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ORIGINAL PAPER

Coercive Paraphilic Disorder

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Abstract Sexual coercion is a manifestation of sexual conflict that is not in itself pathological according to Wakefield's (1992) criteria because sexual coercion can increase a man's Darwinian fitness. There are, however, differences among men in their propensity to commit rape and this propensity is linked to antisocial personality characteristics and relatively more sexual interest in brutal rape depictions. If highly rape-prone men were to be considered pathological, it would be possible to develop diagnostic criteria to identify them.

Keywords Rape · Paraphilias · Sexual coercion · DSM-V

Introduction

There is a long history of controversy about whether rapists suffer from a diagnosable paraphilic disorder. In this essay, I review sexual coercion in its reproductive (evolutionary) context and consider whether coercive paraphilic disorder should be considered to be a diagnosable condition.

If coercive paraphilic disorder is a diagnosable condition, then it must be pathological. According to Wakefield's (1992) criteria, a person is considered to have a disorder when there is a failure of internal mechanisms to perform their natural function and this failure impinges harmfully on the person's well being as defined by social values. Thus, a condition is a mental disorder if (1) it causes some harm or deprivation to the person as judged by the standards of the person's culture (the value criterion), and (2) it results from the inability of some mental mechanism to perform its natural function. A natural function is an effect that is part of the evolutionary explanation of the existence and structure of the mental mechanism (the explanatory criterion). From a biological point of view, pathological conditions are associated with lowered Darwinian fitness.

The Biological Context

Male and female sexual psychologies have been designed by relative reproductive success over evolutionary time. As in all sexually reproducing species, however, the interests of males and females are sometimes antagonistic because the principal factors that limit reproductive success are different in the two sexes. The most important (but not the only) factor limiting a man's success is the number of his sexual partners. In contrast, the principal factor limiting a woman's reproductive success is the quality and amount of resources invested in her offspring.

Sexual coercion is but a part of sexual conflict. Sexual conflict occurs when the reproductive interests of opposite-sexed individuals are opposed, in the sense that one individual's success occurs at the cost of another of the opposite sex. Sexual conflict is widespread among animals, including species that exhibit social monogamy and bi-parental care. Sexual conflict ultimately arises from sexually dimorphic reproductive strategies and can drive genetic change. Manifestations of sexual conflict in humans include cuckoldry and rape.

An evolutionary account of sexual conflict distinguishes between *proximal* causes, the mechanisms that cause a particular characteristic in the present environment, and *ultimate* causes, the features of the ancestral environment that caused an adaptation to evolve. Proximal causation deals with mechanisms responsible for the development of characteristics in the current environment, whereas ultimate causation addresses the question of why these characteristics developed. Characteristics

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that have developed over generations because of their relationship to reproductive success are genetic in nature and are termed *adaptations*. For example, life history strategy involves a suite of adaptations and refers to a genetically organized life course dictating how individuals allocate energy to aspects of reproductive fitness, such as body growth, mating effort, and parental effort.

Common errors in thinking about these matters include supposing: (1) that proximal and ultimate causes are at the same level of explanation (i.e., are opposed to each other); (2) that genetic causes of behavior must show heritability coefficients greater than zero (they only do if the trait shows variance in the population); (3) that adaptations are necessarily related to reproductive success in modern human environments; (4) that adaptations are good for us or necessarily morally acceptable; (5) that adaptations cannot be revealed by experimentation, and (6) that adaptations are invariant over environmental conditions (in technical terms, are always obligate as opposed to facultative).

Sexual conflict between the sexes involves genes (alleles) that confer a benefit to one sex and a cost to the other, such as a gene producing a wide pelvis or hirsute facial adornments. Because of the way genes are organized on chromosomes, genes involved in sexual conflict are often close to the sex determining genes (and therefore travel with them to the appropriate sex most of the time in chromosomal shuffling). In order for sexually antagonistic genes to spread in the population, they must provide a net reproductive benefit and thus there are mechanisms for limiting the amount a particular gene is expressed in the "wrong" sex. These mechanisms include sex limited expression where the gene is only expressed in the presence of a hormone or the amount of hormone that is typically present in only one sex.

