

Commentary: Exploring Hormonal Influences on Problem Sexual Behavior

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The conceptualization of sexual offending remains problematic and prey to fashion and enthusiasm. Progress can come only on the basis of sound research on the biological, social, and psychological associations to such offending. This study, though in some ways modest in its contribution, offers a model of the systematic approaches which offer the best chances of eventually understanding and managing sexual offending.

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Forensic mental health clinics specializing in specific problem behaviors offer unique opportunities, not only to develop skills in the assessment and treatment of both high- and low-prevalence problem behaviors, but also to concentrate referrals sufficiently to allow high-quality research.¹ Kingston *et al.*² made effective use of a rich database of information on sexual offenders to pose interesting questions about possible relationships between hormones and offending. Despite longstanding recognition of some apparent correlation between testosterone levels and aggression, possibly violent offending, and even more tenuously, sexual offending, the nature of the relationship remains elusive.

In recent years, the sex offender literature, conceptual and therapeutic, has been dominated by the psychological and psychopathological. Simplistic models of how sexual offenders may give up their evil ways and pursue good or better lives seem often to underpin psychological treatments, treatments that are often promoted with an enthusiasm at variance with the lack of adequately controlled trials. Meanwhile, some psychiatrists seem bent on transforming every type of sexual activity that involves criminal or strongly disapproved of behavior into its own mental disorder, although to what end is not entirely clear.

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Surely, it cannot just be a territory-marking exercise. All this is nontrivial when viewed against the politicization of sexual offending and the current cultural attitudes toward child molesters in particular. In their article, Kingston *et al.*² provide a welcome relief for those of us who value solid research in a difficult area so often dominated by salespeople, moralizers, and zealots.

Research into biological variables related to criminal behavior labors under the expectation that it will reveal some variable unique to these offenders and preferably causal. The search for the biological basis of crime has continued for over 150 years. Repeatedly, claims to have discovered the cause have been made from degeneration, via phrenology to the anomalies in the psychopath's brain. Studies of hormonal levels in sex offenders originally went searching for abnormal levels but found levels in the normal range. Fortunately, these researchers persisted. What they have reported are subtle but significant interactions between endocrine and behavioral variables that are associated with sexual offending and recidivism. The strengths of the study are in the large sample and the long follow-up. The weakness is in the methodology used to examine the endocrine variables. Despite this caveat, this is a valuable piece of research.

The prediction of recidivism over lengthy periods will also perpetually challenge clinicians. Complex human behavior relies not only on factors specific to the agent, but also on ever shifting situational and contextual elements, opportunities, and dispositions. Nevertheless, large cohort studies aid in understand-

ing potential drivers in offending and may focus attention on risk factors amenable to change.

The methodology of this study is of high quality. A large sample, a high proportion of consent, and a heterogeneous sample of sex offenders consistent with real-world offending samples: this sample is certainly one that will produce generalizable results. Although it is possible that there was a selection bias that determined which participants underwent hormone testing, that factor is unlikely to skew the sample obviously. As just noted, when this work is replicated and extended, it will be possible to enhance the endocrinology.

Earlier suspicions about the role of testosterone in offending have resulted in sampling that accommodates diurnal variation. It is less clear, however, that single-point hormone sampling accurately captures a measure of levels of luteinizing hormone (LH) or follicle stimulating hormone (FSH), which are secreted in a pulsatile fashion.³

Criticisms often levelled at sexual recidivism studies focus on inadequate duration of follow-up or inadequate ascertainment of subsequent offending, sometimes skewed by migration or periods of incarceration that reduce the time at risk. The duration of follow-up in this study and the ascertainment of recidivism, with comprehensively coded recidivism definitions and a national register, strengthen its conclusions.

Similarly, there is an understandable minimization bias in subjective accounts of sexual behavior elicited in forensic settings, particularly before trial or when preventive detention is a possibility, which may result in impression management and representations by offenders of their limited sexual interest and functioning. The correlation of both total sexual outlet (TSO) and the Derogatis Sexual Functioning Inventory (DSFI) with self-reported hostility indicates perhaps that androgen-mediated sex drive plays a role in social learning and therefore in the development of offending-related schemata.

Of interest, age-related decline in sexual functioning may paradoxically render prolonged follow-up a confounder. Measures of sex hormone and gonadotrophin levels may alter significantly with ageing; this change has been regarded as exerting a strong effect of ageing in cohorts, reducing recidivism rates.⁴

Previous hypotheses about androgen-dependent or -independent pathways to sexual arousal have fo-

cused on the potential for deviant arousal to have different neurobiological correlations. Indeed, associations between LH and FSH levels and offense type support the contention that some subgroups of offenders are more likely to be driven by deviant arousal. Nevertheless, such data usually cannot explain failures to inhibit inappropriate or illegal behavior that will never be justified simply by sexual arousal. The suggestion that LH correlates with measures of hostility, violence, and intrusiveness is supported by earlier studies that noted that the association between testosterone levels and aggression may be mediated by impulsivity.⁵ Similarly, earlier studies, although small and few in number, have also noted abnormalities in LH response to gonadotropin-releasing hormone in pedophiles but not in other nonpedophile sexual offenders.⁶

Greater understanding of the hormonal underpinnings of offending and recidivism is developed by an appreciation of the complex role of sex hormones and gonadotrophins, not only in sex drive but in aggression, frustration tolerance, impulsivity, and hostility. However, similar studies in smaller samples did not find significant results.^{7,8}

Empirical approaches to the aetiology of sexual offending have been scarce. Collection and analysis of biological data may shed some light on the complex individual and contextual factors which contribute to sexual offending, although comprehensive understanding is a long way off.

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