016) and von Rueden (2014; 2018) among groups like the Tsimane (a forager-horticulturalist society in the Bolivian Amazon) reveals deeply nuanced insights into the origins of gendered leadership.

In forager societies, leadership is rarely absolute, formal, or coercive; rather, it is based on prestige, consensus, and domain-specific expertise. Anthropological data shows that while men often dominate public, inter-group political leadership and conflict resolution (driven by evolutionary advantages in physical strength and the necessity of male coalitionary networks for defense), women exert profound, highly respected leadership in other vital domains. Women dominate leadership in resource distribution, household management, gathering logistics, and internal community cohesion.

This data suggests that the human evolutionary baseline is not a strict, monolithic patriarchy, but rather a system of egalitarian, domain-specific, parallel leadership structures. The modern corporate environment, which consolidates all domains of power into a singular, vertical, hierarchical "executive" track, inadvertently maps directly onto the historically male-dominated domains of coalitionary politics and inter-group competition. This structural mismatch explains a

significant portion of the deep cultural friction women experience when attempting to ascend modern organizational hierarchies[40].

Summary of Robust Findings

#	Finding Summary
1	The dual-hormone hypothesis (testosterone's status-seeking effects being moderated by cortisol) has failed to replicate robustly; endocrine links to complex human leadership remain weak.
2	In organizational settings, men and women show near-zero differences in task-oriented and interpersonal leadership styles, disproving common cultural stereotypes.
3	Women, on average, utilize more democratic, participative, and transformational leadership styles (particularly individualized consideration).
4	Men, on average, utilize more autocratic, directive, management-by-exception, and laissez-faire leadership styles.
5	Agentic traits (assertiveness), which are statistically higher in men, strongly predict who emerges as a leader in unstructured, leaderless groups.
6	Men exhibit higher average risk tolerance in financial and physical domains, while female leaders demonstrate higher risk aversion regarding human life (e.g., COVID-19 lockdowns).
7	Role congruity theory demonstrates that women face a "double bind": they are penalized for violating communal gender

	norms if they act with the agency culturally required of leaders.
8	While men rate their own leadership effectiveness highly, objective other-ratings (peers/subordinates) rate female leaders as significantly more effective than male leaders.
9	The "glass cliff" is a robust phenomenon where women are statistically over-represented in precarious, high-risk executive appointments during times of organizational crisis.
10	Evolutionary history shows egalitarian, prestige-based leadership where men and women led in parallel, distinct domains, contrasting with the unified vertical hierarchies of modern corporations.

Contested or Open Questions

- **The Female Endocrinology of Status:** If the testosterone-cortisol interaction does not robustly explain female status-seeking, what is the exact neuroendocrine role of estradiol and ovarian hormones in female leadership emergence?
- **The Future of the Stereotype:** As the "think manager–think male" stereotype demonstrably weakens over time, particularly in sectors like education, at what point does role congruity theory cease to predict negative evaluation biases against women?
- **Intersectionality in the Glass Cliff:** To what extent does the glass cliff phenomenon compound for women of color, and what are the specific psychological mechanisms by which marginalized groups are selected as organizational scapegoats?
- **Self-Efficacy vs. Structural Bias:** How much of the male advantage in leadership self-ratings is driven by innate biological confidence (nature) versus socially conditioned entitlement (nurture)?
- **The Paradigm of Effectiveness:** If female leaders are consistently rated as more effective by their peers and subordinates, why do organizational promotion metrics continue to reward the agentic traits that drive initial leader emergence rather than actual transformational performance?

Most Important Sources to Read in Full

Author(s) & Year	Title & Journal	Significance
Eagly, A. H., & Johnson, B. T. (1990)	*Gender and leadership style: A meta-analysis.* Psychological Bulletin.	The foundational meta-analysis disproving the task/interpersonal stereotype and establishing the democratic/autocratic difference.
Eagly, A. H., & Karau, S. J. (2002)	*Role congruity theory of prejudice toward female leaders.* Psychological Review.	The definitive theoretical framework explaining the "double bind" and cultural prejudice against female leaders.
Eagly, A. H., et al. (2003)	*Transformational, transactional, and laissez-faire leadership styles...* Psychological Bulletin.	The seminal paper establishing that women lean toward highly effective transformational leadership styles.
Ryan, M. K., & Haslam, S. A. (2005)	*The glass cliff: Evidence that women are over-represented in precarious leadership positions.* British Journal of Management.	The original paper defining and proving the existence of the glass cliff phenomenon using FTSE 100 data.
Croson, R., & Gneezy, U. (2009)	*Gender differences in preferences.* Journal of Economic Literature.	A masterclass review on gender differences in risk aversion, social preferences, and competitiveness.
Koenig, A. M., et al. (2011)	*Are leader stereotypes masculine? A meta-analysis of three research paradigms.* Psychological Bulletin.	Empirical proof that the "think manager-think male" stereotype persists globally.

Paustian-Underdahl, S. C., et al. (2014)	*Gender and perceptions of leadership effectiveness: A meta-analysis...* Journal of Applied Psychology.	The critical meta-analysis proving women are rated more effectively by others, while men rate themselves higher.
Badura, K. L., et al. (2018)	*Gender and leadership emergence: A meta-analysis and explanatory model.* Journal of Applied Psychology.	The modern update establishing the GAP model, proving agency drives male leadership emergence.
Dekkers, T. J., et al. (2019)	*A meta-analytical evaluation of the dual-hormone hypothesis...* Hormones and Behavior.	The definitive meta-analysis that dismantled the reliability of the testosterone-cortisol interaction in leadership.
Garikipati, S., & Kambhampati, U. (2021)	*Leading the Fight Against the Pandemic: Does Gender Really Matter?* Feminist Economics.	A pristine modern case study on how gendered risk profiles influence macroscopic crisis decision-making.

Implications for living together

When optimizing how men and women live and work together—whether in the intimate context of a household, the collaborative environment of a local community, or the vast hierarchy of a multinational organization—we must studiously avoid the naturalistic fallacy. The fact that an evolutionary precedent exists, or that a statistical behavioral baseline can be measured, does not mean that such a state is morally good, optimal, or immutable. Biology provides a baseline, but human culture provides the architecture for overriding it.

For organizations, the data implores a radical structural redesign of promotion and evaluation metrics. Because agentic traits (confidence, assertiveness, dominance) naturally trigger leadership *emergence* in the eyes of peers, but communal traits (mentoring, intellectual stimulation, individualized consideration) drive actual leadership *effectiveness*, organizations that rely on unstructured emergence will systematically promote men who simply *look* like leaders over women who actually lead effectively. Recognizing the reality of the "glass cliff" should prompt boards of directors to audit their executive appointments, ensuring that female executives are granted the exact same resource runways, institutional support, and margins for

error as their male peers, rather than being utilized as convenient crisis scapegoats.
For couples and families, recognizing that men and women have massively overlapping behavioral distributions means actively discarding rigid, essentialist gender roles. The historical reality of forager societies demonstrates that humans are a highly adaptable species, fully capable of splitting leadership along domain-specific lines based on genuine competence and prestige rather than biological sex. By acknowledging the prescriptive biases and the "double bind" women face, partners and community members can actively work to decouple the concept of "likability" from "compliance," allowing women to exercise authority and agency without suffering relational penalties.
Ultimately, the most resilient human groups—be they families or societies—are those that successfully integrate both the transformational, democratic tendencies often socialized into women, and the decisive, task-oriented emergence often socialized into men. Embracing this behavioral diversity, while dismantling the cultural prejudices that penalize it, remains the blueprint for optimal human cooperation.

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