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Hebephilia as Mental Disorder? A Historical, Cross-Cultural, Sociological, Cross-Species, Non-Clinical Empirical, and Evolutionary Review

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Abstract Blanchard et al. (2009) demonstrated that hebephilia is a genuine sexual preference, but then proposed, without argument or evidence, that it should be designated as a mental disorder in the *DSM-5*. A series of Letters-to-the-Editor criticized this proposal as a *non sequitur*. Blanchard (2009), in rebuttal, reaffirmed his position, but without adequately addressing some central criticisms. In this article, we examine hebephilia-as-disorder in full detail. Unlike Blanchard et al., we discuss definitions of mental disorder, examine extensive evidence from a broad range of sources, and consider alternative (i.e., non-pathological) explanations for hebephilia. We employed Wakefield's (1992b) harmful dysfunction approach to disorder, which holds that a condition only counts as a disorder when it is a failure of a naturally selected mechanism to function as designed, which is harmful to the individual in the current environment. We also considered a harmful-for-others approach to disorder (Brülde, 2007). Examination of historical, cross-cultural, sociological, cross-species, non-clinical empirical, and evolutionary evidence and perspectives indicated that hebephilic interest is an evolved capacity and hebephilic preference an expectable distributional variant, both of which were adaptively neutral or functional, not dysfunctional, in earlier human environments. Hebephilia's conflict with modern society makes it an evolutionary mismatch, not a genuine disorder. Though it should not be classified as a disorder, it could be entered in the *DSM*'s *5*-code section, used for non-disordered conditions that create significant problems in present-day society.

Keywords Hebephilia · Mental disorder · Harmful dysfunction · *DSM-5*

Introduction

Hebephilia refers to the sexual preference for early pubertal persons (Glueck, 1955). Blanchard et al. (2009) specified hebephilia's target ages as generally from 11 to 14 years, as opposed to those for pedophilia (under 11—i.e., prepubescents), ephebophilia (15–19—i.e., older adolescents), and teleiophilia (above 19—i.e., fully mature adults). Using a large sample of men referred mostly by criminal justice sources for clinical assessment, Blanchard et al. sought to validate the concept of hebephilia—i.e., to show that some men prefer early pubertal persons. Finding concordance between self-reported preferences for 11- to 14-year-olds and maximal penile response to depictions of pubescent minors in a subgroup of their sample, they concluded that "hebephilia exists" (p. 347). Next, without argument or evidence, they asserted that hebephilia should be included as a mental disorder in the *DSM-5*.

A series of Letters-to-the-Editor criticized the Blanchard et al. (2009) study (DeClue, 2009; Franklin, 2009; Green, 2010; Janssen, 2009; Kramer, 2011; Moser, 2009; Plaud, 2009; Tromovitch, 2009; Zander, 2009). Criticisms were methodological, conceptual, and extra-scientific. Conceptual criticisms centered on the study's failure to define mental disorder, providing no rationale for why hebephilia should be classified as one, and yet concluding that it should be. Extra-scientific criticisms questioned the motives behind the proposal and expressed concerns that the proposal, when implemented, would be harmful to individuals and society. For example, Zander argued that the designation would assist government in civilly committing for life adults whose behavior is

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legal in other contemporary societies and was normal in other time periods. Blanchard (2009), the lead author of the study, responded.[1] He focused mainly on certain methodological criticisms, briefly considered some conceptual issues, but did not address the extra-scientific concerns. He concluded that the methodology was sound and that, in consequence, hebephilia remains properly classifiable as a mental disorder.

Several considerations suggest that in-depth scrutiny of the Blanchard et al. (2009) recommendation is warranted. The Letters-to-the-Editor were, by convention, limited to brief remarks and analyses, and Blanchard's (2009) rebuttal, as we show, did not adequately address various key scientific criticisms. The extra-scientific concerns raised are legitimate, as well, in assessing the proposal because of psychiatry's history of harmfully misdiagnosing various sexual behaviors and dispositions as pathologies (Foucault, 1978; Green, 2010; Moser, 2009; Singy, 2010; Szasz, 1990; Wakefield, 1992b, 2007). In the present review, however, we shall focus on the scientific concerns. The purpose of this article is to scientifically scrutinize hebephilia and its relation to mental disorder. We begin with our own critique of the Blanchard et al. (2009) study and Blanchard's (2009) rebuttal to help determine direction for the scrutiny.

Blanchard et al. (2009) Study, Commentaries, and Blanchard's (2009) Rebuttal

We classified the commentators' criticisms of the Blanchard et al. (2009) study into five categories (three scientific and two extra-scientific), as shown in the first column of Table 1. In Column 2, we listed examples. In Columns 3–11, we indicated which of the commentators offered criticisms in each category. In the last column, we rated the quality of Blanchard's (2009) rebuttal with respect to each category of criticism from the first wave of critics. We concluded that Blanchard inadequately responded to the issue of conceptual validity (i.e., whether hebephilia validly fits the concept of mental disorder), adequately responded to methodological points, and inadequately responded to the call for use of broader perspectives.

Conceptual Validity

Wakefield (1992a, b, 1999a, 2007) noted that disputes about which conditions or dispositions should be classified as disorders have been among the most heated in the mental health field, owing to the historical lack of clarity regarding what constitutes "mental disorder"—the first two editions of the *DSM* did not offer a definition—in combination with the broad and serious implications such classifications can have on policy and persons. He critiqued the definition of mental disorder provided in the *DSM-III*, developed under the leadership of psychiatrist Robert Spitzer, and offered what he considered to be an improved conceptual approach, which Spitzer later endorsed and recommended for adoption in the *DSM-5* (e.g., Spitzer, 1999). Wakefield's definition, in turn, has generated considerable discussion in the mental health field (e.g., in special issues of the *Journal of Abnormal Psychology* in 1999 and *World Psychiatry* in 2007), providing ample conceptual material for arguing what properly counts as a mental disorder. Of central relevance to Wakefield's definition is his notion of "conceptual validity," by which he means validity in discriminating disorder from nondisorder (Wakefield, 1992a), which is determined by assessing the extent to which a given condition fits or does not fit the concept of mental disorder. This concept, which is the focus of many of his works (e.g., Wakefield, 1992a, b, 2007), centers on the notion of dysfunction (i.e., something has gone wrong with an internal mechanism as designed by evolution), which has harmful consequences for the individual in the present environment. He calls this the harmful dysfunction (HD) approach to classifying disorder. Though dysfunction has often not appeared in other proposed definitions of disorder, it has generally been implicit, he argued.

Wakefield's HD approach—as well as his critics' differing formulations (e.g., Brülde, 2007; Gold & Kirmayer, 2007; Lilienfeld & Marino, 1995, 1999; Richters & Hinshaw, 1999) and his supporters' additional clarifications (e.g., Klein, 1999; Nesse, 2007; Spitzer, 1999)—provides a significant foundation for debating the mental disorder attribution of any condition or disposition, including hebephilia. None of the many points, ideas, or arguments in these debates or from any other sources appeared in the Blanchard et al. (2009) study. Blanchard et al.'s critics were justified in faulting the study for lacking rationale for its proposal.

In Blanchard's (2009) rebuttal, after conceding that the original study omitted a definition of mental disorder and a consideration of whether hebephilia would fit it, he wrote that the original article "perhaps" should have included a statement like that in *DSM-IV-TR* (American Psychological Association, 2000, pp. xxx–xxxi). This would have been an opportune point to describe that statement and defend his implication that it does, in fact, fit hebephilia, but he did not do so. Notably, this statement cautions that "it must be admitted that no definition adequately specifies the precise boundaries for the concept of 'mental disorder'" (p. xxx), that mental disorders have been defined by a variety of concepts, such as "distress, dysfunction, dyscontrol, disadvantage, disability, inflexibility, irrationality, syndromal pattern, etiology, and statistical deviation" (p. xxxi), and that each of these is a useful indicator of mental disorder but none is equivalent to it. It might be argued that some or many of these attributes fit hebephilia in the present environment, but the same can be said of homosexual ephebophilia and teleiophilia, which Blanchard et al. do not consider to be disorders. In other words, this *DSM-IV-TR* statement has problems in conceptual validity (cf. Wakefield, 1992b). As such, it would have been useful to bring in some of the ideas that emerged from the Wakefield discussions. What Blanchard did instead was to assert

[1] Blanchard (2009) responded to the first six commentaries offered. Three others appeared too late for Blanchard to consider (i.e., Green, 2010; Kramer, 2011; Moser, 2009).

Table 1 Criticisms of Blanchard et al. (2009) by nine commentators and Blanchard's (2009) response quality

Category of criticism	Examples of criticisms	D	F	G	J	K	M	P	T	Z	Blanchard's response quality
Conceptual validity	New diagnosis without logic, evidence, or definition of mental disorder	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	Inadequate
Methodology (study features)	Non-deviant controls not used; omitted models aged 15–18; excluded 61 % of sample; diagnosis is unreliable; hebephilia is heterogeneous		⊙					⊙		⊙	Adequate
Broader perspectives	Should discuss other countries, cultures, multi-stranded input from other disciplines. Hebephilia is adaptive evolutionarily.		⊙	⊙	⊙	⊙	⊙			⊙	Inadequate
Implications (social–legal)	Has serious real world implications (e.g., civil commitment for life; facilitate false accusations; may create thought crimes)	⊙	⊙	⊙		⊙	⊙			⊙	Not addressed
Motives and context	Values masquerading as science; linked to moral panic, civil commitment; DSM is used to legitimize governmental agendas; clinicians serve forensics not science; psychiatry has abusive history in diagnoses	⊙	⊙		⊙	⊙	⊙				Not addressed

Judgments of quality (inadequate or adequate) for Blanchard's (2009) rebuttal to the points are explained in the text. Green's, Kramer's, and Moser's commentaries appeared too late for Blanchard (2009) to consider

Commentators were: *D* DeClue, *F* Franklin, *G* Green, *J* Janssen, *K* Kramer, *M* Moser, *P* Plaud, *T* Tromovitch, *Z* Zander

that "If pedophilia is included in the *DSM*, then hebephilia should be included also" (p. 331), with no elaboration as to why. This response to his critics on the issue of the conceptual validity was inadequate.

On the other hand, earlier in the Blanchard et al. (2009) article, it could be argued, the elements of a rationale for designating hebephilia as a mental disorder are present (although scattered). Blanchard et al. noted that adult-pattern sexual development of pubic hair and breasts in females and pubic hair and genitalia in males occurs between ages 13 and 16, depending on the feature. That is, by age 15 most females and males will have achieved this adult pattern. Several paragraphs later they stated that "Few would want to label erotic interest in late- or even mid-adolescents as a psychopathology" (p. 336), indicating that they take obtainment of *adult-pattern* sexual development in partners or target individuals to be essential for normal adult erotic interest. Six paragraphs later they stated that, if penile responses are shown to be maximally hebephilic for some men, then this would "imply that the current *DSM* definition of pedophilia is excluding from specific diagnosis a considerable proportion of men who have a persistent preference for humans at an *incomplete stage* of physical development" (p. 337, italics added). Piecing these elements together, in their model of normal adult erotic interest, completed sexual development in target individuals of main interest is essential. Thus, ephebophilia (ages 15–19) is grouped with teleiophilia as nonpathological because completed sexual development is often obtained by age 15. Hebephilia (ages 11–14) is grouped with pedophilia as pathological because completed sexual development is usually not obtained up through age 14. This sort of classification can be said to be Roschian, where conditions or dispositions are categorized by similarity with prototypical categories (Wakefield, 1999a, b). As Wakefield showed, however, the Roschian approach to mental disorder has problems in conceptual validity, one being that the classifier is free to subjectively choose which features of similarity to use and which to ignore, which can too easily lead to misclassification, as in the case when values underlie subjective choice.

For example, with regard to adult male same-sex erotic interest, the ancient Greeks and Romans (and other cultures to be reviewed later), with different value systems, grouped hebephilic and ephebophilic attractions together and considered them both normal, but separated teleiophilic attractions into their own category and derogated them (cf. Lear & Cantarella, 2008; Williams, 1999). With regard to heterosexual attractions, before the twentieth century, under different values, puberty rather than full sexual maturity was the usual criterion for acceptable male erotic interest in females (Bullough, 1990, 2004). These examples illustrate the cultural nature of such classifications and suggest that those of Blanchard et al. were of the same type, as they conveniently concord with early twenty-first century Western (especially Anglophone) values. For them to have scientific validity, the view that *completed* sexual maturity of partner or target is essential for normality has to be developed and defended, rather than axiomatically assumed. As Wakefield (1999a, b) showed, a significant failing of the Roschian approach to classifying mental disorder is its acceptance of contemporary norms and values as valid criteria, which has underlain a series of misdiagnoses of disorders in the past, including drapetomania (the "disorder" that afflicted slaves who ran away from their masters), childhood masturbation, vaginal orgasm, and homosexuality.

Methodology

Blanchard's (2009) rebuttal was mostly devoted to methodological criticisms. He appeared to successfully defend the conclusion

that his study validly identified a subgroup of men whose maximal erotic interest was to early pubertal persons, which was the stated goal of the study, so we rated his response to the critics on methodological concerns as adequate (see Table 1), even though certain methodological points may be debatable. We choose not to quibble so as not to distract from the main point: no amount of argumentation on the validity or reliability of a statistical relation between two measures (here, verbal report and penile response) can salvage the validity of an invalid or conceptually dubious construct (here, hebephilia as mental disorder). That is, statistical conclusion validity may be necessary, but it is not sufficient to establish research conclusion validity. This is the problem inherent in Blanchard's (2009) attempt to uphold his claim that hebephilia is a genuine mental disorder by devoting most of his rebuttal to methodological criticisms rather than homing in on why he believes hebephilia fits the concept of mental disorder.

Broader Perspectives

Several commentators criticized Blanchard et al. (2009) for not taking into account broader realms of research. Franklin (2009) argued that their treatment of hebephilia proceeded as if it exists in a cultural vacuum when such attractions between older males and pubescent girls are evolutionarily adaptive. Zander (2009) complained that they failed to consider that many other societies view sex with 14-year-olds as legal and that many other cultures have sanctioned marriage between older males and younger adolescent females. Janssen (2009) criticized them for ignoring entirely the multi-stranded discussions on sexuality over the last 30 years, which have occurred within and across the humanities, history, and the social sciences.

Blanchard et al. (2009) did touch on cultural and evolutionary considerations, but only briefly and superficially.[2] On the whole, they offered no perspective beyond the clinic and contemporary Western mores, morals, attitudes, and laws. In Blanchard's (2009) rebuttal, except for a single side comment,[3] he ignored criticisms on the need for broader perspectives. Following Wakefield's (2007) observation that "we often adjust our views of disorder based on cross-cultural evidence that may go against our values," we rated Blanchard's response to this category of criticism as inadequate.

Focusing on clinical and forensic material in reference to sexual behavior and dispositions, ignoring broader realms of research, and then drawing general, universal conclusions is not scientifically and sexologically sound (Bullough, 1976; Ford & Beach, 1951; Kinsey, Pomeroy, & Martin, 1948). Kinsey et al. (1948) criticized clinicians for drawing upon morals coupled with anomalous clinical case studies to deduce what constituted abnormal sexual behavior across the human species. Their approach was to expand the data base with large numbers of individuals from the general population who did not have problems by definition, as patients and prisoners do. Ford and Beach (1951) argued that the scope needed even further broadening because culture so profoundly affects sexual behavior. To determine whether patterns for particular types of sexual behavior obtained, they conducted extensive cross-cultural reviews. To determine whether observed human sexual behavior patterns were re-invented from one culture to the next or had evolutionary roots, they argued for, and then conducted, extensive cross-species analyses. Bullough (1976) added that historical analysis is also essential, as it can help to correct for the all-too-common bias in both lay persons and professionals of assuming that dominant sexual behavior patterns in their society and personal preferences are not only natural but inevitable while other variations are abnormal, when historical perspective may show otherwise. The broader perspectives of Kinsey et al., Ford and Beach, and Bullough contradicted clinical theorizing on abnormal sexual behavior in many areas (e.g., masturbation, homosexuality, sexual behavior among immature individuals). The broad perspective is more compatible with valid science, as it openly deals with issues of external validity (i.e., generalizability) and improves internal validity (i.e., causation) by taking into account multiple relevant factors that can influence sexual behavior patterns. The broad perspective understands that morals are culturally constructed and therefore does not conflate morality with normalcy, as the narrow clinical approach often has done.

Implicitly or explicitly universalizing claims about human behavior based on narrow data sources and perspectives from the contemporary West is a pervasive practice in psychological writings (Henrich, Heine, & Norenzayan, 2010). But it is often erroneous, as Henrich et al. showed in a review of cross-cultural data across numerous behavioral domains. They showed that, among the world's cultures, Westerners are outliers and Americans are outliers among the outliers. This bias, they argued, traces in large part to the West's advanced technology, which has radically altered the physical–social environment and consequently Western behavior patterns. They advised that "we need to be less cavalier in addressing questions of human nature on the basis of data drawn from this particularly thin, and rather unusual, slice of humanity" (p. 1).