Rice (1996) has documented how sexually antagonistic genes work in fruit flies through a series of ingenious and elegant experiments. In one study (Rice, 1996), he prevented experimental group females, but not males, from evolving. After 40 generations, experimental males fathered more offspring than control males, prevented their competition from siring offspring, and caused females to die younger. As expected from theory, genes are only sexually antagonistic in the adult (reproductively mature) life stage (Chippendale, Gibson, & Rice, 2001). Further work has shown that female fitness losses that are occasioned by exposure to multiple males are not compensated for by the reproductive performance of the females' grandsons as would be predicted by the "sexy sons" hypothesis (Orteiza, Linder, & Rice, 2005). This is a true arms race. It is important to be clear, however, about exactly what the arms race is about:

> The average fitness of males and females is not independent because each offspring has a mother and father, and, in fact, must be equal to one another when the primary sex ratio is the typical 1:1….Therefore, one sex cannot "win" a conflict in the sense that its fitness has increased at the expense of the fitness of the "losing" sex: whatever happens to the average fitness of one sex will also happen to the average fitness of the other. Likewise, there cannot be a "battle" between males and females in the sense that these two classes of individuals are striving toward victory. In this sense, sexually antagonistic coevolution is quite different from antagonistic coevolutionary interactions between species (e.g., parasite-host and predator-prey systems), because in these cases the population fitness of one species can increase at the expense of the other….If the sexes cannot win or lose, who can? Specific resistance and persistence alleles can. In an evolutionary sense, the dynamics of alleles most precisely describes sexually antagonistic evolution. (Arnqvist & Rowe, 2005, p. 221)

There are sexually dimorphic reproductive strategies in humans. When men are unconstrained by circumstance, they prefer more sexual partners than women and when women are unconstrained by circumstance, they prefer fewer partners than men but more resources to be invested in the relationship and in parental assistance (e.g., Landolt, Lalumière, & Quinsey, 1995). Greater male than female variance in reproductive success explains greater male mating effort, risk acceptance, and dominance striving. As well, greater male than female variance in reproductive success explains the differences in crime rates as a function of age and sex that are known as the fundamental data of criminology (Daly & Wilson, 1988; Kanazawa, 2003; Kanazawa & Still, 2000; for an extensive review, see Quinsey, Skilling, Lalumière, & Craig, 2004). Spectacular historical demonstrations of male reproductive success are provided by genetic studies of the patrilineages of Niall of the Nine Hostages in Ireland (Moore, McEvoy, Cape, Simms, & Bradley, 2005) and Genghis Khan in central Asia (Zerjal et al., 2003). There have been such huge disparities in patrilineage success associated with political/military dynasties that there is reduced contemporary variation in the Y chromosome (Sykes, 2006).

Because sexual interests have been shaped by reproductive success in ancestral environments, rape is expected to be directed at reproductively relevant targets and involve reproductively relevant behaviors (Quinsey, 2003). Anything that causes men to disregard the preferred mating strategies of women is expected to increase the likelihood of rape. Anthropological, historical, and psychological evidence suggests that warfare, alcohol intoxication, psychopathic personality characteristics, and misogynist attitudes contribute to rape (for an extensive review, see Lalumière, Harris, Quinsey, & Rice, 2005). Perhaps surprisingly, men who perceive themselves as highly successful with women are more likely than other men to engage in date rape, presumably because, if their current dating partner breaks off their relationship because of sexual coercion, other partners are readily available (Lalumière, Chalmers, Quinsey, & Seto, 1996).

Although women show greater preference than men for traits in sexual partners associated with long term mating strategies, such as resources and status, there is variance among women in their interest in casual relationships (e.g., Landolt et al., 1995; Provost, Kosakoski, Kormos, & Quinsey, 2006). Provost, Troje, and Quinsey (2008) found by examining women's preferences for variations in masculinity among point-light walkers (individuals that are visually represented as a 15-dot point-light motion display on a computer) that women using short-term mating strategies prefer more masculine gait and, therefore, genetic over parental contributions of mating partners more than women using long-term mating strategies—an expected result because short-term partners were unlikely to make parental contributions in ancestral environments. Similarly, women in the fertile phase of their cycle shifted their preference toward more masculine walkers.

Although men interfere with women's reproductive strategies through sexual coercion, women interfere with men's reproductive strategy of paternal investment through cuckoldry. On average, ancestral men who invested in children who were unrelated to them were less reproductively successful then men who invested only in their own biological children. There is evidence for genetic contributions to female infidelity (Cherkas, Oelsner, Mak, Valdes, & Spector, 2004) and cuckoldry is common enough to lead us to expect that men may well have developed psychological adaptations to the threat of it. For example, Volk and Quinsey (2002) showed that men, but not women, were more willing to adopt babies that they believed resembled them (a result to be expected if men have been selected to be more motivated to invest in children that appear to resemble them and this motivation is elicited even under conditions of adoption). In an offender sample, Camilleri and Quinsey (2009a, b) found, in support of the idea that men use sexual coercion to counter sperm competition in committed relationships, that partner rapists often experienced cuckoldry risk events prior to committing their offence and had more such experiences than non-sexual partner assaulters. In a community sample, direct cues of infidelity predicted self-reported propensity for sexual coercion.

