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Short Response Paper Series

Proposition - Biological women are twice as likely to be diagnosed with anxiety disorders (except certain phobias) as biological men. Consider possible evolutionary, social, and biological (include all three) explanations for this in your paper.

That women are diagnosed with anxiety disorders at nearly twice the rate of men is a well-supported position in the epidemiology of psychopathology. This week Dr. Carson asked us to consider the question “Why?” (Remes et al., 2016, as cited in Carson, 2026a), and such simple questions rarely deliver equally parsimonious answers. Complexity in this arena is not via a dearth of plausible, even supported, explanations, but rather, an oversupply. The topic this week captures three, yet all are within a scientific biopsychosocial lens, which while multifactorial, can still be myopic.

This paper situates these evolutionary, social and biological observations in a tension which resists collapse in any one direction. In this way they are pitted in a generative posture of complementary descriptive vantages on a broader cross-paradigmatic phenomena and not vandalised by the economy of zero-sum games which seek to monopolise knowledge. This method, ethic and praxis is wise and mature on its own terms (Cook-Greuter, 1999), but in a domain which asks questions of gender and sex so politically charged, and rightfully so, given the history of power and its asymmetric affordances of safety, welfare and equity for our species, reductionism in either direction - that is, in naturalising difference into fixed biology, or dissolving it into pure social construction - carries stakes far from trivial and inclusive of ills of affect like anxiety, but further into maladies existential and, at times, lethal.

A serious answer keeps the science intact while leaning towards those critiques of naturalism and essentialism to afford a multi-perspectival view which is nonreductive in ways

known not only in the philosophy of science and the scientific method, but also in the wide sociological canon, each carrying a curious, non-reifying discipline from different vantage points. So with that foundational frame established, we turn to this trinity of scientific concerns.

The evolutionary account begins with this lecture's treatment of the logics of our fear systems and how, in this paradigm, these are theorised as adaptive where calibrated to hypervigilant over-detection. Carson (2026a) pointed out the stark calculus in noting the inherent advantage of detecting false positives over false negatives, such that someone who perceives threat incorrectly gains more safety without the cost of any additional anxiety (LeDoux & Pine, 2016). Carson speaks of this at the species level and mobilising this for the sharper lines of this week's report question about biological women is my own extension, to be unequivocal at the outset. Noting again the complexity frame offered at this paper's outset, I nevertheless note the widely generalisable form running through parental investment - historically, biological females have in large part bore a greater reproductive cost and caregiving demand to vulnerable offspring when compared with biological males. This labour, mobility, independence and power asymmetry would self-evidently afford a lower threshold for threat detection a selection advantage following parental investment theory (Trivers, 1972). Indeed, the controversial work of Taylor et al. (2000), brings a refinement to the axiomatic fight-or-flight mechanism in proposing a distinctively female stress response they (cleverly similarly rhymed) 'tend-and-befriend'. This theoretical construct leads from the position that biological females, being far more obligated to the protection of young, working in numbers such that they mobilise social support rather than fighting or fleeing, provides this distributed defence mechanism.

Seen as adaptive reasoning which evidences ancestral pressures rather than the destiny of current biological females, this can be freed of the sociological critique of essentialism and

provide insight alongside, or perhaps bridging, the social and biological, rather than ratifying a status-quo not universally desired nor supported across the movements and diversities of civilisation. Segueing then to a social account on the dominance of childrearing and its inherent mobility asymmetries for biological females, we encounter survival as both genesis of, and recursive (re)enforcement, of social roles through culture. Where biological females have been less mobile and physically dominant as biological males, attentiveness to nearby threat becomes not merely inheritance, but also trained and reinforced socialisation.

This cuts many possible ways. Culture exerts highly coercive directives around which feelings are expressed and acknowledged, and, among whom, and sex-asymmetry in anxiety incidence may extend from the diagnostic process itself. That is, differences in help-seeking, symptom reporting, or how clinicians evaluate distress, may itself contribute to this figure not as observance of direct phenomena itself but rather as error formed by, and recursively forming, cultural structure (Altemus et al., 2014). This is both a clinical and a justice issue, exacerbated when noting women experience greater interpersonal trauma forming anxiety (Carson, 2026b). Together, a constructionist critique serves as more than slogan and does tangible analytic work, that is, genuine artefact is found within measurement without denying the underlying distress' veracity.

Finally, the biological account layers a physical substrate. Ovarian hormones, progesterone and oestrogen, shape anxiety directly; with Carson (2026b) explaining one illustrative example of lowering and raising vulnerability to panic during pregnancy. This sex-specific endocrine pathway tracks all through reproduction, beginning at puberty, and instrumental through menstrual cycle, pregnancy and menopause, implicating their contribution in both up- and downregulation of fear and stress (Altemus et al., 2014). Also responsible for

modulating the hypothalamic-pituitary-adrenal (HPA) axis, which further activates the oxytocin systems Taylor et al. (2000) base their tend-and-befriend response on; this sexed endocrine pathway contributes to the biological account of fear system activation in obviously unique ways.

To again recursively engage all three in generative tension, this biological level must also refuse coronation as some ‘deeper’ or ‘truer’ cause sitting ‘beneath’ the others, as is the reductionist’s nihilistic laziness. Instead, biology, evolutionary history and lived culture together co-constitute and co-enact each other in a whole larger than any, and beyond the sum of just these three lenses - and not as is the frequent error, known in final ontological claim to causation by inverting apprehension through a methodological lens as the thing itself and not an apprehension. More easily understood, perhaps, as the apocryphal moon, rather than the finger pointing at it. As such, to bludgeon another metaphor, the ‘territory’ of asymmetrical incidence of anxiety diagnosis between sexes is known by the ‘maps’ of an adaptive bias toward vigilance, carried by neuroendocrine machinery, and shaped constantly adaptive and hyperlocal cultures and the roles they permit.

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