Blanchard et al.'s (2009) assertion that hebephilia is a mental disorder is a universal claim concerning human nature, one made cavalierly in that it was offered without argument or evidence, and one that was informed by particularly narrow data sources and perspectives (i.e., American-Canadian, clinical-forensic). As per Henrich et al. (2010), such universalizing may be "normal science" as practiced in the field, but that is not the same as being valid science. It repeats the narrow approach to classification of abnormal sexual behavior, which Kinsey et al. (1948) and Ford and Beach (1951) criticized as flawed. Valid universal claims,

[2] They wrote two sentences on cultural attitudes regarding menarche's significance and one on male preference for fecund females as being seen by evolutionary psychology as adaptive.

[3] His side comment was to wonder whether Franklin (2009) would also draw a distinction between homosexual pedophilia and hebephilia on grounds of evolutionary adaptiveness, as she apparently had in the heterosexual case.

especially those concerning sexual behavior, require broad-based cross-cultural (and historical) evidence and perspectives. Hebephilia is no exception.

Conclusions

Shortcomings in the Blanchard et al. (2009) study undermine the validity of its recommendation. It did not define mental disorder, it included hebephilia as one without rationale, it did not consider non-pathological alternative hypotheses, and it did not examine data or perspectives beyond the Western clinical-forensic realm. Notably, considering and ruling out alternative hypotheses is essential to scientifically valid explanation. In the scrutiny to follow, we provide a working definition of mental disorder, consider alternative hypotheses, and take into account broad-based evidence and perspectives.

HD Approach

Wakefield's (1992a, b, 2007) HD approach overcomes the weaknesses in the Blanchard et al. (2009) study and is used in the analysis of hebephilia to follow. His definition of mental disorder has superior conceptual validity and falsifiability compared with alternatives such as the oft-used Roschian approach. His approach is fundamentally concerned with considering alternative hypotheses (i.e., disorder vs. non-disorder). And it embraces the broad perspective, including cross-cultural, cross-species, and evolutionary analyses. We will take each of these perspectives into account, as well as historical, sociological, and non-clinical empirical considerations. In using Wakefield's HD approach, we shall keep in mind some important caveats to reflect concerns of his critics (see below). Next, for background, we review aspects of the HD approach, including terms and concepts, which will be used throughout this article.

HD Analysis

Wakefield (1992b, 1999a, 2007) criticized the traditional "pure values approach," often formulated in Roschian terms and seeing disorder as the failure to adjust to contemporary social norms and values (e.g., Houts, 2001; Kirmayer & Young, 1999; Lilienfeld & Marino, 1995, 1999; Richters & Hinshaw, 1999), as having poor conceptual validity. For example, according to the norms and values of the antebellum South, slaves who tried to escape *were* mentally disordered, and according to Soviet values, political dissidents *were* mentally disordered. Wakefield argued that a pure values approach does not successfully distinguish many negative conditions (e.g., ignorance, criminality, moral weakness) from true disorders because values alone are not sufficient. He also criticized the skeptical argument that mental disorder is a myth as going too far the other way (e.g., Foucault, 1965, 1978; Sarbin, 1967, 1969; Szasz, 1974, 1990)—this argument was a reaction to what skeptics saw as the excesses of the pure values approach. Against the skeptical view, he argued that many mental processes, like physical ones, have been *naturally selected* (i.e., produced by natural selection) to perform functions. Like physical mechanisms, whose breakdown can be harmful to the individual, such mental mechanisms that break down and no longer adequately perform their functions can be harmful as well. The breakdown of a naturally selected mental mechanism constitutes a dysfunction, which is a factual matter. The conclusion that this breakdown is harmful is a value judgment. Wakefield (1992b) combined these factual and value components to construct a hybrid definition of mental disorder, which formally states that a mental disorder is a condition that results from the inability of some mental mechanism to perform its natural function, in which the individual is harmed as a result, as judged by the standards of the individual's society.

In the HD approach, which is rooted in evolutionary psychology, some important concepts follow. An *adaptation* is a fitness-enhancing mechanism, physical or mental, which was naturally selected in the evolutionary past, because it solved some *adaptive problem* (i.e., a recurring challenge then in need of solution) (Buss, Haselton, Shackelford, Bleske, & Wakefield, 1998; Cosmides & Tooby, 1999). Adaptations were *designed* by evolution to perform particular natural functions, where "designed," as often used by evolutionists, is metaphorical for having been constructed from non-teleological natural processes (Wakefield, 1992b). *Natural functions* are the purposes served by adaptations, as designed by natural selection. *Design features* are the component parts of adaptations. Identifying them can help to accurately describe an adaptation's function. The modification of an existing adaptation (or even a fitness-neutral character) to serve some new natural function constitutes an *exaptation* (Buss et al., 1998). The environment in which an adaptation or exaptation was naturally selected is the mechanism's *environment of evolutionary adaptedness* (EEA). The EEA for many *evolved psychological mechanisms* (i.e., naturally selected mental mechanisms) in humans, including various sexual ones, was hunter-gatherer, comprising over 95 % of the existence of *Homo sapiens*.[4] Examples of evolved psychological mechanisms include linguistic, fear, and tiredness adaptations, whose functions involve communication, danger avoidance, and sleep when working according to evolutionary design, but which can break down into aphasia, phobia, and insomnia when not (i.e., when *dysfunctional*) (Wakefield, 1992b).

What is centrally important for evolutionary psychological analysis is the principle that the function of an adaptation (or exaptation) is tied to the adaptation's (or exaptation's) EEA, where the function conferred a fitness-enhancing benefit, *not* to the current environment.[5] As such, a designed mechanism (i.e.,

[4] Many evolved psychological mechanisms may also have had their origins among prehuman ancestors (i.e., in environments before the human hunting–gathering era) (Buller, 2009). Such origins are considered in this article for hebephilic behavior.

[5] Data on extant or historical low-tech, small-scale societies reflect to a great degree (much more so than the modern West) the hunter-gatherer existence in the EEA, and as such are especially useful for inferring human nature, as

adaptation or exaptation) may be currently less than optimal, no longer useful, or outright harmful. When a designed mechanism performs sub-optimally or entails harmful consequences when activated and expressed in a novel or hostile environment, constituting a *mechanism–environment mismatch*, various writers have argued that it constitutes a disorder even though there is no underlying dysfunction (e.g., Kirmayer & Young, 1999; Lilienfeld & Marino, 1995, 1999; Richters & Hinshaw, 1999). Wakefield (1999a, b) argued that this view is erroneous, because it confuses current adjustment with design failure. For example, he argued, Jews in Nazi Germany were lethally mismatched with their environment but did not have a religious disorder, persons trapped under water will be unable to breathe and may drown but do not have a lung disorder, and dark moths transported to a light environment, where they can easily be preyed upon, do not have a coloring disorder. When a mechanism functions as designed, but its expression is maladaptive in the current environment, the individual is unlucky, not disordered.

The HD approach holds dysfunction of an underlying mechanism to be necessary for a condition to be a disorder, but not sufficient. Failure of designed mechanisms may be neutral with respect to the current environment, as in fused toes and reversal of heart position, which are not considered disorders (Wakefield, 1999a, b), or they may even be beneficial and likewise not viewed as a disorder, as in absent or low functioning male aggressiveness and male coalitional behavior, which were useful and necessary in the EEA but can be highly maladaptive today (Cosmides & Tooby, 1999). Thus, harm is also necessary for a condition to be a disorder. In the case of humans, harm connected to the expression of a designed mechanism may be of clinical concern (Bolton, 2007), but that is different from calling the condition a disorder. The *DSM*'s 5-code is an acknowledgement that conditions can be problematic without being disorders (Wakefield, 1999a).

The chief benefits of Wakefield's HD approach to mental disorder are its superior conceptual validity compared to alternative approaches (Klein, 1999; Spitzer, 1999; Wakefield, 1999a, b), its returning biological function to psychiatry to bring it in line with the rest of medicine (Nesse, 2007), and its safeguarding dissidents, nonconformists, and other social deviants from being arbitrarily labeled mentally disordered just because it is in the interest of dominant groups to do so (Cosmides & Tooby, 1999; Klein, 1999; Wakefield, 1999a).

Caveats Regarding the HD Definition

Side effects (e.g., from design constraints) of adaptations are referred to as *by-products*. They solve no adaptive problems (i.e., serve no function) but persist (i.e., continue to be carried along with the adaptations in descendents) because they are not harmful to fitness (Buss et al., 1998). Critics of the HD approach have argued that evolved but fitness-neutral traits such as by-products should be considered disorders if they are harmful in the present environment (e.g., Brülde, 2007; Gold & Kirmayer, 2007; Lilienfeld & Marino, 1995, 1999). However, given that harmfully mismatched functional traits should not considered disordered, as just discussed, the same logic rules out harmfully mismatched neutrally-evolved traits as disorders (cf. Cosmides & Tooby, 1999; Wakefield, 1999a, b). Carriers of environmental mismatches, whether adaptations *or* evolved but fitness-neutral traits, are unlucky, not disordered. This conclusion applies to other fitness-neutral products of evolutionary processes including *noise* (i.e., random effects via mutation) (Buss et al., 1998) and *vestigial traits*, which were adaptations in ancestral species but have since lost their function (Brülde, 2007; Gold & Kirmayer, 2007).

Unlike the biological exaptations discussed previously, *cultural exaptations* are not products of natural selection. They are human co-optations of evolved capacities for new cultural purposes (e.g., new traditions) (Wakefield, 1999a). Though some critics of the HD approach have viewed failures to conform to cultural exaptations as disordered, such classification risks making psychiatry an instrument of social control rather than scientific medicine (Klein, 1999; Wakefield, 1999a)—e.g., as in labeling political dissidents disordered. The vast majority of failures of cultural exaptations are, in fact, not considered disorders (Wakefield, 1999b). Only when they stem from underlying dysfunctions should they be—illiteracy from lack of practice is not a disorder but it is when from corpus callosum impairment.

Another important consideration concerns trait values across trait distributions, which is relevant to Blanchard et al.'s (2009) preference criterion. Lilienfeld and Marino (1995) criticized the HD approach by arguing that extreme trait values may well represent disorders, even though they presumably would not be seen as dysfunctions from an evolutionary perspective, being part of "normal variation." Wakefield's (1999a) response was that there is no necessary connection between being part of a normal statistical distribution and being functionally normal. Design failures may show up at selected values. Ranges of adequately performing trait values are often evolutionarily determined (e.g., IQ; male sexual responsiveness). Extreme values, however, fall outside this range (e.g., mental retardation; primary impotence) and represent harmful dysfunctions and thus disorders.

A final consideration is the HD specification that disorder is harm to the *individual* resulting from a dysfunction. Brülde (2007), likely speaking for many mental health professionals, argued that the harmful-to-the-individual criterion is inadequate, as a harmful-for-others judgment is what underlies mental disorder attributions in certain cases. Money (1984) and Sadler (2009) documented that harm to others and forensic considerations, rather than personal pathology, have lain behind clinical attributions of mental disorder for various conditions. Brülde (2007) cited pedophilia as a model instance of mental health professionals' use of the harmful-for-

Footnote 5 continued
opposed to being ignored or dismissed in favor of Western patterns (Henrich et al., 2010).

others criterion (see also O'Donohue, Regev, & Hagstrom, 2000; Spitzer & Wakefield, 2002). This criterion, however, is problematic. Many Nazis and Klansmen, for example, who habitually committed great harm to others, were mentally normal. They would be labeled by many as *criminal* rather than *mentally disordered* (cf. Singy, 2010), illustrating conceptual validity problems with the harmful-for-others criterion.

Assessing Hebephilia in the Current Review

It follows from the foregoing discussion that if hebephilia is an adaptation or exaptation, then it is not a mental disorder. In a hostile (i.e., significantly mismatched) environment such as ours, it may be problematic, possibly worthy of a *V*-code entry, but, because it is not dysfunctional, it is not a disorder. If its expression stems from an actual dysfunction such as poor impulse control, causing harm for the actor in the current environment, then the actor may have a disorder, but not hebephilic disorder (Moser, 2009). The same conclusions apply if hebephilia is an evolutionary by-product, noise, or vestigial trait, as these are fitness-neutral products of evolution, not dysfunctions.

As cross-cultural reviews indicate (e.g., Ford & Beach, 1951; Greenberg, 1988; Gregersen, 1983), current Western sexual patterns are cultural exaptations to a great extent, where, from the many sexualities possible, a narrow set has been co-opted and substantially modified for particular ends that exclude hebephilic expression as legitimate. This co-optation and modification are related to ideologies, the social structure, and economic arrangements peculiar to our culture (Greenberg, 1988). Sexual desires and behavior contrary to sanctioned forms can be harmful to actors, but violations of cultural exaptations are not mental disorders in themselves (Klein, 1999; Wakefield, 1999a, b). That is, hebephilia is not a mental disorder simply because it is disapproved and counternormative.

Returning to the harmful-for-others criterion, taking it into account to assess hebephilia, despite its poor conceptual validity, is arguably still relevant because, in many contexts, the effects on the pubertal person may have fitness implications for the hebephilic actor, bringing us back to the harmful-to-the-individual criterion of the HD approach. Child sexual abuse researchers have repeatedly maintained that hebephilic interactions are innately and intensely harmful for the younger person (Rind, Tromovitch, & Bauserman, 1998, 2001). If so, then such damage-producing interactions would be expected to come to the attention of other adults, especially in the small-scale social bands in which humans evolved, putting the hebephilic actor at risk for sanctions. Harm to the actor makes the behavior a disorder, if it is also dysfunctional.

Examining reactions of pubertal persons is also relevant for considering alternative hypotheses, specifically functional ones. Some researchers have hypothesized that male homosexual hebephilic tendencies were naturally selected in early humans because they benefited both mature actors and their pubertal partners, following a reciprocal altruism model (e.g., Kirkpatrick, 2000; Muscarella, 2000; Neill, 2009). In reciprocal altruism, helping unrelated targets in need evolved as an adaptation in certain species, especially humans, in part because such help tended to secure net gains for actors over time (e.g., in terms of valuable returned help later on when themselves in need) (Buss, 2007; Nowak & Highfield, 2011; Trivers, 1971). If hebephilic behavior evolved as a special type of reciprocal altruism, then this behavior cannot be analyzed solely in terms of benefits to hebephilic actors. Effects on pubertal targets (and possibly the social group) also need to be considered, as these effects would ultimately affect hebephilic actors. In short, given that harm or benefit to the pubertal person may be relevant to the hebephilic actor's fitness, we will consider evidence on pubertal persons' reactions.

Blanchard et al.'s (2009) preference criterion will be examined. Several considerations suggest that it is problematic and a poor criterion for designating disorder. If the strength of an individual's erotic response to hebephilic versus teleiophilic persons has a 3:2 ratio, why is he or she mentally disordered while an individual with a 2:3 ratio is not? What is the dysfunction and what is the harm unique to the former individual? Dysfunction may come only with extreme rather than mid-range ratios (cf. Wakefield, 1999a, b), and that is an empirical and research question, not one for arbitrary designation.

Blanchard et al.'s (2009) view that eroticized targets must have *completed* sexual maturity, or else the attraction is abnormal, will also be examined. This view concords with contemporary age-of-consent laws and norms in Anglophone countries, but not with those before the twentieth century, where the age of consent was generally age 12, or with normative practices in many other times and places (Bullough, 2004; Graupner, 2004; Green, 2010; Rouayheb, 2005; Williams, 1999). The Blanchard et al. view reflects the pure values approach to disorder, which is scientifically problematic (Wakefield, 1992b).

It is important to note that the historical, cross-cultural, and cross-species evidence to follow generally concerns hebephilic interest or behavior rather than hebephilic preference (i.e., hebephilia). The former does not imply the latter. Nevertheless, an understanding of the nature of the preference can be informed by evidence regarding the interest or behavior. For example, if hebephilic interest is dysfunctional, it can be inferred that hebephilic preference is as well, likely more so. On the other hand, if some interest is functional (i.e., an evolved adaptation), then preference becomes an expectable distributional variant, and the presumption, barring evidence to the contrary, would be that such preference is also functional. In this scenario, determining whether "too much" interest is dysfunctional, and how much is "too much," becomes an empirical question, not appropriate for arbitrary designation. In short, reviewing interest and behavior data from the broad perspective, in combination with evolutionary considerations, will help to evaluate whether designating hebephilia as a disorder is scientifically justified.

Male Heterosexual Hebephilia

We consider heterosexual hebephilia involving men and girls in this section and homosexual hebephilia involving men and boys in the next. These are the forms for which broad-based data are most available and which are of most concern to society and mental health professionals. Owing to the scarcity of similar data on female hebephilia (targeting boys or girls), we do not consider these forms.