Women's motivations for unfaithfulness can involve shopping for a new partner, obtaining material advantages, and obtaining better genes for their offspring. "Better" can mean several things in this context: For example, Garver-Apgar, Gangestad, Thornhill, Miller, and Olp (2006) found that, as major histocompatibility complex similarity in romantically paired couples increased, women's sexual responsivity to their partners decreased and their number of extra-pair sexual partners increased. This preference would likely result in more immunocompetent offspring.

There are, therefore, opportunities for cooperation and conflict between the sexes in reproductive behaviors. The actual behaviors exhibited by individuals of either sex depend upon a variety of factors that determine their costs and benefits. Sexual coercion is best understood in the context of sexual conflict in which it is clear that rape per se is not a symptom of male pathology because it can enhance a man's fitness by increasing his partner number or (in committed relationships) his paternal certainty. Sexual assault may also increase a man's fitness because it can serve to secure a long-term sexual partner. Ellis, Widmayer, and Palmer (2009) found, in a survey of college students, that women who failed to prevent a sexual assault from eventuating in intercourse were more likely to continue to date their assailant (27%) than women who blocked the assault (19%).

Individual Differences

Marked individual differences among men in their propensity to commit rape have been well documented. Some rapists commit large numbers of offences—once an offender has committed a second rape, he is highly likely to persist (Lalumière et al., 2005).

One possibility is that this propensity simply reflects variations in antisociality (as defined by antisocial personality disorder or psychopathy). In fact, psychopathy is related to rape to the extent that it has been argued that precocious and coercive sexuality is one of its defining features (Harris, Rice, Hilton, Lalumière, & Quinsey, 2007). A recent study of self-reported rape in a Finnish male twin sample (Johansson et al., 2008) concluded that psychopathy, alcohol use, and sexual coercion were positively correlated. Heritability coefficients were 60, 54, and 28% for alcohol use, psychopathy, and sexual coercion, respectively. A proportion of the variance in sexual coercion was derived from a highly genetic source that was common with alcohol use and psychopathy. The remainder of variance in sexual coercion was accounted for by non-shared environmental effects.

Although highly antisocial men are much more likely to commit rape than less antisocial men, antisociality appears unlikely to be the only relevant individual difference. Only a small proportion of men diagnosed as antisocial personality disorder or even as psychopaths have been identified as rapists. Not all rapists are diagnosed with antisocial personality disorder, although the proportion is high. Fewer rapists meet the more restrictive criteria of psychopathy, although the proportion of psychopaths is considerably higher among rapists than among child molesters (for a review, see Lalumière et al., 2005).

A second possibility is that the propensity to commit rape reflects sexual interest in coercive sexual acts. In this regard, the most extensively studied characteristic of rapists is their phallometrically measured sexual interest in portrayals of sexual acts varying in coerciveness. A meta-analysis of these studies indicated a large effect size (.82) in differentiating identified rapists from other men (Lalumière, Quinsey, Harris, Rice, & Trautrimas, 2003). My colleagues and I have con-

ducted five phallometric studies of rapists over a 22 year period, all of which have significantly differentiated rapists from non-sex offender offenders, including a group of offenders that had physically assaulted women (Lalumière et al., 2003; Quinsey & Chaplin, 1984; Quinsey, Chaplin, & Upfold, 1984; Quinsey, Chaplin, & Varney, 1981; Rice, Chaplin, Harris, & Coutts, 1994). This is a striking illustration of robust discriminant validity.

Phallometric data show that roughly 60% of rapists show equal or greater sexual arousal to depictions of rape than consensual sex, whereas only 10% of non-rapists do (Lalumière et al., 2003). There is some evidence that phallometric assessment results predict subsequent sexual offending (Greenberg, Firestone, Bradford, & Greenberg, 2002; Rice, Harris, & Quinsey, 1990).

The phallometric data on rapists raise the question as to whether rapists might be sexual sadists. It is true that rapists are best discriminated by descriptions of brutal rape depictions—softer stimuli, "dates gone wrong," do not differentiate rapists from non-rapists nearly so well. Mild sadistic stimuli, such as descriptions of bondage and spanking with either enthusiastic or reluctant partners, do not differentiate rapists from non-rapists (Quinsey et al., 1984). The same study, however, showed that descriptions of severe non-sexual violence did differentiate rapists from non-rapists with female but not (as expected) with male victims. Phallometric responses to non-sexual violence were significantly correlated with victim injury in previous sexual offences (Quinsey & Chaplin, 1982). The small phallometric literature directly examining sadism among rapists has involved small samples and yielded inconsistent results, at least partly because of varying reliability in the diagnosis of sadism (for a review, see Lalumière et al., 2005). While it is clear that some rapists commit what anyone would agree are sadistic offences, it does not appear that most rapists meet the criteria for sexual sadism.