Female Ages at Marriage in Broad Perspective

Historically and cross-culturally, puberty, rather than completed sexual maturity, has generally been the criterion for nubility (i.e., when females are considered marriageable and ready for copulation) (Bullough, 1990, 2004). In ancient Egypt, as in the earlier Judaic and later Islamic cultures, females generally were married between ages 12 and 14 to young men, in part to prevent girls' involvement in what was considered illicit sex in those cultures and in part to maximize fecundity (Redford, 2001). In Sparta, early marriage at or before puberty was customary for females, in part to ensure legitimate heirs for husbands, while in ancient Rome, the marriageable age of females was set at 12 (Hornblower & Spawforth, 2003). Christian church fathers embraced this age of 12 (Kazhdan, 1991), and it continued to be the standard in the Middle Ages. The Isaurian law code *Ecloga* (issued in 741), considered the most important body of legislation concerning the Byzantine family, regulated the age of marriage for girls at 13, though betrothals and marriages in various parts of the empire tended to take place much earlier (Strayer, 1984). Childhood was short, most peasant children had no formal education and instead began working before age 12, girls' marriages tended to be planned by age 7, girls were expected to be capable of running a household by age 10, and they were married not long afterwards (Strayer, 1984). English common law took age 12 from canon law as the marriageable age for girls (codified as age of consent), which lasted until the late nineteenth century (Bullough, 1990, 2004). The same obtained throughout most of the Western world (Graupner, 2004). In most of these societies and time periods, marriages of younger teenage or preteen girls were common, not infrequently with much older males. In summarizing the cross-cultural and historical patterns up to the twentieth century, Frayser (1985) and Okami and Goldberg (1992) estimated that the average marriage ages were 12–15 for females with males aged 19–21.

Marriage ages for females have risen over the last few centuries in the West and elsewhere. This change reflects the effects of industrialization, modernization, colonization, and globalization, with accompanying values of education in preparation for adult life. This has extended adolescence, altered definitions of adulthood, and delayed marriage. Contemporary cross-cultural comparisons show much later ages of marriage for females in developed and urbanized societies, as well as closer spousal ages, than in underdeveloped and undeveloped societies (e.g., Casterline, Williams, & McDonald, 1986; Dixon, 1971; Uddin 2009). For example, Uddin (2009) reported that mean ages of marriage in Bangladesh, a highly under-developed nation, were 14 for Santal females and 15 for Muslim females with men aged 21 and 23 on average, respectively. Uddin noted that age differences in marriage in Bangladesh, Pakistan, India, Afghanistan, and Bhutan were often up to 10–15 years with younger teenage or preteen wives, in contrast to developed societies with generally 1–5 years spousal age difference and females marrying much later. Casterline et al. (1986) reported similar patterns of early female age at marriage and sizable spousal age differences (not infrequently 15 or more years) in under-developed sub-Saharan Africa. What is relevant for the current review is that modern trends are anomalous in historical perspective. Though young female ages of marriage with age-discrepant spouses is condemned by Western-sponsored thinking (e.g., United Nations, 2005), the foregoing review shows this arrangement to have been a socially integrated component of many low-tech and under- or undeveloped societies across time and place. These societies and their marriage practices are more reflective of EEA societies and evolved behavior patterns than is the modern West (Buss et al., 1998; Henrich et al., 2010). The modern Western pattern of age-equal heterosexual couplings, in which female age of first marriage is now well past age 20, should not be confused with universal human nature.[6]

In short, evidence regarding marriage supports the conclusion that hebephilic behavior between older males and pubescent girls is *not* disharmonious with respect to human nature (i.e., not against evolutionary design), even though such behavior mismatches current Western cultural standards. The evidence indicates that modern Western teleiophilic-centered patterns are cultural exaptations, social constructions that emerged to fit historically novel and highly atypical social and economic arrangements, and as such are not a scientifically valid basis for defining mental health and disorder (cf. Wakefield, 1992b).

Female Attractiveness and Age

If young or somewhat older men are to marry young adolescent girls, as they often have done throughout history, it might be supposed that they have the capacity to respond to them erotically, or else the many cultures that have sponsored these relations would likely not have institutionalized them. A growing volume of research on female attractiveness suggests that men generally do have this capacity (for reviews, see, for example, Kościński, 2007; Rhodes, 2006; Thornhill & Gangestad, 1999). Kościński (2007) noted that studies, in which age-related facial features have been manipulated, have repeatedly found a positive association between "babyfacedness" and female attractiveness. For example,

[6] The problematic nature of modern Western marriage patterns for drawing inferences about human nature is highlighted by a recent report by Kreider and Ellis (2011). In the U.S., the mean age of first marriage for females is now 26. This pattern is not only anomalous with respect to low-tech and under- or undeveloped societies across time and place, but with respect to U.S. practices in the recent past. In 1950, for example, the mean age was 20.

Johnston and Franklin (1993) had subjects "evolve" a beautiful female face over iterated generations on a computer program designed to simulate natural selection. In the end, the most attractive versions of females' faces had proportions typical of girls aged 11–14. Braun, Gruendl, Marberger, and Scherber (2001) used morphing software to vary female characteristics and found that facial shapes of girls of about 14-years-old, with smooth, pure skin, produced the highest attraction ratings. They found that even the most attractive mature female faces could be made more attractive by morphing into them greater and greater degrees of immaturity. Furnham and Reeves (2006), through digital manipulation of images, found that neoteny (i.e., retention of youthfulness into adulthood) had a greater effect on female attractiveness than waist-to-hip ratios. Citing other studies also finding strong effects for neotenized female faces, they argued that female facial neoteny is a strong candidate for being a sexually selected attractiveness signal. Jones (1995) found that women whose facial proportions were neotenized were perceived as more attractive by male raters from five different cultures. He also found that a sample of U.S. female models compared to a sample of U.S. female undergraduate students had more neotenous facial proportions and a strikingly low predicted age of seven in a regression analysis predicting age from facial proportions. In a Japanese study, Ishi et al. (2004) feminized or juvenilized (i.e., neotenized) female faces using morphing software, finding that only juvenilization enhanced attractiveness. In this study, an average composite woman's face was fifth in attractiveness, behind four other versions of this composite, which were juvenilized to different degrees. In a different line of research, Fan, Lui, Wu, and Dai (2004) found that males have a preference for long legs relative to height, a ratio that is most pronounced in females at the onset of puberty (Sugiyama, 2005).

Consistent with the foregoing findings, Symons (1979, 1995) argued that male preferences in females have been selected to find cues of nubility attractive, which signal high reproductive value (i.e., the probable number of offspring a female will have). Reproductive value is highest just before a female begins fertile ovulatory cycles and progressively declines in the years after menarche (Sugiyama, 2005). Brin (1996) noted that neoteny has been substantially amplified in human females compared to related primate species—it is an obligate trait, as its absence (e.g., beard, thick neck, basso voice) is a turn-off to most males. He argued that it served as a mechanism for females to secure bonding and thus assistance from males with already existing tendencies of tenderness and protectiveness toward the young (i.e., the mechanism co-opted these tendencies), thereby enhancing these females' reproductive success. Jones (1995) noted that, in addition to neotenized features, secondary sexual characteristics (e.g., pubic hair) are important for males' sexual attraction responses in order to distinguish between non-reproductive and reproductive females. The evidence on nubility across history and cultures, the importance of neotenized features in males' attraction responses to females, and reproductive value as an important criterion in males' choosing mates combines to suggest that pubertal girls are within the range—the lower end—that typical males, for *adaptive* reasons, find appealing.

Buss (1989) examined Symons' (1979) view that males have been selected to find cues relating to reproductive value most attractive, as compared with the view of other researchers (e.g., Williams, 1975), who predict a compromise between reproductive value and fertility (i.e., probability of present reproductive potential) in producing the strongest cues. Buss noted that reproductive value and fertility concerns vary cross-culturally, being affected by local cultural needs and conditions; when long-term relations are central because of these and other factors, then mid-teens should be most appealing; when short-term relations are more important, then early 20s would be more appealing. In his study of 37 cultures, he found support for fertility driving male age preference for females rather than reproductive value, but cautioned that it was based on the assumption that his measure (i.e., male subjects' preferred marriage age for themselves minus preferred age difference with a spouse) was a valid indicator of preferred female age. Against Buss' measure, it should be noted that the samples mostly came from industrialized cultures and underrepresented less educated and lower socioeconomic males. In view of the earlier discussion on increasing trends of higher female ages at first marriage and closer ages of spousal partners in industrialized cultures (e.g., Casterline et al., 1986; Dixon, 1971; Uddin 2009), Buss' findings arguably reflect male preferences, which have been calibrated to modern conditions and, as such, do not reflect age preferences throughout most of human existence, which were instead calibrated to environments more akin to the EEA, environments that are better represented by under- and undeveloped cultures. This argumentation favors Symons' (1979) emphasis on reproductive value.

A reasonable assumption, following Williams (1975), is to take both reproductive value and fertility as important drivers of males' attractions to females and, following Buss (1989), to assume that the relative importance of these drivers is affected by local cultural conditions, norms, and personal needs. In the modern West, men and women can marry late, in favor of devoting earlier years to education and other personal advancement, and still be reproductively successful. Delayed marriage generally does not pose a risk of not bearing offspring, as the adults will usually live long enough to do so. Their offspring, in turn, are highly likely to reach reproductive age themselves. By contrast, in the EEA and many later, similar environments such behavior patterns would have been reproductively suboptimal or maladaptive, as mature persons often died much earlier and their offspring frequently failed to reach maturity. It follows that both older males and younger females in such environments, who were predisposed to behave strictly in line with modern Western teleiophilic-centered ideals, would have been less reproductively successful than those who also accommodated hebephilic behavior. That is, some heterosexual hebephilic interest and behavior would have been adaptive in these environments.

The foregoing considerations suggest a range of female ages, which most typically are capable of producing adaptive attraction responses in mature males with respect to reproduction. This range extends from puberty, when reproductive value is maximal, into the 20s, when fertility is greatest, and beyond while fertility lasts. Within this range, male preferences may typically peak, for example, at female ages of 17 or 18, a compromise of highest reproductive value (ages 12 or 13) and fertility (ages 22 or 23) (cf. Williams, 1975). Depending on local social and cultural conditions, this peak may be shifted (i.e., recalibrated) to younger or older female ages (Buss, 1989). Moreover, among individual males, given natural variation in biological traits, this peak will also vary within any population, such that some males will be inclined toward females at the lower end of the adaptive age range. That is, hebephilic preference (i.e., hebephilia) is an expectable distributional variant. Returning to Blanchard et al. (2009), the question is whether this condition constitutes a mental disorder.

Given that the evidence coupled with evolutionary logic indicates that some hebephilic interest was functional in past environments, it does not follow *prima facie* that hebephilic preference would have been dysfunctional. Here, we consider some hypothetical examples to evaluate the assumption of preference-as-dysfunction in the EEA and later, similar environments. Suppose a mature male had a 3:2 hebephilic–teleiophilic ratio in heterosexual erotic responsiveness. Would his reproductive success have been compromised? It seems likely that his hebephilic interest would have motivated him to seek out and bond with a pubertal girl (consistent with much of human history), leading to a reproductive relationship. His lesser, but still substantial, teleiophilic interest would likely have sustained the relationship over time, in service of aiding his offspring to reach maturity. By analogy, it seems likely that a man with a 2:3 hebephilic–teleiophilic ratio would have comfortably adjusted to bonding with a young pubertal girl, as expected in many of these environments, even though he preferred fully mature women. Therefore, against Blanchard et al. (2009), a simple predominance of heterosexual hebephilic interest would most likely not have been dysfunctional for a male in past environments and thus not disordered.

What if the hebephilic–teleiophilic ratio were more extreme, as in 9:1? Would the man eventually abandon his mate at the expense of their offspring, and thus his own reproductive fitness? Over time, female mates of teleiophilic men in our own society not infrequently lose much of the erotic appeal that sparked the relationship, but other factors often develop to sustain it and thus reproductive fitness. This analogy arguably applies in the same way to the 9:1 hebephile in earlier times. In Blanchard et al.'s (2009) own data, even while heterosexual hebephiles showed weak penile response to fully mature women, they did verbally report a sizable degree of attraction to them.[7] Extrapolating back to the heterosexual hebephile in ancient times, this finding adds support to the assumption that this man would have been capable of maintaining his relationship and thus his reproductive fitness. It is only in the modern environment, where people are typically led to delay onset of reproductive relationships into their 20s or beyond, that a high hebephilic–teleiophilic ratio might be expected to endanger the initial spark to begin such a relationship, because the man with this ratio might be likely to seek a pubertal girl when current conventions require that he seek only a fully mature female. But maladjustment to modern environments, especially ones radically different from the EEA, is not sufficient to ascribe disorder (Wakefield, 1992b, 1999a). It is unclear how extreme the hebephilic–teleiophilic ratio would need to be for dysfunction to set in, but simple preference can be ruled out as the starting point.

Evidence from Blanchard (2010), in which he compared fertility rates in a clinical sample of White male Canadian heterosexual teleiophiles, hebephiles, and pedophiles,[8] is consistent with hebephiles being at least as reproductively fit as teleiophiles in the EEA and therefore adaptively normal rather than disordered, *contrary* to Blanchard's interpretation. After controlling for age, he reported that the hebephiles were "significantly less fertile" than the teleiophiles, with mean number of fathered children being 1.30 and 1.39, respectively (for pedophiles, $M = .79$). The difference between 1.30 and 1.39 is trivial—its effect size, a more telling metric than p values (Rind et al., 1998), was minute, $r = .03$.[9] Given the enormous problems that hebephiles face because of their sexual preferences, none of which apply to heterosexual teleiophiles, it is remarkable that their mean fertility rate was on virtual parity with that of the teleiophiles, which suggests that their rate might exceed that of teleiophiles in environments that not only approved of but encouraged their tastes—i.e., most past environments, including the EEA.

Blanchard asserted that there is "nothing in the contemporary environment that would completely abolish the relation between hebephilia and fertility." In fact, there are plenty of factors vitiating this relation, one being a strong pattern of delayed marriage in favor of educational development and career acquisition, and another being age-of-consent laws that are often above the ages of prime hebephilic interest. These factors, among others, clearly work against hebephiles' coupling with girls at their peak reproductive value, such that the relation between hebephilia and fertility *is* weakened. The function of heterosexual attractions is reproductive success, and Blanchard's own data, along with socio-

[7] In Blanchard et al.'s (2009) Fig. 1, heterosexual hebephiles' (level 2) verbal attraction reports were about 5 to girls aged 12–14 and 4 to females aged 17+ on a scale from 1 to 5, which translates as a response to fully mature women at 75 % strength of response to pubertal girls, which is non-trivial.

[8] Blanchard's subjects were White Canadian male clinical patients in a modern Western environment. Generalizing to men in the EEA is highly dubious (Franklin, 2010; Henrich et al., 2010). Nevertheless, the analysis here allows for the extrapolation to show the weaknesses in Blanchard's argument.

[9] p values, but not effect sizes, are directly influenced by sample size, which was huge in this study ($N = 1{,}569$), which is one reason why effect size is needed for interpretation here.

logical, historical, cross-cultural, and evolutionary considerations, indicate that male heterosexual hebephilia is not dysfunctional, consistent with Franklin's (2009, 2010) adaptationist argument.

Empirical Considerations Regarding the Harmful-for-Others Criterion

The foregoing discussion of nubility, neoteny, and reproductive value indicates that some degree of hebephilic behavior between older males and pubertal girls is consistent with, rather than against, the evolutionary design of both, despite this behavior's significant clash with the norms of Western society today. Accordingly, it should not be the case that this behavior is always (or even typically) coercive, traumatic, and harmful for the pubertal girls involved. Yet this assumption currently prevails in our society. If this assumption is correct, it follows that the behavior is, in fact, significantly against pubertal girls' evolutionary design. Then Brülde's (2007) harmful-for-the-other criterion would be met regarding mental disorder designation for male heterosexual hebephilia. Next, we examine the validity of this assumption.

First, it is important to note that the assumption of intrinsic coerciveness, trauma, and intense psychological harm came from sexual victimology, a movement and paradigm that emerged in the 1970s. Sexual victimologists imputed these characteristics to all instances of "child sexual abuse," a construct that usually included hebephilic sex. Problematically, conclusions regarding these characteristics were initially politically, rather scientifically, based (Best, 1997; Clancy, 2009; Jenkins, 1998, 2006; Malón, 2010, 2011), and later "scientific" support for them was flawed (Rind et al., 1998, 2001). Nevertheless, these conclusions were continually presented as fact by the media, in reporting that was often sensationalistic (Goode, 2009; Griesemer, 2003; Jenkins, 1998, 2006; Ohi, 2000; Vogt, 2006; West, 1998).

Regarding the claim of intense harm, meta-analytic reviews of nationally representative samples have shown very little difference in psychological adjustment, on average, between individuals with and without a child sexual abuse history (Rind & Tromovitch, 1997, 2007). These reviews indicate that, if two of 100 persons without this history can be classified as having severe mental health problems, then only three of 100 with this history can be so classified. This small increase in absolute terms cannot even be safely attributed to the sexual experiences in the typical case, given the consistent confounding of the sex with problematic family and peer environments. Meta-analyses of community, college, high school, and junior high school samples support these conclusions (Rind et al., 1998, 2001).

The studies in the foregoing meta-analyses, as well as most other research in this field, generally included as "child sexual abuse" pedophilic, hebephilic, ephebophilic (up through age 17 or 18), and unwanted minor–minor peer sexual experiences. Moreover, many of these studies included only unwanted sexual events, as opposed to willing (and presumably less problematic) sexual experiences. To examine hebephilic sex alone, which includes both willing and unwanted sexual events (and therefore represents hebephilic sex, rather than *unwanted* hebephilic sex), we next consider some pre-1970s Kinsey research. This research is probative not only because of its high quality, but because it was conducted before the rise and dominance of sexual victimology, which has structurally biased scientific understanding of adult–minor sex by framing it unconditionally as coercive and harmful (Jenkins, 1998, 2006; Malón, 2011).

Researching for the Kinsey Institute, Gebhard, Gagnon, Pomeroy, and Christenson (1965) examined pubertal (i.e., aged 12–15) girls' level of willingness in sexual encounters with men, using a large-scale forensic sample. For nonincestuous encounters, most of the girls were encouraging (69 %), while less than a third was resistant (30 %). Using the large-scale original non-forensic Kinsey sample, Rind and Welter (2012) examined reactions to first postpubescent coitus, an especially significant life event. Hebephilic first coitus (i.e., girls aged 11–14 with men) was just as positive (17 % of cases) as woman–man first coitus (18 %), and was significantly more positive than ephebophilic (i.e., girls 15–17 with men) or girl–male peer first coitus (both at 12 %).[10] Moreover, hebephilic first coitus was no more emotionally negative (18 % of cases) than woman–man (17 %), ephebophilic (17 %), or girl–male peer (20 %) first coitus. These meaningful comparisons, rarely available in research in this area, undermine current assumptions that girls' hebephilic sexual encounters are intrinsically traumatic.

Notably, boys' hebephilic first coitus with women was predominantly positive (63 % of cases), substantially more so than boys' ephebophilic first coitus with women (36 %) or men's first coitus with women (41 %); moreover, hebephilic first coitus was no more emotionally negative (15 % of cases) than ephebophilic (24 %) or man–woman (13 %) first coitus (Rind & Welter, 2012). These male results add to the female results above in contradicting the implicit assumption that hebephilic sex harmfully clashes with pubertal persons' evolutionary design. These findings, coming from one of the premier research efforts in sexology, along with the Gebhard et al. (1965) results, the meta-analyses just discussed, and the previous consideration of the pervasive pattern of pubertal marriage throughout most of human history, indicate that harm does not inhere in pubertal girls' hebephilic interactions with older males. Brülde's (2007) harmful-for-others criterion is not met regarding male heterosexual hebephilia.

Interim Discussion

The evidence indicates that male heterosexual hebephilic interest is at the lower end of a *functional* range of erotically-based age interests in females. Some such interest has been normative across time and place. Notably, even in our culture, which currently views

[10] The Kinsey subjects were asked how much they enjoyed their first postpubescent coitus: none, little, some, or much. "Much" enjoyment was coded as a positive reaction in the Rind and Welter (2012) analyses.

this interest with intense hostility, signs of hebephilic allure for mature males are omnipresent in adult females' mimicking pubertal girls through practices such as shaving hair from legs and use of cosmetics, which enhance neotenous facial features (Furnham & Reeves, 2006).

Regarding predominant male heterosexual hebephilic interest (i.e., hebephilia), the evidence indicates that it is not disordered following Wakefield's (1992b) HD approach or according to Brülde's (2007) harmful-for-others criterion. Given that the evidence indicates that some male heterosexual hebephilic interest was adaptive in most earlier environments, including the EEA, along with the expectation that preferred ages or age ranges in females vary naturally, male heterosexual hebephilic preference is best understood as an expectable distributional variant, rather than a breakdown in erotic functioning.

It is important to add that the foregoing empirical considerations do not imply that harm does not occur in particular cases—it clearly does. The point is that harm is not, according to the preceding evidence, a *property* of heterosexual hebephilic interactions, as it has increasingly been assumed to be since the 1970s. Instead, it is an interactive effect of individual and contextual factors (Constantine, 1981; Rind et al., 1998, 2001). Since the late 1970s, under sexual victimology's influence, advocates and many researchers have characteristically ignored or dismissed such factors as sources of harm and have generally derided pre-1980s mainstream professionals, who generally paid much attention to these factors. This stance is political and ideological, not scientific (Clancy, 2009; Jenkins, 1998, 2006; Malón, 2010, 2011).

To help remedy this bias, we briefly consider some contextual factors promoting negative response, which previously were often cited and still should be. Aside from aggravating circumstances (e.g., force, incest), they include negative reactions by significant others, nocebo reactions, iatrogenic effects, and effort after meaning. In the past in our society, negative reactions by others routinely created significant problems for persons engaging in homosexual behavior (Johansson & Percy, 1994). Such reactions continue to cause serious harm for girls and women in Muslim societies engaging in premarital sex (Bekker & Rademakers, 1997). When actors internalize beliefs from their social group or the wider culture that a given behavior is intrinsically harm-producing, even though it is not, such beliefs can become self-fulfilling, producing nocebo reactions (i.e., the opposite of placebo reactions). When these beliefs are induced by professional intervention, iatrogenic harm can follow. Nocebo reactions and iatrogenic harm were frequent in cases of masturbation (Hare, 1962; Malón, 2010), homosexual behavior (Murphy, 2008; Salvador, 2009), and vaginal orgasm (Wakefield, 1992b; Szasz, 1990) in the past, when these behaviors were strongly reproved and considered to be pathogenic. "Effort after meaning" involves having problems and then searching for reasons why. When the causes are ambiguous, however, explanations tend to follow fashion or salience in prevailing discourse or belief systems, irrespective of validity. Since the rise of sexual victimology, it has been not uncommon for clinical patients to develop or intensify negative feelings about early sexual experiences defined as abusive through this route (Pope & Hudson, 1995).

The foregoing points apply to hebephilic behavior in our society today. It is strongly reproved and widely thought to be intensely pathogenic, so much so that harm as a secondary effect is likely to obtain in many cases (Baurmann, 1983; Constantine, 1981; Nathan & Snedeker, 1995). Such harm, however, does not support mental disorder designation, which implies primary pathology.

Male Homosexual Hebephilia

Unlike male heterosexual hebephilic behavior, which had some place in Western society before the twentieth century, male homosexual hebephilic behavior has been a cultural outcast throughout most of Western history (Crompton, 2003). Along with other forms of male homosexual behavior since the rise and dominance of Christianity, the hebephilic form was regarded as a social danger because it was believed to risk God's wrath. Law and custom developed over the centuries from this premise (Greenberg, 1988). One consequence has been the near universal assumption in modern Western society that this behavior and the associated interest are intrinsically abnormal. From this stance, coupled with sexual victimology's more recently added layer that the behavior characteristically causes trauma and harm to the youths involved (Clancy, 2009; Jenkins, 1998, 2006), designating male homosexual hebephilic preference as a mental disorder is, in effect, a small step.

Cultural beliefs, however, no matter how strongly held, are not the same as valid scientific conclusions. Only the latter can validly determine whether male homosexual hebephilia is a mental disorder (cf. Wakefield, 1992b, 2007). In this regard, the broad perspective is useful (Ford & Beach, 1951). It is especially useful because a large amount of broad-based data relevant to male homosexual hebephilic behavior and interest, and therefore ultimately to the preference, is available. In this section, we review these data and consider not only the assumption of intrinsic abnormality, but the alternative hypotheses of neutrality and function.

Non-pathological Alternative Explanations

Before commencing the broad-based review, it is important to note that various scholarly work, dating back at least six decades, has implicitly or explicitly considered non-pathological evolutionary, and even functional, explanations for mature–immature male homosexual (MIMH) behavior and relations, generally hebephilic in form. From their cross-cultural and cross-species review, Ford and Beach (1951) concluded that homosexual behavior is an evolved capacity in humans, inherited from mammalian ancestry, not a pathology. A significant basis for this conclusion came from their review of MIMH in various human societies and primate species. From the societies practicing MIMH, in particular, in which nearly all men and boys were involved, they inferred a

general homosexual capacity in human males. From their discussion of primates, dominated by MIMH examples, they inferred that the human capacity derives from evolutionary heritage. Implicitly, then, theirs was an early explanation of MIMH as an evolved capacity, rather than a disordered condition. To account for the variability of homosexual behavior (implicitly including MIMH) across societies, they discussed the importance of social structures and culture. In societies such as ours, they argued, intense antagonistic pressures from childhood onwards inhibit homosexual tendencies (implicitly including MIMH), such that most individuals eventually become unable to express them.

Ford and Beach discussed utility for MIMH, but not evolutionary function. In the societies practicing MIMH, they noted, the behavior was often associated with puberty rites, and in the primate examples, MIMH was often useful to the immature partner in gaining protection and food from the mature partner. More recently, a number of researchers have posited evolutionary functions (e.g., Kirkpatrick, 2000; Mackey, 1990; Muscarella, 2000; Neill, 2009).[11] Muscarella argued that male adolescent hominids were likely to have been peripheralized, and so would have benefited from alliances with older males, which would have increased their protection and access to resources. Older males would also have benefited by expanding their social alliance network. Modeling from various cross-species and cross-cultural examples, he posited that homoeroticism was the mechanism that reinforced these alliances. Kirkpatrick reached the same conclusion, but emphasized that such alliances were needed for resource competition and cooperative defense. In age-gap alliances, he posited that older males benefited from younger males' assistance, while younger males benefited through acquisition of knowledge and resources. Mackey (1990), based on analyses in 16 countries from five continents, found that the adult male–peripubertal male dyad was especially common. He attributed this pattern to humans' unique evolutionary history, in which the male group became a well-coordinated warring and hunting unit, an adaptation that behooved mature males to continually recruit peripubertal boys to replenish the male group and its network of reciprocal alliances. He speculated that MIMH functioned to facilitate this recruitment and then foster the boys' enculturation. Neill (2009) argued that male homosexual hebephilic relations work to produce emotional bonds between younger and older partners, which benefit youths by enhancing role modeling tendencies, which in turn facilitate their acquiring skills and traits and assimilating beliefs and norms that they will shortly need to function successfully when fully grown. He further argued that clans would have benefited in the evolutionary past by this process, being strengthened in their competition with other clans.

Some shortcomings of these explanations are: several were too broad, being offered for homosexual behavior in general, though relying mostly on MIMH data; reviews of the cross-cultural and/or cross-species data were generally cursory; and functional explanations were generally not explicit in discussing the evolutionary processes involved (e.g., individual and group selection). The following review addresses these shortcomings and, in the end, renders judgment on male homosexual hebephilia vis-à-vis mental disorder.

[11] Kirkpatrick and Muscarella discussed function for homosexual behavior more generally. But their data focused on MIMH (mostly hebephilic in form), to which their conclusions are therefore most relevant.

Historical and Cross-Cultural Considerations

Numerous historical and cross-cultural reviews examining male homosexual behavior have described many dozens of societies that have institutionalized MIMH, or in which these relations have been endemic, even if not formally sanctioned (e.g., Adam, 1985; Cardoso & Werner, 2004; Crapo, 1995; Ford & Beach, 1951; Greenberg, 1988; Gregersen, 1983; Herdt, 1991, 1997; Murray, 2000; Murray & Roscoe, 1998; Werner, 2006).

Table 2 presents 34 of these societies, including ages when boys typically began and ended their MIMH relations, as well as descriptions of important features of the relations in terms of evaluating the essential nature of male homosexual hebephilic behavior, interest, and preference. These societies came from across the globe: Europe ($n = 5$), North Africa, Western and Central Asia ($n = 2$), Sub-Saharan Africa ($n = 4$), Southeast Asia ($n = 6$), Melanesia–Australia ($n = 10$), Polynesia ($n = 1$), and the Americas ($n = 6$). Some of these societies were small in territory and number of inhabitants, while others were vast geographically and in population. Many other examples could have been included. For example, beyond the 10 Melanesian–Australian cultures in the table, at least 50 others have been studied (Herdt, 1997). Murray (2000) reviewed 22 Sub-Saharan African cultures, of which we examine only four. The current list is likely to be representative of other societies with institutionalized or culturally widespread MIMH, since these societies have tended to have much in common structurally and in the way the sexual relations occurred (Adam, 1985; Crapo, 1995; Murray, 2000).

Of the societies for which beginning ($n = 25$) and ending ($n = 20$) ages could be extracted or estimated for the boys involved in MIMH, the means were, respectively, 10.44 (SD = 1.94) and 16.20 (SD = 2.61) and the medians were 11 and 17. Thus, cross-cultural MIMH has typically been hebephilic and partially ephebophilic, with the upper ages of the pedophilic and ephebophilic forms at the extremes. Beginning ages of boys were never in the ephebophilic range (i.e., 15–19), but were mostly in the younger end of the hebephilic range (60 %) or older end of the pedophilic range (40 %). In short, peripubescence was the stage at which MIMH usually began, and it always ended before or during the ephebophilic range. It appears that the qualities of peripubescence activated the interest in these societies, and the qualities of later adolescence terminated the interest. Notably, a similar age pattern appears in non-clinical samples of Western men attracted to male minors, where the concentration of attraction is to

peripubertal boys from 12 to 14 (e.g., Lautmann, 1994; Vogt, 2006; Wilson & Cox, 1983). Hebephilic interests have been at the core of cross-cultural MIMH, and so examining the nature of MIMH in the societies listed in Table 2 will be useful in evaluating the claim that male homosexual hebephilia is a mental disorder.

Cultural Function of MIMH: Reproducing the Male Group

In several of the high civilizations (ancient Greece, pre-Meiji Japan) and in most of the pre-literate societies in the table, MIMH was institutionalized as functional for the wider group. Anthropologists refer to such cultures as "mentorship" societies (e.g., Crapo, 1995). Mentorships may be one-on-one mentor–apprentice arrangements, as in ancient Greece or samurai Japan, or more communal, as in many of the Melanesian societies (Adam, 1985). In either case, the mentorship societies themselves saw MIMH as an essential means of facilitating the enculturation of boys and ensuring the maintenance of the male group, which invariably performed dangerous and vital brute-strength tasks (e.g., warring, big-game hunting). Such tasks, in the absence of advanced technology, necessarily fell to males and the male group—males are twice as strong physically as females on average (Gat, 2006; Gilmore, 1990). Recruiting boys and training them with the needed skills and emotional readiness was essential for the male group's success (Weisfeld, 1979; Weisfeld & Billing, 1988), to which MIMH likely contributed, according to a number of researchers (e.g., Herdt, 1997; Mackey, 1990; Neill, 2009). In short, in these societies MIMH served the cultural function of reproducing the male group.

Importance of the Male Group and Reproducing It

It is important to emphasize the centrality of the male group in most societies before the modern age in order to aid the current discussion of MIMH. In the West today, the male group has increasingly been viewed as an anachronism, an impediment to gender equality, and a form of social structuring inherently problematic (Tiger, 2000). Such views, however, obscure scientific understanding of various male-related behavioral phenomena, as these views are matched to modern Western social and economic arrangements, rather than to the human condition throughout most of *Homo sapiens*' history, including the EEA, where much of human nature was formed (Buss, 2007). Modern Western arrangements are extreme outliers and bias inferences about human nature (Henrich et al., 2010).

For at least 95 % of human existence, stretching back through the EEA, societies were hunter-gatherer, with a division of labor between the sexes, in which males in well-coordinated groups often hunted big game and engaged in intertribal warfare (Bowles & Gintis, 2011; Gat, 2006; Holmes, 2008; Wade, 2008, 2011; Wrangham, 1987). Big-game hunting provided vital nutritional benefits that contributed to the survival of the whole group; warfare secured useful resources when on the offense and provided essential survival benefits when on the defense (Buss, 2007; Gat, 2006; Gaulin & McBurney, 2004). Owing to the brute-strength nature of these activities, they were always male preserves in low-tech societies (Gat, 2006). These activities were lethally dangerous, which necessitated "manning up" boys physically and emotionally to be prepared when the time came (Gilmore, 1990). In short, the male group was vital throughout most of human existence, and its replenishment via recruitment and enculturation of boys was therefore vital as well (Gilmore, 1990; Mackey, 1990).

It is important to note that intertribal warfare as endemic to *Homo sapiens* throughout its existence is a controversial topic. The Rousseauian view that such warfare came with agriculture and possessions has dominated the social sciences, but recent evidence places it at the beginnings of our species and even before (Gat, 2006; Holmes, 2008; Wade, 2008, 2011). In his review of cross-species data, Gat showed that, contrary to earlier thinking, intraspecific lethal aggression is common in many species. He cited comprehensive reviews of historical primitive and advanced hunter-gatherer, as well as primitive agricultural, societies, which showed that intertribal warfare was pervasive in these societies, always following the same pattern: lethal night raids intended to kill most or all residents. In these raids, sometimes women were captured, but men and boys were always targeted for killing. Gat argued that the cross-species and historical cross-cultural data combine to indicate that intertribal warfare was pervasive among prehistorical hunter-gatherers stretching back through the EEA.