To return to the issue of whether antisociality is sufficient to account for individual differences in the propensity to commit rape, there are positive, but modest, correlations between psychopathy and phallometrically measured sexual interest in rape depictions among rapists (studies reviewed in Lalumière et al., 2005), suggesting that antisociality is insufficient in itself. More direct evidence comes from follow-up studies of sex offender recidivism. If antisociality and sexual interest in rape depictions independently or interactively predict sexual recidivism, both must be important. Several studies have found an interaction between psychopathy and phallometrically measured sexual deviance in predicting sexual recidivism among mixed samples of sex offenders (Gretton, McBride, Hare, O'Shaughnessy, & Kumka, 2001; Rice & Harris, 1997), such that men who are both psychopathic and sexually deviant are uniquely likely to reoffend. Hildebrand, de Ruiter, and de Vogel (2004) found a similar interaction between psychopathy and clinician ratings of sexual deviance in a group composed exclusively of rapists. This interaction between psychopathy and sexual deviance used as predictors of sexual recidivism is clear evidence that the propensity to commit rape is a function of both variables.

The Question of Pathology and Diagnosis

To recapitulate, sexual coercion is a manifestation of sexual conflict that is not in itself pathological. There are, however, differences among men in their propensity to commit rape and this propensity is linked to antisocial personality characteristics and relatively more sexual interest in brutal rape depictions.

By Wakefield's (1992) definition, rape-proneness meets the value criterion because rape is generally societally condemned and can lead to incarceration or retribution from husbands or relatives of the victim. It is doubtful, however, that rape represents a malfunction of the male sexual preference system because the victims are generally women of fertile age and the behavior increases a man's number of sexual partners and, thus, his fitness. This is neither to deny that rape-prone men have dominance and aggressive aspects of the male courtship system (Freund & Seto, 1998) tuned very high nor that they may qualify for a diagnosis of antisocial personality disorder.

From Wakefield's perspective, it could be argued that rapists who engage in oral or anal intercourse do suffer from a pathology because their behaviors are manifestly reproductively irrelevant. Of course, the issue does not arise if, in addition to oral and anal penetration, the offender ejaculates in the vagina. These observations are not meant to imply that rapists who engage in vaginal intercourse are consciously trying to have babies, any more than individuals who engage in consenting sexual behavior (usually) are.

At present, it is unknown what proportion of rapists engage exclusively in oral or anal intercourse or whether *any* actually prefer these activities. If we assume that such individuals exist, one possible, though not satisfying, answer is that the selection for male sexual interest is not very precise, i.e., it simply directs sexual behaviors to the right body shape but doesn't specify the behaviors in any detail. Another, somewhat more satisfying, answer is that the preference for sexual coercion includes hyperdominant motivations, which fellatio and anal intercourse express.

There are, however, some empirical data that are relevant to this kind of question. Walker (1997) examined the seriousness of offences among sex offenders over time from self-report and official data (for a description of this study, see Lalumière et al., 2005). Offenders who started with hands-off offences usually did not escalate. Offenders who started with hands-on offences often escalated toward vaginal intercourse. Those who "overshot" and injured their victims came back to intercourse. These data appear to indicate that both hyperdominance and learning are involved.

Note that this way of looking at the diagnosis of coercive paraphilic disorder implies that pedophilia is a paraphilic disorder (because the behavior is generally despised and is directed toward non-reproductive individuals) but that homosexuality is not (the behavior is not generally despised nowadays in Western societies, although it never leads to reproduction). As an aside, it is also unlikely, using Wakefield's criteria, that antisocial personality would be considered to be pathological, in part because highly antisocial individuals tend to have children earlier (for a review, see Quinsey et al., 2004).

Because I think that coercive paraphilic disorder does not fulfill the criteria for a pathology, I have not addressed the issues of diagnostic criteria nor the practical or policy difficulties that the diagnosis may or may not entail (e.g., First & Halon, 2008; Packard & Levenson, 2006; Prentky, Coward, & Gabriel, 2008; Zander, 2008). It is clear, however, that there are identifiable personal characteristics of rape prone men that differentiate them from others. Should Wakefield's conceptualization of pathology not be adopted in this context, a workable set of criteria for diagnosis could likely be developed. These criteria would include frequency of the behavior, sexual arousal to rape cues, and a measure of antisociality, such as the Psychopathy Checklist-Revised or quantified Antisocial Personality Disorder criteria (Skilling, Harris, Rice, & Quinsey, 2002). With respect to sexual arousal, phallometric assessment is the best current alternative, although it is not commonly available and requires considerable standardization work. It is likely that more direct measures of brain activity will be developed in the future to address this issue. In short, rigorous diagnostic criteria for coercive paraphilic disorder could be developed that would permit standardization of assessment methods, calculation of inter-examiner agreement coefficients, and sensitivity and specificity analyses.

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