Cultural versus Evolutionary Functions

Thus, big-game hunting and warfare were key selective pressures in the EEA for the evolution of well-coordinated all-male groups along with facilitating psychological mechanisms (Buss, 2007; Gat, 2006; Gaulin & McBurney, 2004; Mackey, 1990; Tooby & Cosmides, 2005; Wilson & Wilson, 2007). These mechanisms included dispositions for bravery, sacrifice, and team orientation (Conniff, 2006; Wade, 2008). Notably, these dispositions are latent in males unless developed in a timely way. Gilmore (1990) documented several societies, exceptional in the anthropological record, where males never realized these characteristics. One example was old Tahiti, first visited by Europeans in the eighteenth century, where no sex role differences occurred between the genders, boys were not masculinized in any training or rites, and men generally had an effeminate or androgynous quality. The reason was that there was no social–environmental pressure to develop masculine qualities and male coalitions—conditions were paradisiacal (food was easily obtained, and big-game hunting, enemies, and warfare were absent). In most of the other societies Gilmore considered, which were representative of most human societies, there were strong pressures for males to develop manhood qualities and male group orientation, as the social–physical environments were difficult and dangerous. In all these societies, masculinity was stressed, valued, needed, and indoctrinated in boys.

Table 2 Examples of historical/cross-cultural societies (or sub-groups) with institutionalized or widespread MIMH

Society	Ages of boys in MIMH	Characteristics of MIMH	Sources
Europe			
Albania	12–17	Highly romanticized MIMH was still found in the latter half of the twentieth century owing to isolation from the outside world (it had been institutionalized during Ottoman rule). Nineteenth and early twentieth century visitors confirmed that younger men frequently cultivated passionate, enthusiastic erotic relations with boys (12–17). The Muslim Albanian custom of "boy-brides" also spread to Albanian Christians	Greenberg (1988), Murray (1997), and Williams (1992)
Ancient Greece	12–17	MIMH had a mentoring function (prepared elite adolescent boys for adult roles as warriors, citizens). Boyish beauty was repeatedly valorized in the arts. Body hair (face, legs) ended boys' attractiveness. Bisexual interests (women, boys) were widespread. Attraction to other adult men was scorned. Notables with MIMH interests included: poets (e.g., Alcaeus, Ibycus, Anacreon, Theognis, Pindar); playwrights (e.g., Aeschylus, Sophocles, Euripides); political leaders (e.g., Solon, Demosthenes, Agesilaus, Philip, Alexander); philosophers (e.g., Socrates, Plato, Zeno, Chrysippus). MIMH as a common practice ended with consolidation of Christian sexual morality	Crompton (2003), Hubbard (2003), Lear (2004), and Lear and Cantarella (2008)
Ancient Rome	12–20	MIMH had no social function. Boyish beauty was thematic in love poetry. Attractions were to smooth, hairless bodies regardless of gender (for boys, from puberty to start of beard). Exclusive attraction to one gender was seen as eccentric. Sexual relations with other adult men were seen as disgraceful. Notables with MIMH interests: (e.g., the poets Catullus, Horace, Juvenal, Martial, Tibullus, and Virgil, and emperors Trajan and Hadrian). The tradition ended with consolidation of Christian sexual morality	Cantarella (1992), Crompton (2003), Lambert (1984), and Williams (1999)
English boarding schools	11–14	Deeply sentimentalized, erotically-based attachments were common in many all-male private boarding schools before the 1970s between older (about 17–19) and younger (about 11–14) boys. Older teens sought "cute" boys, calling them "talent," "crushes," and "tarts." Younger boys competed to be selected (for the many favors, privileges it entailed). Older–younger pairs exchanged notes, poetry, and other items of endearment. After graduating, most moved on to heterosexuality	Chandos (1984), Gathorne-Hardy (1978), Lambert and Lambert (1968), Lewis (1955), and Nash (1961)
Renaissance Italy	12–18	The majority of younger men and adolescent boys in all classes (working to elite) in Florence and other Tuscan cities was involved in MIMH. This practice represented an unbroken continuance from ancient Rome. Despite severe penalties (e.g., torture, death) based on belief in God's retribution, cases were often treated leniently (e.g., fines) through much of the Renaissance (this was a pragmatic response to its pervasiveness). Notables with MIMH interests included Donatello, Verrocchio, da Vinci, Bottecelli, Michelangelo, Pontormo, Bronzino, Cellini, and Caravaggio. The tradition was eroded through stepped-up religiously based anti-sodomy campaigns, especially Savonarola's in the 1490s, along with harsher penalties with more determined enforcement. The tradition was also entrenched in other areas, such as Venice	Crompton (2003), Moulton (2003), Rocke (1996), Ruggiero (1985), and Saslow (1986)
North Africa, Western & Central Asia			
Islamic Societies	8–20	MIMH was pervasive in Islamic societies (North Africa, Western–Central Asia) from eighth to nineteenth centuries. MIMH attractions were seen as just as normal as heterosexual ones. Main interest was in boys early to mid-teens, peaking at about 14. The appeal vanished with a beard (about 16, 17). Adult men were scorned if they were passive partners. Manly behavior was to be active (partner's gender did not matter). Staggering amounts of love poetry show an obsession with boyish beauty, seen as comparable to women's. Poets attracted to boys constitute a *Who's Who*. Desire for boys, but not behavior or lust, was permissible under Islam, but behavior was common nevertheless. The tradition eroded in the late nineteenth century in reaction to Western abhorrence and efforts to modernize	Crompton (2003), Murray and Roscoe (1997), Patanè (2006), Rouayheb (2005), and Wright and Rowson (1997)
Siwans of Libya	12–18	MIMH was a well-entrenched custom from antiquity to at least the 1950s. Matchmakers made marriage-like arrangements between men and adolescent boys. The boy got a gift larger than brideprices for females. Man and boy then entered into an alliance with family approval. Prominent men lent each other their sons for sex. Love affairs and jealousies over boys were common. Robin Maugham said: "They will kill for a boy. Never for a woman"	Adam (1985) and Herdt (1997)

Table 2 continued

Society	Ages of boys in MIMH	Characteristics of MIMH	Sources
Sub-Saharan Africa			
Azande of Northern Congo	12–20	Under a polygynous system, women were scarce. Warriors married boys aged 12 or older. Commanders might have more than one boy-wife. Man and boy addressed each other with terms such as "my love" and "my lover." The boy performed wifely duties and apprenticed for the man. On reaching adulthood, the boy typically joined the military company, taking a boy-wife of his own. The tradition faded when the practice of military service discontinued under British colonization	Evans-Pritchard (1971), Murray and Roscoe (1998), and Seligman and Seligman (1932)
Bantu-speaking tribes in Central Africa	12–18	Male peer homosexual behavior was universal from puberty until age 18 or so, and adult–youth sexual interactions were common as well. Older men predisposed to form such relationships were described as *bian nku'ma* (having a heart for boys). In various Central Bantu groups, boy initiates resided at a sex-segregated lodge during their initiation phase and were required to manipulate the phalluses of the lodge-keeper and other adult male visitors, a practice that was seen as instrumental in helping the boys' phalluses grow large and strong	Wallace (2006)
Mossi of Burkina Faso (W. Africa)	7–15	All chiefs (ca. late nineteenth century) had large groups of pages, boys aged 7–15 chosen for their attractiveness (some were thought to be quite beautiful). On Friday nights, because heterosexual intercourse was forbidden, a chief would engage in sex with a boy instead (he could also do so on other nights). Upon reaching maturity, a boy was given a wife by the chief	Murray and Roscoe (1998) and Tauxier (1912)
Tsonga of southern Mozambique	?–?	A common practice in the twentieth century among native men, who were used as miners by colonialists, was taking boys as wives (with wedding feast and brideprice payment). The boy performed domestic, sexual duties. He was given presents and money in exchange. Fidelity was expected. Relationships were marked by intense feelings and jealousy. Marriage could be terminated in divorce. Some men took boy-wives home after mining, where they were accepted by the men's other wives and tribal leaders. Asked if boys desired being wives, an elderly Tsonga man answered, "Yes: for the sake of security, for the acquisition of property and for the fun itself." A beard indicated the boy was no longer a sex object but a competitor for boys	Murray and Roscoe (1998) and Wallace (2006)
Southeast Asia			
Ancient Korea	?–?	MIMH at times was common in the imperial realm. By the sixth century CE, the imperial court had *hwarang* ("flower boys"), a corps of young warriors made up of aristocratic youth chosen for beauty, education, and martial prowess. Various kings through the fourteenth century were known to have had MIMH relations at the court. Monastic MIMH was widespread. Popularity of "beautiful boys" in seventeenth century entertainment indicates MIMH was common among the gentry. It was especially common among provincial gentlemen, some of whom kept boy-wives, a practice openly acknowledged in their villages	Leupp (1995)
Batak of northern Sumatra	12–?	In late childhood, boys moved into all-male houses with about a dozen other boys and young men. From puberty until marriage, homosexual behavior was prescribed and constant. MIMH and age-equal sex were both common. Sequestering the sexes ensured girls remained virgins until marriage (premarital sex for girls was highly taboo). With outside cultural contact, the tradition began to decay	Money and Ehrhardt (1972)
Dynastic China	10–18	Multiple forms of male homosexuality (especially MIMH) often occurred across 2 millennia of dynasties. "Cut sleeve" became the term for homosexual love (ca. 0 CE) when the emperor cut his sleeve rather than waking up his boy favorite, who lay on it. Poetry after 220 CE often discussed the beauty and charms of boys. Marriage to boys was a common Fujian practice (ca. 1,000 CE). A key seventeenth century author (Li Yu) wrote a book illustrating popular interest in MIMH. Western visitors in the nineteenth century expressed shock at prominent Chinese men openly courting boys (aged about 14–15). The tradition ended in the later nineteenth century because of embarrassment at Western repugnance and efforts to modernize	Crompton (2003), Hinsch (1990), and Leupp (1995)

Table 2 continued

Society	Ages of boys in MIMH	Characteristics of MIMH	Sources
Java	8–14	In the Ponorogo area, all-male folk dance was a major cultural institution (before 1990s). Spectating men admired the beauty of dancing youths. Boy dancers aged 8–14, called gemblaks, often had culturally approved sex with men. Interviewees who had been gemblaks all viewed the sex positively, and all got married. Some had long-term sexual relationships with the dance troupe directors (the Waroks). Waroks were spiritual guides, valorized by the community. Each Ponorogo village had a formalized male group for unmarried males. The group did socially constructive work for the community. Heterosexual sex before marriage was disapproved, so members had sex with gemblaks. This practice was seen as benefitting the gemblaks, who got gifts, the group members, who got a sexual outlet, and the community, who got good works. Under Western influence, educated Ponorogo people began seeing all this as an embarrassment (a relic from an "uncivilized" past) and have since worked to end the practice	Williams (2011) and Weis (1974)
Pre-Meiji Japan	10–18	From the eleventh to nineteenth centuries, bisexuality (women, boys) was pervasive. Over time MIMH appeared in three contexts (monastic, samurai, and kabuki theater), with the first two as mentorships with boys of ranking families, and the last as prostitution. Among samurai, MIMH fostered loyalty and sacrifice in youths training to be warriors. Shoguns and warlords involved in MIMH from the twelfth to eighteenth centuries reads like a *Who's Who* of military–political history. A key seventeenth century author (Saikaku) illustrated MIMH's pervasive presence. Another described the typical ages of interest (10–13 = "blossoming flower;" 14–17 = "flourishing flower;" 18–21 = "falling flower"). The tradition ended in the late nineteenth century in response to Western abhorrence and efforts to modernize	Crompton (2003), Leupp (1995), Saikaku (1990), and Watanabe and Iwata (1989)
Tibet	?–?	Monasteries had a strong reputation for master–novice sexual relations, which participants viewed without shame, as they made no attempt to conceal these relations from Westerners during early contacts with them	Prince Peter (1963)
Melanesia–Australia			
Aranda of Australia	10–14	Typically, an unmarried man (late teens) would take a boy from 10 to 12 years old to be his wife and live with him for several years until he (the older partner) got married to a woman. Aside from sex, the man served as the boy's mentor (e.g., in hunting)	Strehlow (1913–1915)
Big Nambas of Malekula, Melanesia	12–?	MIMH was highly organized in this warrior society. Homosexual intercourse was believed essential to boys' physical and spiritual development. It supposedly transferred male power to them (implanting this in their penises, the seat of male power). From around puberty until marriage age, a boy had a sexual relationship with a particular man (the boy was called the wife, the man the husband; the latter was often jealously protective). The relationship was very close; the boy followed the man everywhere, participating with him in daily chores. Every chief had several boy-wives. Some men were so completely homosexual in their affections that they preferred their boys to their female wives	Allen (1984) and Layard (1942)
East Bay Islanders (Santa Cruz)	7–11	Nearly every male engaged in extensive homosexual behavior. Men had sexual relations with boys (7–11); it was obligatory to give the boy presents in return. The boys discussed these contacts freely and without shame in the presence of parents and friends. Upon marriage, only a few men became exclusive heterosexuals; most continued to have sex with boys as well. Only one man preferred boys exclusively	Davenport (1965)
Gebusi of New Guinea	11–14	Boys in early adolescence "coquettishly" initiated sexual relations with older, unrelated males. As with the Sambia, the belief was that insemination grew the boys into men. The sexual relations were based in personal affection rather than obligation	Herdt (1991)
Kaluli of New Guinea	11–13	From ages 8 to 28, males resided in a sex-segregated hunting lodge. Daily, boys accompanied older males on grueling hunting trips, learning essentials of the practice. At 11 or 12, a boy's father chose for him an older male to inseminate him for months or years. Some boys chose their own inseminator. Insemination was thought essential for growth. Men looked back on their youth in the hunting lodge with nostalgic excitement and zest. They remembered the continual hunting, growth-stimulating insemination, ritual discipline, unity of purpose, and vigorous manly ethos as the highlight of their lives. The whole practice was one of prestige for them. The tradition was ended in the 1960s by a colonial administration and missionaries, who policed against it	Schieffelin (1982)

Table 2 continued

Society	Ages of boys in MIMH	Characteristics of MIMH	Sources
Keraki of New Guinea	12–14	All boys were sodomized for about a year, which was seen as essential for their development. Adult informants repeatedly answered, when asked whether they submitted as boys, "Why yes! Otherwise how should I have grown?" Bachelors saw some boys as more attractive and gave them more attention. They sodomized boys until they got married, whereupon they engaged mostly in heterosexual sex, although they continued to have relations with boys on occasion	Williams (1936)
Kimam of New Guinea	10–?	Between ages 10 and 14, boys entered a men's house after a ceremony declaring them deceased (i.e., death of childhood). They were "newly born" through the "powerful medicine" of older males' semen. Each boy acquired an adoptive father, an older male who was his mentor and regularly inseminated him, which was believed necessary to make him strong. A lifelong emotional relationship often resulted from these homosexual relations. The colonial government and missionaries eradicated this practice earlier in the twentieth century	Serpenti (1984)
Marind-Anim of New Guinea	7–17	The Marind numbered 7,000 in about 50 groups. Males lived in sex-segregated men's houses from a young age. MIMH was pervasive. Anal homosexual insemination was seen as crucial for boys' development; it began in male initiations for boys ranging in age from 7 to 14. Initially, their relations were promiscuous. Around puberty, a boy was assigned a mentor (often maternal uncle); they had sexual relations for about 3 years. The boy assisted his mentor in gardening, hunting, and other chores, and could accompany him on war raids, as boys had to learn to be warriors (the Marind were the fiercest headhunters in the Papuan Gulf). Their bond was strong, apparently made so, in part, by the sexual contacts. In the 1920s, the colonial government ended men's houses and these practices	Herdt (1984) and Van Baal (1966)
Nambutji of Australia	?–?	Every boy became a boy-wife to a man, who circumcised the boy and whose daughter became the boy's wife when he reached adulthood. In the intervening time, the man and boy were homosexually involved	Roheim (1945)
Sambia of New Guinea	7–14	Boys were taken into the men's society somewhere between ages 7 and 10. Until age 14 they fellated older bachelors, who were as old as 25. Semen was viewed necessary for growth to be a strong warrior. After age 25, most men stopped being semen "donors" to get married (some men, who preferred boys, continued to "donate"). Relations were not just a duty for the boys, who were often complicit in arousing bachelors through bawdy enthusiasm. As boys matured, they tended to express more desire for insemination, and became more aggressive in soliciting it	Herdt (1987, 1991, 1997)
Polynesia			
Marquesas Islands in Polynesia	?–?	Adolescent boys frequently had sex with each other. Married men rarely had homosexual contacts but would when conditions prevented heterosexual intercourse. They preferred boys for this purpose, whose bodies they said were soft, like females. Contacts with boys were casual, fleeting, and without stigma	Suggs (1966)
Americas			
Coerunas Indians of Brazil	?–?	An apprentice healer would go in the woods for an extended time with an older healer, who would transmit his special powers to the youth through sexual relations and also directly instruct him on the art of curing illnesses	Greenberg (1988)
Hobos	12–?	Between 1880 and 1930, sexual relations between men and adolescent boys were commonplace among transient workers in the Pacific Northwest. Developing industries (e.g., lumber, mining) drew in large numbers of unmarried men and male youths from other parts of the U.S. to perform backbreaking work. They lived and worked in all-male societies, which fostered intergenerational sex (rather than age-equal sex). Their relations were social, not just sexual—the boys often served domestic functions for the men. In return, they got various benefits (e.g., advice, apprenticing, emotional support, safety, protection). By the 1930s, these all-male societies eroded, owing to mechanization (which reduced brute-strength work) and population expansion (with more women). These changes, along with constant policing activity (the middle class saw MIMH as a threat to their youth and the family), helped to dissolve the tradition	Boag (2003), Flynt (1927), and Williams (1992)
Mayans, Aztecs, and Incas	?–?	Among sixteenth and seventeenth century Mayans, missionaries reported a custom of youth–younger boy marriages. In field work, Williams (1992) found that MIMH was still common in late twentieth century Yukatan. Missionaries reported religious-based MIMH as common among the Aztecs and Incas	Greenberg (1988) and Williams (1992)

Table 2 continued

Society	Ages of boys in MIMH	Characteristics of MIMH	Sources
Pirates	12–?	They lived in all-male arrangements with mixed ages from young adolescents or younger through older men. Sexual relations between men (especially pirate captains, including Blackbeard) and adolescent boys were common	Burg (1995) and Williams (1992)
Various Indian tribes in southern Mexico	?–?	Married men would adopt an adolescent boy, who was proud to have been chosen and saw it an honor to be the man's lover. The boy would help the wife, her children, and the household, and would take a boy of his own when he later became an adult and married	Ross (1991)
Zapotecs of Mexico	12–?	Boys entering puberty commonly had sexual relations with men	Williams (1992)

Age ranges of boys in MIMH are explicitly stated in sources in most cases, estimated from sources' descriptions in others

MIMH was one of the methods used to masculinize boys and reproduce the male group (Gilmore, 1990; Herdt, 1997). The question is whether MIMH, as in the mentorship societies, was an invented cultural practice or the expression of an evolved functional predisposition (cf. Ford & Beach, 1951). That is, did MIMH tendencies evolve in early humans as one mechanism to facilitate the transmission of culturally needed characteristics to peripubertal boys, as researchers such as Mackey (1990) and Neill (2009) have proposed?

If MIMH interest was an evolved functional predisposition, which served to stimulate mentorships and facilitate enculturation of boys, then there should be evidence that mature males in general can be erotically interested in peripubertal boys. Further, given that most mature males in our society, for example, have no such interests, then there should be evidence that particular factors tend to activate this predisposition, factors that are largely absent in societies such as ours. And finally, if it is an evolved predisposition, then an explanation is needed for how early human males could have acquired this predisposition. The answers to these points are relevant to understanding male homosexual hebephilic behavior and interest, and ultimately the preference.

Male Capacity for MIMH Interest

Giles (2004) disputed Herdt's (1997) description of Sambian homosexual behavior (see Table 2) as being "homoerotic." He argued that the homosexual experiences were neither erotic for the boys *nor* for their older partners, who he speculated were probably fantasizing about females in order to get aroused. He implied the same obtained in all societies with endemic or institutionalized MIMH. Likewise, clinical views imply that genuine MIMH interests are universally deviant. In this section, we examine cross-cultural data to address whether MIMH interest is lacking in most males in all societies and whether MIMH behavior reduces simply to a heterosexual substitute, as Giles implies. We also consider the contrary: that mature males generally have a potential for MIMH, even if usually unrealized in societies such as ours. The latter would support an evolved basis for male homosexual hebephilic behavior and would be consistent with the possibility of an evolutionary function.

In society after society listed in Table 2, it was the typical mature male, not the deviant one, who had erotic interest in immature males. In ancient Rome, mature males were generally attracted to smooth, young bodies—boys in the "flower of youth" (beginnings of puberty until beard growth) and women in their prime (Williams, 1999). Body hair (e.g., on face and legs) was decisive in ending boys' attractiveness, and men attracted to sexually mature males were scorned. In other words, boys' appeal was inextricably related to their immaturity, an androgyny that contributed to their being seen, alongside young women, as beautiful by men. Men exclusively attracted to only one gender were considered "eccentric," although it was common for them to be more inclined to one gender than the other (Williams, 1999, p. 228). Men's sexuality was energized by difference—women's different gender, boys' different age and level of maturity, and sometimes other adult men's different gender orientation (i.e., cross-gendered). Williams laid this pattern out as a principle of mature male eroticism across time and place, except for the modern West with its unique emphasis on egalitarian sexual relations. Cross-cultural reviews of male homosexuality support Williams' thesis (e.g., Adam, 1985; Greenberg, 1988; Herdt, 1997).

The essentials of ancient Roman mature male erotic attractions applied to the other high civilizations in Table 2 (e.g., ancient Greece, Renaissance Florence, pre-Meiji Japan, Muslim societies of North Africa and Western, Central Asia). For example, in Muslim societies from the eighth to nineteenth centuries, particularly extensive documentation shows that "men's attraction to boys was considered as natural as their attraction to women" (Rowson, 1997, p. 159) and that it was widely taken for granted that "beardless youths posed a temptation to adult men as a whole, and not merely to a small minority of deviants" (Rouayheb, 2005, p. 115). Monroe (1997) illustrated these common beliefs by quoting a twelfth century religious jurist, who remarked that "He who claims that he experiences no desire when looking at beautiful boys or youth[s] is a liar, and if we could believe him, he would be an animal, not a human being" (quoted in Monroe, 1997, p. 117). Boys of peak att-

raction were from about 11–15, youths lost their appeal around 16 or 17, and attractions to adult men were uncommon and derogated (Rouayheb, 2005). As indicated in Table 2, men with MIMH attractions in all the high civilizations were at the center of their societies, not on the outer fringes. Such attractions occurred often among the *Who's Who* and ordinary men alike.

Beauty and intensely passionate feelings were recurring themes in both the high civilizations and pre-literate societies in the table. In the former, traditions of love poetry focused particularly on boyish beauty and strong passions, and were crafted not merely to express personal feelings but to feed the demands of a popular audience, where such perceptions and feelings were commonplace (Hinsch, 1990; Lear & Cantarella, 2008; Leupp, 1995; Rouayheb, 2005; Williams, 1999). These traditions are indicators of widespread genuine homosexual desires for boys, especially those in the hebephilic range, rather than mere role playing in response to custom and cultural expectations.

Notably, many of the sources discussed individual differences in MIMH versus heterosexual attractions, where a small minority of men had particularly enduring attractions focused mostly on pubertal or peripubertal boys, a majority had more of a mix of attractions to boys and women, but with some being inclined more to boys and others more to women, and another minority had attractions concentrated on women (e.g., Davenport, 1965; Herdt, 1997; Leupp, 1995; Rocke, 1996; Rouayheb, 2005; Williams, 1999). This pattern is suggestive of a genetically-based normal distribution of potentials for MIMH interests, ranging from low to high. As this distribution emerges from societies in which MIMH attractions were not culturally suppressed, but instead were tolerated, encouraged, or esteemed, the implication is that this distribution represents a species-typical characteristic. Once a society constructs and imposes ideological restraints on the interest, as ours does, then the distribution can become highly skewed, with only a small minority of males expressing the interest—perhaps those with the highest genetic potentials. The potential for widespread erotic interest in pubertal or peripubertal boys, along with the ease with which its expression can be suppressed in societies such as ours, suggests that this interest is a weak, but not non-existent, sexual force in most males (Vanggaard, 1972). Heterosexual interest, by contrast, constitutes a strong sexual force.

In short, the cross-cultural and historical evidence indicates that most mature males have a capacity for MIMH interest, which is concentrated in the hebephilic range. This capacity will rarely be expressed in societies such as ours, but that does not alter the basic conclusion. This finding contradicts the assumption that male homosexual hebephilic interest is essentially error variation from "normal" attractions to sexually mature persons, it is suggestive of the possibility that such interest is evolutionarily functional, given that MIMH behavior has so often been culturally functional, and it opens up for consideration the possibility that male homosexual hebephilic preference (i.e., hebephilia) is normal variation of the interest and perhaps adaptive itself, rather than a dysfunction and disorder.

Sociological Considerations

Ford and Beach (1951) emphasized the importance of social structures and culture (e.g., cultural ideologies) in accounting for cross-cultural variation in homosexual behavior, including MIMH. We consider these factors now to clarify why MIMH is rarely expressed in societies such as ours.

Table 2 documents the recurring pattern of MIMH traditions ending, resulting from actively exerted antagonistic pressures related to newly created or imported cultural ideologies. The Greco-Roman MIMH tradition, which was well entrenched for at least a thousand years, came to an end gradually with the growing dominance of Christianity, which was aggressively hostile to it (Crompton, 2003). Its durable continuance in certain areas, such as Renaissance Florence, finally broke after repeated campaigns against it by Christian preachers, along with increased enforcement of harsh laws premised on its risking God's wrath (Rocke, 1996). In the non-Western societies in the table, the traditions ended in case after case through Western influence, either directly through colonial rule (e.g., Azande, Melanesian societies) or indirectly through pressures to reform (e.g., Muslim societies, China, Japan), pressures to which progressives and the ruling elite yielded so as not to offend Westerners in their efforts to modernize and improve relations and trade arrangements with the West (Hinsch, 1990; Leupp, 1995; Massad, 2007; Rouayheb, 2005). As in Greco-Roman MIMH, these other traditions were long-running (e.g., a thousand years in Muslim societies and Japan, at least 2,000 years in China, and many more thousands of years in Melanesia). Notably, in all these societies, certain cultural ideologies supported and encouraged the MIMH traditions while they were in vogue (e.g., the gods approve; it is normal to desire both women and boys; MIMH helps boys grow), and then other competing ideologies, after becoming dominant, acted against and suppressed them (e.g., God destroyed cities for this behavior; homosexual behavior is against nature; MIMH is abusive) (Crompton, 2003; Herdt, 1997; Williams, 1999).

Social structures have also moderated the expression of MIMH (Cardoso & Werner, 2004; Crapo, 1995; Murray, 2000). Cross-cultural reviews have repeatedly identified the two main forms of male homosexual behavior across cultures as MIMH (i.e., age-stratified) and sexual relations between masculine and transgendered males (i.e., gender-stratified), with egalitarian relations being a third, less common pattern[12] (e.g., Ford & Beach, 1951; Greenberg, 1988; Werner, 2006). Crapo (1995) and Murray (2000) statistically analyzed the moderating effects of social structures on the expressions of these forms across cultures. Compared with the other

[12] The egalitarian form (i.e., equal in age and status) has mainly involved sexual relations between adolescent boys, who typically gave up homosexual behavior as adults, but also includes the gay pattern (i.e., exclusive same-sex relations between relatively equal adults), which has been restricted to the modern West and is exceptional from cross-cultural and historical perspective (Adam, 1985; Cardoso & Werner, 2004; Gregersen, 1983; Herdt, 1987; Werner, 2006).

forms, mentorship (i.e., MIMH) societies had greater sex role distinctions, greater adolescent sex-segregation, a greater tendency to consider virginity to be necessary for brides, less paternal effort in rearing the very young, less female political power, less occurrence of husbands and wives sleeping together, and more polygyny. Mentorships were commonly embedded in exclusively male settings (e.g., military, religious), where young males were initiated into the skills and symbolism of warfare, religion, politics, and male social dominance, and in which young males needed the training offered by their elders to climb the male status ladder.

Those aspects of social structure just listed, which also obtained in the West, have been weakening there for centuries, increasingly marginalizing MIMH behavior compared to earlier times (Greenberg, 1988)—though it still occurred regularly in certain underground contexts up to the 1970s (Reiss, 1961; Rossman, 1976). Over the last half century, the marginalization has accelerated markedly, owing to social structural changes along the lines just discussed. Tendencies toward sex-segregation during adolescence began to disappear, virginity until marriage was no longer emphasized, sex role distinctions weakened considerably (women could enter most men's roles because of a combination of more advanced technology and rights won politically), women gained more significant political power, fathers exerted more child-rearing efforts with young children, and all-male societies weakened and disappeared as men began spending free time mostly with female companions and nuclear family units rather than men's groups (cf. Coontz, 2006; Mackey, 1986, 1990). Mentorships to reproduce the male group (e.g., for hunting, warring) were long replaced with formal education directed at preparing boys for participation in the market economy. As this economy became more complex, boys increasingly became segregated from older males (e.g., in work, in social life), a historically unprecedented arrangement (Greenberg, 1988). Pubertal boys and girls were transformed from their historical role of assets to families and the social group to extreme financial liabilities.

It is important to add that cultural ideologies and social structures cannot simplistically be regarded as "right" or "wrong." They are correlates of social and physical environmental difficulty and stress (Gilmore, 1990). Low-tech societies in harsh environments, which have required life-risking, brute-strength behavior, have invariably relied exclusively on males and the male group. Of necessity, such societies have reliably adopted facilitating cultural manhood ideologies and related social structures, and they have invariably sought to transmit these culturally needed characteristics to peripubertal boys through various means, with MIMH not infrequently being one of them (Herdt, 1991, 1997; Gilmore, 1990; Mackey, 1990). On the other hand, in comparatively easy social–physical environments, made easy for most society members, for example, because of paradisiacal conditions (e.g., old Tahiti) or advanced technology (e.g., the modern West), manhood ideologies and related social structures, being less important or not useful at all, have either not developed or have been relatively weak (Gilmore, 1990). In the modern West, these manhood ideologies and structures, formerly much stronger, have weakened considerably not only as a consequence of advancing technology but because of feminist influence since the 1960s.

Given our society's present cultural ideologies and social structure, MIMH is an extreme mismatch. This helps to explain not only its rarity in our society, but its incomprehensibility in the minds of most Westerners. In view of the broad-based evidence, however, these facts and beliefs do not translate into dysfunction and disorder as scientifically valid characteristics.

Cross-Species Considerations

To understand the origins of MIMH in humans, it is necessary to look at related species to decide between human invention (or aberration) and evolutionary heritage (Ford & Beach, 1951). To this end, Table 3 presents a summary of 24 primate species. These are based on Bagemihl's (1999) species case studies in his comprehensive review of animal homosexuality. To the 21 primate species that he featured, which evidenced male homosexual behavior, we added three more. Based on Bagemihl's descriptions, Vasey's (1995) ratings in his review on primate homosexuality, and descriptions in the primary studies themselves, the table presents ratings for each species for frequency of male homosexual activity, dominant type of age pairings involved, and receptivity regarding the younger partners involved in MIMH.

Male homosexual activity occurred frequently in 42 % of the species and moderately in another 50 %. MIMH dominated in 29 % of the species, immature–immature relations in 13 %, and mixed relations, with non-dominant occurrences of MIMH, immature–immature, and mature–mature relations, in 58 % of the species.[13] In all the species in Table 3, MIMH occurred. In these relations, receptivity on the part of the immature animal predominated, obtaining in 83 % of the species. In the last column, the table presents brief descriptions of researcher observations and conclusions, which clarify the nature of MIMH in the different species.

In gorillas, for example, MIMH is common in all-male groups, where males spend many years of their lives. In these groups, fully mature males are attracted mainly to immature males, who selectively respond in receptive fashion to particular adults (Harcourt, 1979; Yamagiwa, 1987, 2006). Intense sexually-based friendships between older and younger animals have been documented in various species, including orangutans, macaques (crab-eating, Japanese, rhesus, stumptail), and Hamadryas baboons. Takenoshita (1998) observed consort relationships between adult and juvenile male Japanese macaques, where these pairs, in addition to engaging in homosexual interactions, foraged together, groomed one another, and attacked other monkeys together. Chevalier-

[13] In no species did relations between two adults dominate. By comparison, in Vasey's (1995) review, aside from species in the mixed category, MIMH dominated in 43 % of the species, immature–immature in another 43 %, and mature–mature in only 14 %. In the mixed category, MIMH was always part of the mix usually along with immature–immature.

Skolnikoff (1976) described intensely affectionate relationships between mature and immature stumptail male macaques, in which sexual interaction was frequent; both the younger and older participants responded with excitement to the sex. Sexual initiative on the part of the immature animal has repeatedly been described (e.g., bonobos, chimps, gorillas, gibbons, Hanuman and Nilgiri langurs, crab-eating macaques, rhesus macaques, Tibetan macaques, patas monkeys). In Tibetan macaques, for example, male juveniles have frequently been observed to jump up to the faces of adult males to receive oral sex (Ogawa, 1995). Kempf (1917) described an intense competition between two juvenile rhesus macaque males to be the one mounted by an adult male. Aggression in these interactions is typically rare or absent, while it appears in or is more characteristic of heterosexual interactions between mature animals (Bagemihl, 1999; Vasey, 1995). In the table, the one species where coercion and resistance were characteristic is the prosimian lemur species Verreaux's sifika—homosexuality is rare in prosimians in general (Vasey, 1995)—where target males, whether immature or mature, seem contraprepared to be homosexually approached (Bagemihl, 1999).

Primate MIMH usually occurs as an aspect of male bisexuality. It is promoted by sex segregation, as in species with all-male groups (e.g., gorillas, mona monkeys, gelada baboons), although it also frequently occurs in the presence of sexually receptive females (e.g., bonobos, rhesus macaques, stumptail macaques). Paralleling the cross-cultural data, it varies based on individual differences, with some animals abstaining, others engaging moderately, and still others engaging extensively (Bagemihl, 1999). Finally, researchers have frequently speculated that male primate homosexual relations, including and often specifically MIMH, serve positive functions for the participants, such as overcoming social tension (bonobos), communicating or acknowledging rank to express or seek tolerance or to avoid conflict (pig-tailed macaques, Nilgiri langurs), facilitating social cohesion (gorillas, stumptail macaques, mona monkeys) and social integration (Hanuman langurs, rhesus macaques, mona monkeys), providing reassurance (gibbons) and protection (stumptail macaques, hamadryas baboons), initiating cooperation (savanna baboons), and helping the young to acquire social skills (mona monkeys).

The data show MIMH to be a common behavior in many primate species, one that is generally not aggressive, not coercive (unlike many heterosexual interactions), engaged in willingly by immature partners, and useful in some way to the participants involved. These characteristics indicate that MIMH in these species is not a harmful, or even a benign, dysfunction. This pattern pertains mainly to apes and Old World monkeys, the species most closely related to humans, which implies that human MIMH has evolutionary origins in prehuman primate ancestry, rather than being a human invention or aberration.

Additional data indicate that human MIMH has even deeper evolutionary roots. It is common in various other mammalian species, especially marine mammals (e.g., dolphins, whales, seals, manatees, walruses) and certain hoofed species (e.g., antelopes, wild sheep, elephants) (Bagemihl, 1999). In many of these species, as in the primates, it typically occurs in friendly, or even affectionate, contexts, rather than agonistic ones. MIMH occurs in like manner in various avian species (e.g., Guianan cock-of-the-rock, shallow-tailed manakins, red bishop birds, black-billed magpies, Victoria's riflebirds, regent bowerbirds, superb lyrebirds, acorn woodpeckers) (Bagemihl, 1999), and it has been observed, with apparent functional basis, in some reptilian and fish species (Werner, 2006).

The Harmful-for-Others Criterion: A Multi-Perspective Analysis

Male homosexual hebephilic cases have served as special targets for media reporting, particularly since the latter 1970s. Such cases have frequently been portrayed as especially nefarious and damaging, to such an extent that one is led to assume that such behavior can only be coercive, traumatic, and damaging (Jenkins, 1998, 2006; Ohi, 2000; West, 1998). This reporting reflects not only sexual victimological claims-making (Clancy, 2009; Malón, 2011), but a long-standing cultural antipathy towards homosexual behavior (Crompton, 2003). If such reporting and associated underpinnings accurately represent these relations, then Brülde's (2007) harmful-for-others criterion for mental disorder regarding male homosexual hebephilia is met.

In many cases, males in our society, who had boyhood homosexual hebephilic experiences, have found them negative at the time or came to find them disturbing later on (Clancy, 2009). These are the kinds of cases that have come to the attention of clinicians and have become the focus of media reports. But clinical cases are highly self-selected and unrepresentative (Rind et al., 1998, 2001), and media coverage on sexual issues, especially deviant ones, is highly filtered and tailored to resonate with the fashions and sensibilities of the mass market, which produces significant distortion (Foucault, 1978). Three lines of evidence can help to critically assess the view of intrinsic coercion, trauma, and harm, characteristics that logically imply that male homosexual hebephilic behavior is significantly against pubertal boys' evolutionary design. These lines of evidence include cross-species, cross-cultural, and non-clinical empirical data.

The primate data just reviewed show that the "against evolutionary design" implication, along with intrinsic coercion, trauma, and harm, has *no* phylogenetic basis. In monkeys and apes, MIMH is associated with characteristics nearly opposite to those assumed by victimological and popular thinking to apply to human MIMH, including hebephilic relations. It could be that, in humans' unique evolutionary history, male homosexual hebephilic interactions became maladaptive and thus tightly associated with coercion, trauma, and harm. This possibility, however, is contradicted by the cross-cultural evidence (see Table 2). Among the Javanese, men remembered their boyhood MIMH experiences entirely positively (Williams, 2011). Sambian boys, when older, showed much initiative in these contacts (Herdt, 1991, 1997). Keraki men

believed that they could not have developed properly without these relations as boys (Williams, 1936). Kaluli men looked back on the complex of grueling hunting, living in a sex-segregated men's lodge, ritual discipline, unity of purpose, vigorous manly ethos, *and* growth-stimulating insemination by older males as the highlight of their lives (Schieffelin, 1982). East Bay boys discussed their MIMH experiences freely and without shame in the presence of their parents and friends (Davenport, 1965). Gebusi boys aged 11–14 initiated sexual relations with older males based on personal affection rather than obligation (Herdt, 1991). The bond between Marind-Anim boys and their adult male partners was extremely strong, which was apparently facilitated by the sexual interactions (Van Baal, 1966). The same obtained among the Big Nambas (Layard, 1942). Among the Kimam, lifelong emotional relationships often resulted from hebephilic relations (Serpenti, 1984). In various southern Mexican Indian tribes, pubertal boys were proud to have been chosen for hebephilic relationships, seeing it as an honor to be their men's lovers (Ross, 1991). And among the Tsonga, being a boy-wife was not just good for security but for the "fun" it afforded (Murray & Roscoe, 1998).

In our own society, empirical research conducted outside the post-1970s sexual victimological framework has repeatedly shown that MIMH, particularly the hebephilic form, is *not* characteristically associated with coercion, trauma, and harm (Bauserman & Rind, 1997). For example, Gebhard et al. (1965), in their forensic sample analyzed for the Kinsey Institute, found that, among boys aged 12–15 who had sexual encounters with men, most were encouraging (70 %), while only some were passive (11 %) or resistant (16 %). Baurmann (1983), in his forensic study conducted for the German government, found that, among the almost 1,000 cases of MIMH involving boys under age 14, coercion and harm were rare. Sandfort (1988, 1992), drawing from community and convenience samples in the Netherlands, found that most of his male subjects with boyhood MIMH were willing participants (69 %), who reacted, on average, positively and were psychologically as well adjusted as controls. By contrast, unwilling boys (31 %) reacted, on average, negatively and were slightly less well adjusted.

Non-clinical studies examining pubertal gay or bisexual boys' MIMH have generally found predominantly positive reactions, with evidence for harm occurring only in the minority of cases where coercion occurred (e.g., Arreola et al., 2008; Carballo-Diéguez, Balan, Dolezal, & Mello, 2012; Dolezal & Carballo-Diéguez, 2002; Jay & Young, 1977; The National Lesbian and Gay Survey, 1993; Rind, 2001; Spada, 1979; Stanley, Bartholomew, & Oram, 2004; Tuller, 2002). Studies based on convenience samples examining mainly heterosexual boys' homosexual hebephilic experiences have likewise documented frequent occurrence of willing relations with positive reactions (e.g., Bernard, 1981; Ingram, 1981; Leahy, 1992; Money & Weinrich, 1983; Okami, 1991; Riegel, 2009; Sandfort, 1984; Sandfort & Everaerd, 1990; Tindall, 1978). In many of these studies, the boys were often involved in "special friendships" of significant duration, in which the boys' positive responses were tied, in part, to perceived willingness in participation and to their sense of having attained important non-sexual benefits (e.g., a mature friend who listens to them; valuable mentoring). Notably, these special friendships have parallels in the cross-cultural and primate data examined previously, suggesting a possible evolutionary basis.

The foregoing studies were not based on representative samples. But they are sufficiently diverse and numerous to show that coercion, trauma, and harm do not inhere in male homosexual hebephilic interactions and so must stem from other sources. Aside from aggravating factors (e.g., force), important candidates, characteristic in the West but not in many other cultures, include: sharply negative attitudes about immature sexuality and a traditional unease with sex in general (Ford & Beach, 1951), which can foster reactions of anxiety or shock to hebephilic approaches or encounters, especially if the youth is sexually naïve (Constantine, 1981); the opprobrium and disgust traditionally associated with the homosexual aspect of this behavior (Crompton, 2003); actual or anticipated severe negative reactions by significant others (Baurmann, 1983); and the post-1970s narrative that all forms of adult–minor sex are uniquely abusive and injurious, which can lead to nocebo reactions (Clancy, 2009), iatrogenic harm (Malón, 2009), and perceived harm via effort after meaning (Pope & Hudson, 1995).

The non-victimological literature indicates that, when a pubertal boy crosses the threshold where he is no longer significantly influenced by the cultural negatives just listed, he is more likely to respond in alignment with reactions found in the primate and cross-cultural literature than with those found in the victimological literature. As Gebhard et al. (1965) noted, pubertal boys' potential for positive response to MIMH derives from libidos that are well activated at this stage of development. They added that a boy of pubertal age is still flexible sexually, and if he can be persuaded, "he exhibits an intensity of response matching or frequently surpassing that of an adult" (p. 299). The Kinsey data on first postpubescent coitus discussed earlier illustrate these libidos, where pubertal boys' degree of positive response to hebephilic first coitus was by far the highest among all types (Rind & Welter, 2012).

The foregoing evidence (cross-species, cross-cultural, non-clinical empirical) indicates that male homosexual hebephilic behavior is not harmfully against the evolutionary design of male youths. Though it can be harmful in certain contexts (e.g., those often found in the West, especially since the 1980s), it can be functional in other contexts, found sometimes in cultures such as ours but mainly in other cultures with very different values and discourses. In short, Brülde's (2007) harmful-for-others criterion for male homosexual hebephilia is not met, because pathology is not intrinsic to the behavior.

Synthesis

The foregoing review indicates that male homosexual hebephilic behavior and interest are evolved capacities, which were genetically inherited from primate and mammalian ancestry (cf.

Ford & Beach, 1951). This capacity in humans, as in other primates, is not inherently dysfunctional. To the contrary, it has been realized in numerous societies for the cultural function of reproducing the male group. Reproducing the male group was essential in most pre-modern times and places. Co-opting this hebephilic potential has not infrequently been one of the means of achieving it (Gilmore, 1990; Herdt, 1997).

Capacity is not the same as drive. The evidence indicates that this hebephilic capacity is facultative in most males (i.e., not obligate); its expression depends on interacting inputs (cf. Buss, 2007; Kirkpatrick, 2000; Tooby & Cosmides, 2005). As with many behavioral capacities or traits, the predisposition to this interest may be normally distributed in the male population. Its realization in particular mature males, then, is likely an interactive effect of individual predisposition, learning experience, the social structure, and cultural ideologies (cf. Ford & Beach, 1951; Kirkpatrick, 2000). In the Muslim societies of North Africa and the Near East from the eighth through nineteenth centuries, the social structure and cultural ideologies favored male homosexual hebephilic desire (Rouayheb, 2005). The desire was absent in some mature males (probably those with low predispositions), but was expressed in most others (probably those with moderate and high predispositions). In the West today, the social structure is opposite to what elicits and develops the desire (Crapo, 1995; Murray, 2000), and cultural ideologies are intensely antagonistic (Crompton, 2003; Greenberg, 1988). Under such conditions, durable expression of the desire probably requires a high predisposition (i.e., the upper tail of the distribution).

The primate capacity for MIMH may be functionally neutral (e.g., an evolutionary by-product or noise), or it may be functional in some species in line with its observed utility in them. In either case, the human capacity may be an exaptation, in which the inherited primate capacity was transformed into a new or different evolutionary function during the human EEA, owing to the unique selective pressures (adaptive problems) facing early humans and the usefulness of this capacity in solving them (cf. Mackey, 1990). In this exaptation, the evolutionary function was mentorship and enculturation of peripubertal boys to reproduce the male group, which served individual and group survival in environments in which big-game hunting and warfare capabilities were demanded of males. The homosexual hebephilic aspect served as a mechanism that motivated older males to invest the degree of effort needed to fulfill this function (cf. Muscarella, 2000). This mentorship–enculturation hypothesis, then, is most similar to Mackey's (1990) speculation, but shares elements of the other three hypotheses described earlier (i.e., Muscarella, 2000; Kirkpatrick, 2000; Neill, 2009).

Evolutionary function is suggested by several design features. One is that mature male erotic interest in boys, when expressed, is generally coordinated with the ages at which mentorship and enculturation are most useful and efficiently effected, from peripubescence through mid-adolescence (cf. Lautmann, 1994; Vogt, 2006; Wilson & Cox, 1983). Another is that boys, in turn, are especially homosocially receptive to older males and male groups during this span (as in role modeling, hero worship, team orientation), from peripubescence, when they are "group ready," until later adolescence, when they have become "group assimilated" (cf. Gilmore, 1990; Sax, 2009; Vanggaard, 1972).

Alternatively, it is possible that the ancestral primate capacity was selectively neutral and that the inherited capacity in early humans remained functionless. Its co-optation in the many mentorship societies documented by anthropologists and historians would, then, have been instances just of cultural exaptations. Either way—functionally evolved capacity or evolved, but functionless, capacity—the broad-based evidence indicates that male homosexual hebephilic interest is not evolutionarily dysfunctional for the older or younger male. Given this capacity at the species level, along with the individual differences data (see the cross-cultural, cross-species reviews), it is expectable that some mature human males will have a predominance of the interest. That is, male homosexual hebephilia is an expectable distributional variant.

Since some interest is not dysfunctional, and may be functional, it does not parsimoniously follow that much interest (i.e., preference) is dysfunctional, which argues against classifying male homosexual hebephilia as a mental disorder (cf. Wakefield, 1992b). Those wishing to argue that a 3:2 homosexual hebephilic–heterosexual teleiophilic ratio is a mental disorder have the burden to show what the evolutionary dysfunction is. Notably, such a ratio may have been not uncommon in many of the societies in Table 2, in which men were often bisexually oriented towards women and boys. If it is argued that reproductive success would have been compromised by a 3:2 homosexual hebephilic–heterosexual teleiophilic ratio, constituting the dysfunction, then homosexual teleiophilia is a clear dysfunction, which many professionals now reject. In most places and times, marriage expectations have been quite strong, and mature males with a 3:2 ratio would likely have comfortably fulfilled marriage and reproductive obligations, just as mature males in mentorship societies with a 2:3 homosexual hebephilic–heterosexual teleiophilic ratio likely comfortably accommodated to culturally-expected homosexual hebephilic behavior.

Returning to speculation on exaptive function, we consider individual versus group selection. The mentorship–enculturation hypothesis is consistent with individual selection, in which, as the cross-cultural evidence suggests, mature males in the EEA involved in homosexual hebephilic relations in certain contexts would have derived fitness-enhancing benefits. Aside from gaining an assistant for the present, the mature partner would have secured a future ally and helped to reproduce and thus maintain the male group, an ongoing source of value for him. Notably, the latter two benefits would have been dependent on positive effects on the younger partner, as injuring him or doing him otherwise no good would neither have created a later ally nor aided the male group. That is, the arrangement between older and younger partner would have occurred within a reciprocal altruism framework, as Kirkpatrick (2000) and

Table 3 Homosexual behavior between mature and immature males in primates

Species	Freq	Age	Rec	Researcher observations/summaries
Great Apes				
Bonobos (*Pan paniscus*)	3	1	3	Kano (1980) found that mature males frequently performed thrusts on much younger males who might actively solicit the mounting. de Waal (1997) observed that it was common for an adult male to masturbate an adolescent male lying on his back with legs spread apart. Sex serves to reduce social tension (de Waal, 1997)
Chimpanzees (*Pan troglodytes*)	2	2	3	Male homosexual behavior varies considerably across and within chimp populations (Bagemihl, 1999). Kollar et al. (1968) described multiple age-gap encounters (e.g., a young juvenile male interrupted copulation of an adolescent male and female, then presented to the older male, who mounted him)
Gorillas (*Gorilla gorilla*)	3	4	3	In all-male groups, adults are most attracted to adolescents; mounting can be initiated by either (Harcourt, 1979; Yamagiwa, 1987, 2006). Courtship and copulation occur daily (Bagemihl, 1999). Age-gap sex may help group cohesiveness (Harcourt, 1979).
Orangutans (*Pongo pygmaeus*)	2	2	3	Male homosexual behavior is often consensual (heterosexual behavior often not). It often occurs within a special friendship (Bagemihl, 1999). For example, an adolescent male that received fellatio from a young adult male became very attached to him, and followed him wherever he went (Rijksen, 1978)
Lesser Apes				
White-handed gibbons (*Hylobates lar*)	2	4	3	Homosexual behavior occurs sometimes in father–son pairs (Bagemihl, 1999). Edwards and Todd (1991) observed 55 episodes between a father and adolescent son, which were always without tension or aggression, and initiated by both. The sexual behavior seemed to provide reassurance to the adolescent
Siamangs (*Hylobates syndactylus*)	2	1	2	Father–son sex occurs (like gibbons), but is sometimes accompanied by threats, when the younger partner wants to end it before the older one does (unlike gibbons) (Bagemihl, 1999)
Old World Monkeys				
Hanuman langurs (*Presbytis entellus*)	3	1	3	Immature males frequently engage in mounting, often with like-aged males, but also with mature males (Sommer et al., 2006). Immature males increase their touching, mounting, and embracing adult males as they mature (Jay, 1965). Weber (1973) found that male–male age-gap mounting was usually initiated by the immature partner, with the apparent function of securing social acceptance (juveniles are no longer protected by mothers and turn to other adults; mounting and other physical contact are mechanisms to achieve social integration)
Nilgiri langurs (*Presbytis johnii*)	2	1	3	Dominant males (alphas) mount subordinate males (juveniles, adolescents, younger adults) in dominance displays, which subordinates may initiate by presenting. Mounts are brief, with several thrusts but no penetration, and are part of a communication matrix that maintains troop harmony (Hohmann, 1989; Poirier, 1970)
Proboscis monkeys (*Nasalis larvatus*)	1	2	2	Homosexual mounting occurs in younger males (adolescents and juveniles). It tends to stem from play-wrestling. It is resisted by the younger male in some cases (as females sometimes also do in heterosexual mounting). Its frequency is low, as is heterosexual sex (Bagemihl, 1999; Yeager, 1990)
Bonnet macaques (*Macaca radiata*)	3	1	3	Males of all ages are frequently involved in a wide variety of homosexual behavior. Younger males often masturbate other males to orgasm, sometimes eating the semen. Some do only a little homosexual behavior, others a great deal (Bagemihl, 1999)
Crab-eating macaques (*Macaca fascicularis*)	2	1	2	Males can develop intense sexual friendships, especially between older and younger males (with affection, arousal, mounting). Homosexual mounting is both consensual (54 %) and nonconsensual (46 %). In the former, the mountie fully cooperates and may initiate the mounting (Bagemihl, 1999)
Crested black macaques (*Macaca nigra*)	2	4	3	Younger males often mount older ones (Bagemihl, 1999). Dixson (1977) frequently observed the oldest male in one troop presenting to younger males, who invariably responded by mounting him, often with erections. Also, ritualized "greeting" gestures (e.g., penis-grabbing), especially by younger males, are common practice (Bagemihl, 1999)
Japanese macaques (*Macaca fuscata*)	3	1	3	Hanby and Brown (1974) observed all adult and juvenile males presenting to other males (aggression was rare, less than 3 % of presentations). Takenoshita (1998) observed free-ranging adult–juvenile consort relationships (adults ejaculated and juveniles erected; they foraged, groomed, and attacked other monkeys together)

Table 3 continued

Species	Freq	Age	Rec	Researcher observations/summaries
Pig-tailed macaques (*Macaca nemestrina*)	3	1	3	Age-equal and age-gap male–male mounting (juveniles, adolescents, adults) occurs frequently, is not associated with force (as heterosexual mounting sometimes is), and makes up from 8 to 67 % of individual males' overall mounts (Bagemihl, 1999). Dominants invite subordinates to mount them as an elaborate display of tolerance toward subordinates (Oi, 1990) or mount subordinates as a rank maintenance mechanism (Tokuda et al., 1968)
Rhesus macaques (*Macaca mulatta*)	3	1	3	Age-gap consort relationships occur and are highly affectionate (Bagemihl, 1999). Kempf (1917) observed two juvenile males aggressively competing against each other to be the one mounted by an adult male. Male homosexual behavior helps juveniles get protection and integrate into the group (Carpenter, 1942). Hamilton (1914) observed that both male partners in mature–immature sex show sexual excitement. He found that mature–immature relationships (friendships) are frequent, and seem to have sexual basis. Redican et al. (1974) observed that the immature male in their study took the sexual initiative with the adult male
Stumptail macaques (*Macaca arctoides*)	3	1	3	Chevalier-Skolnikoff (1976) reported mutual excitement and affection in several intense friendship-based mature–immature sexual relationships. She concluded that these were "rewarding" to all participants (e.g., protection for younger partner), and that the homosexual behavior seemed to foster greater social cohesion
Tibetan macaques (*Macaca thibetana*)	3	4	3	Ogawa (1995) observed that adult–juvenile homosexual behavior occurs on regular basis. Either may initiate oral sex on the juvenile. The sex is never aggressive. Both are excited, and the context is friendly. He concluded that it seems to serve to reduce tension
Savanna baboons (*Papio cynocephalus*)	2	1	3	All males, from juvenile to adult, greet one another via ritualized sexual behaviors. These behaviors (presenting, mounting, fondling) occur briefly (a few seconds), constitute "greetings," and appear to serve, in part, the formation of coalitions (Bagemihl, 1999; Smuts & Watanabe, 1990)
Hamadryas baboons (*Papio hamadryas*)	2	4	3	Zuckerman (1932) observed a 3-year sexual relationship between an adult and immature male. Whenever the immature was threatened, the adult immediately rescued it
Gelada baboons (*Theropithecus gelada*)	2	4	3	Bernstein (1975) observed mounting between bachelors and immature males in the all-male group. When a bachelor successfully challenges a harem leader, he switches entirely to heterosexual behavior (the deposed leader switches to homosexual behavior)
Mona monkeys (*Cercopithecus mona*)	3	1	3	Glenn, Ramsier, and Benson (2006) observed that homosexual behavior, with oral sex (often with orgasm), is universal in all-male groups, where males spend most of their lives. The sex involves all combinations of partners, from juveniles to adults. Aggression is extremely rare. The homosexual behavior seems to function to help younger males' immigration and social skills, as well as the groups' social cohesion
Patas monkeys (*Erythrocebus patas*)	2	4	3	Adolescent or younger males often fondle and nuzzle the genitals and scrotum of adult males (Bagemihl, 1999)
New World Monkeys				
Squirrel monkeys (*Saimiri sciureus*)	2	1	3	Dennision (1980) frequently observed male homosexual behavior, the commonest form being between adults and adolescents. Baldwin (1969) frequently observed sexual mounting and sometimes consortships between older adolescents and much younger juveniles (of both sexes). Older adolescents, unlike younger adolescents, were gentle with their younger partners, who consequently allowed the interactions to take place (by contrast, they tended to resist the much rougher initiatives from younger adolescents)
Prosimians				
Verreaux's sifaka (*Propithecus verreauxi*)	1	1	1	Homosexual behavior is rare in prosimians. In this lemur species, adult males sometimes mount younger adults or adolescents, who often snap and struggle to wriggle free (Bagemihl, 1999)

Species are from Bagemihl's (1999) featured species case studies ($n = 21$), where male homosexual behavior was evident, plus three additional species (mona monkeys, patas monkeys, Tibetan macaques)

Freq frequency, based mainly on Vasey's (1995) and Bagemihl's (1999) ratings (*1* incidental or rare; *2* moderate; *3* frequent or primary). *Age* dominant age pairings that occur, based mainly on Vasey's (1995) ratings (*1* mixed ages; *2* between immatures; *3* between matures; *4* mature with immature). *Rec* receptivity of immature animal in MIMH, based on researchers' descriptions (*1* mostly unwilling with resistance or aggression; *2* mix of receptive and non-receptive encounters; *3* mostly receptive with no or little aggression). Researcher observations/summaries provide illustrations from research on typical encounters and overall nature of MIMH behavior

Muscarella (2000) argued. The younger partner's benefits would have included protection, resources, knowledge, skills, emotional readiness, and group assimilation. Thus, male homosexual hebephilic interest and behavior, in this scenario, were naturally selected owing to individual fitness-enhancing benefits, not just for the mature but for the immature partner—mutualistic benefits were essential to individualistic ones. This hypothesis is grounded on the cross-cultural data on mentorship societies (e.g., Crapo, 1995) and concords with reciprocal altruism theory (cf. Bowles & Gintis, 2011; Buss, 2007; Nowak & Highfield, 2011).

The mentorship–enculturation hypothesis is also consistent with group selection, which is implied in Mackey's (1990) and Neill's (2009) hypotheses. Male groups have competed against each other in intertribal warfare throughout human existence, and losers have often been wiped out (Gat, 2006). Groups with greater degrees of cohesion, team orientation, bravery, loyalty, self-sacrifice, and innovativeness would have had a selective advantage (Gat, 2006), qualities that warfare selected for (Conniff, 2006; Wade, 2008), and qualities that hebephilic interactions appear to have played an important role in developing (Herdt, 1997; Keesing, 1982; Mackey, 1990; Neill, 2009). Team orientation and self-sacrifice can undercut individual fitness, but they are vital to the group and are better accounted for as group selection effects (Bowles & Gintis, 2011; Nowak & Highfield, 2011; Wilson & Wilson, 2007). The anthropological data in the present review seem well fitted to group selection. If male homosexual hebephilic behavior and interest have an evolved functional basis, it is likely communal, not purely self-interested, and it is likely a product of both individual and group selection (i.e., multilevel selection).[14]

Discussion

Henrich et al. (2010), who showed that, compared to the rest of the world regarding many behaviors, Westerners are outliers, and Americans outliers among outliers, opened their article strategically. They reviewed various societies that had practiced male homosexual hebephilic behavior as a means of developing their boys. Having surprised their readers with what most would have seen as strange, they abruptly noted that their review was not about these peoples, but about a "truly unusual group: people from Western, Educated, Industrialized, Rich, and Democratic (WEIRD) societies" (p. 1). They went on to conclude that the "fact that WEIRD people are the outliers in so many key domains of the behavioral sciences may render them one of the worst subpopulations one could study for generalizing about *Homo sapiens*" (p. 19).

Not simply WEIRD people, but clinically WEIRD people have often formed the basis for universal conclusions regarding sexual behaviors and actors out of sync with prevailing Western values and standards. Ford and Beach (1951) seminally demonstrated the invalidity of this approach. Yet, Blanchard et al. (2009) used just this approach in declaring hebephilia a mental disorder. They did not invoke comparative evidence, as Ford and Beach showed to be essential to making valid universal conclusions. They did not invoke *any* evidence. Reappraising their study was therefore in order. We did so by reviewing broad-based data.

The broad perspective contradicted both the harmful-to-the-individual and harmful-for-others criteria regarding mental disorder. The evidence indicated that male heterosexual hebephilic interest, rather than being dysfunctional, is at the lower end of a functional range of age preferences, and that male homosexual hebephilic interest is either an evolved but functionally neutral capacity or a naturally selected mechanism. Given the evolved nature of these interests, hebephilic *preference* (i.e., hebephilia) becomes an expectable distributional variant. The presumption, then, is that this preference is not dysfunctional. It was argued that, in fact, it is not, as it would not have reduced the fitness of actors, targets, or social groups in the EEA and other earlier human environments. As such, both male heterosexual and homosexual hebephilic preference should not be classified as disorders, irrespective of their sizable misfit in our society today. These two forms of interest or preference—the ones of greatest social and clinical concern—are best understood scientifically as evolutionary mismatches with modern Western culture, not as dysfunctions or mental disorders.

Caveats

It is important to emphasize the limits of the present review regarding hebephilic behavior in our society. The analogy of polygamy is instructive. Wakefield (2007) noted that, though our culture disvalues polygamy, we can judge that it is not disordered because cross-cultural data show that it is not a failure of natural functioning. Notably, Wakefield was rendering a scientific judgment, not arguing or implying that this practice be legalized or otherwise tolerated now. The same points apply to our review of hebephilia. Our finding that hebephilic behavior has had wide currency in other species, cultures, and historical periods, sometimes with a functional basis, implies little with regard to its

[14] Group selection has been out of favor since the 1960s, but recently has been returning. Its dismissal was based only on argumentation, not a distinguished body of empirical research (Wilson & Wilson, 2007). Since the 1960s, growing evidence for group selection has emerged in microbes, plants, insects, and vertebrates, and a number of key biologists who had rejected group selection later reverted back to it as a supplemental process (e.g., Williams, Hamilton, Maynard Smith). Ants are a model instance of group selection, with hyper-cooperativeness within groups and hyper-aggressiveness between groups, and with extreme evolutionary success (Wilson & Hölldobler, 2008). These features all have parallels in humans, suggesting that group selection partially explains human nature as well, particularly aspects of the male group, including warfare tendencies (Gat, 2006; Wilson & Hölldobler, 2008; Wilson & Wilson, 2007). Bowles and Gintis (2011), based on an extensive review, argued that the high degree of self-sacrificing cooperation found in humans (especially within the male group, with lethal risks to its members) cannot be explained by self-interested mechanisms alone (e.g., kin or reciprocal altruism)—group selection is also needed.

acceptance in our society today. To conclude that it should be accepted because of its expression in other species is an instance of the *naturalistic fallacy*, and to judge it moral in our society because it has been so judged in other cultures is to commit the *relativistic fallacy* (Cardoso & Werner, 2004). Our review documents that human hebephilic behavior was associated across time and place with pubertal marriage in the case of girls and hunting-warrior mentorships and enculturation in the case of boys—practices embedded within economic arrangements, social structures, and ideological realities alien to our society today.

Moral Conflation, Moral Panic, and Scientific Integrity

Blanchard et al. (2009) claimed that hebephilia is a mental disorder without considering any of the multifarious evidence presented in the current review. Instead, they declared it a disorder by fiat, bypassing scientific analysis in favor of a pre-given conclusion supportable only because it is, for the current time and place, culturally resonant. Had their pronouncement been the opposite (i.e., hebephilia is functional), their article would never have been accepted in a peer-reviewed journal without massive evidential backing. Strongly resonant opinion can facilely pass through without the kind of scrutiny demanded of non-resonant views.

Kinsey et al. (1948) complained that clinicians in their day characteristically designated various sexual behaviors as pathologies based on moral evaluations rather than empirical analysis. By employing the latter, they challenged many clinical pronouncements based on little else than the former. Ford and Beach (1951), using a much broader data base, did the same. Moral evaluations structure "common sense" concerning many social behaviors, but they do not correspond isomorphically to objective reality. Instead, they are shorthand for culturally constructed realities, which change across time and place. Therefore, conflating moral evaluations with scientific judgment about human nature undermines the integrity of this judgment. In the area of adult–minor sex, or even age-gap minor–minor sex, the biasing impact of moral evaluations on scientific judgment has been particularly acute, as it has been exacerbated by a moral panic that has been in place for three decades now (Clancy, 2009; Goode, 2009; Jenkins, 1998, 2006).

Before this moral panic, most professionals viewed age-gap sexual interactions involving minors as not likely to be harmful in the long-term, unless accompanied by aggravating factors (Clancy, 2009; Finkelhor, 1979; Jenkins, 1998, 2006). By the early 1980s, many professionals came to believe that such interactions were among the most traumatic and damaging a minor could experience. This transformation occurred virtually overnight, as Jenkins (1998) documented, too quickly for science to have weighed in. It occurred under the influence of sexual victimology, which posed as a science but was based in political advocacy related to gender issues (Angelides, 2004, 2005; Clancy, 2009; Jenkins, 1998, 2006; Malón, 2009, 2010, 2011; Money, 1979). Sexual victimology's theories and claims, often ideological in nature and extravagant, were quickly absorbed into mainstream mental health thinking. Shortly thereafter, moral panics erupted in the 1980s and 1990s, including satanic-ritual-sexual abuse in day care and recovered memories in therapy (Frontline, 1993, 1995; Jenkins, 1998; Nathan & Snedeker, 1995). These alleged episodes were continually sensationalized in the media as horrid fact, cementing in the public mind the perception that all forms of age-gap sexual interactions involving minors are intrinsically traumatic and psychologically ruinous, a perception that outlasted the eventual discrediting of these "episodes," and which continues intact to the present day (Rind, 2009).

The scientific integrity of sexological knowledge matters, no less when the topic concerns a phenomenon as politically sensitive as hebephilia. The biasing influence of a moral perspective exacerbated by moral panic in this area indicates the need for vigilance in avoiding facile judgment implicitly or explicitly connected to moral evaluations. Instead, and as a corrective, such judgment needs to be based on the laborious survey of multi-stranded empirical data and perspectives.

Concluding Remarks

The broad-based scientific evidence indicates that hebephilia is not a dysfunction, and therefore cannot justifiably be declared a mental disorder in the *DSM*. Yet it remains that hebephilia misfits contemporary Western socio-economic structures and egalitarian ideals, often eliciting hyperbolic social reaction. In this context, such behavior is problematic for all concerned: the hebephilic actor, his or her junior partner or target, and significant others connected to them. Recognizing this, hebephilia might usefully be entered in the *DSM*'s *5*-code section, which recognizes the need to treat non-disordered conditions associated with significant problems in present-day society. This solution avoids adding yet a new chapter to psychiatry's troubled history of scientific misclassification—especially notable vis-à-vis sexual behavior—and yet provides direction for psychiatry in helping those with hebephilic impulses to control their behavior.

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