

Claims That Circumcision Increases Alexithymia and Erectile Dysfunction Are Unfounded: A Critique of Bollinger and Van Howe’s “Alexithymia and Circumcision Trauma: A Preliminary Investigation”

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Preliminary Results Are Preliminary, Not “Unfounded”: Reply to Morris and Waskett

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Claims That Circumcision Increases Alexithymia and Erectile Dysfunction Are Unfounded: A Critique of Bollinger and Van Howe’s “Alexithymia and Circumcision Trauma: A Preliminary Investigation”

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In the July 2011 issue of *International Journal of Men’s Health*, Bollinger and Van Howe present results from “preliminary investigation” involving the *Toronto 20-Item Alexithymia Scale* (TAS-20) of the relationship between circumcision and alexithymia (stated on the recruitment website as “having no words for feelings”) (Bollinger & Van Howe, 2011). They conclude that “Alexithymia in this population of adult men is statistically significant for having experienced circumcision trauma and for erectile dysfunction drug use” (p. 184).

The main problem with this small-scale survey is that the 236 circumcised men and 64 uncircumcised men were self-selected, which can lead to a well-recognised source of bias (Rothman & Greenland, 2005). Furthermore, the authors seem to have made no attempt to minimize such potential bias. Indeed, men were recruited through advertisements on two Internet sites: menstuff.org and themenscenter.com (now mensightmagazine.com), both of which appear to take a strong anti-circumcision stance (see: <http://mensightmagazine.com/bookstore.htm#CIRCUMCISION> and <http://www.menstuff.org/issues/byissue/circumcision.html>). The title of a recruitment advertisement for the survey—“Male Circumcision Trauma Survey”—is itself “loaded,” especially as trauma in infancy associated with cir-



cumcision, in the absence of local anaesthesia, nor with any other minor trauma, is not recognized clinically as being responsible for any psychological or sexual problem later in life. Moreover, the survey dated 2006 and attributed to Bollinger, an “Independent Men’s Issues Researcher” (see: <http://mensightmagazine.com/Articles/Bollinger,%20Dan/traumasurvey.htm>), is on a website that proclaims supposed psychological harm that circumcision causes males, and which includes a document entitled “Resolution for Genital Integrity,” with a link to Bollinger’s anti-circumcision organisation, the International Coalition for Genital Integrity (<http://www.icgi.org>). Psychiatric problems have been found in men unhappy about having been circumcised (Mohl, Adams, Grier, & Sheley, 1981). One, body dysmorphic disorder, has been linked to alexithymia (Fenwick & Sullivan, 2011).

It therefore seems reasonable to expect that the modality of recruitment employed would have resulted in a study population containing a disproportionate number of men with anti-circumcision views. Unless one is willing to assume that circumcised men with sexual or psychological problems are equally likely to hold anti-circumcision views as other men, this source of bias should be obvious. Any scholar should therefore be concerned about the influence of anti-circumcision propaganda on the survey results and the unrepresentative nature of the respondents. Thus, on top of the well-known ability of self-selection being prone to introduce biases, in the case of the present survey the authors seem to have actively encouraged such bias. In fairness to the authors, they do acknowledge the limitations of their self-selection process, and further recognize that recruitment websites might themselves bias the sample. In our opinion, however, these biases were downplayed and inadequately explored.

All of the subjects completed a questionnaire to determine their alexithymia (ALEX) score, yet nowhere do the authors state that alexithymia is defined as a TAS-20 score of > 61. Their Figure 1 provides distribution curves for ALEX scores for circumcised and uncircumcised men, but neither the number of men who had “Low,” “Moderate,” and “High” ALEX scores, nor the proportion of each, is provided anywhere in their paper. Curiously, the legend to this Figure states that “A larger proportion of circumcised men had higher Low, Moderate, and High ALEX scores than uncircumcised men as shown by these smoothed distribution curves.” Such an assertion is unmathematical. By using a “cut and weigh” technique to determine the area under each curve, we calculated that 30 percent (71/236) of the circumcised men had a “High ALEX” score (shown as > 61) compared with 15 percent (23/64) of the uncircumcised men. For the type of questionnaire used, an *n* value of 23 is too low to provide confidence that the conclusion reached is reliable. Moreover, if a “High ALEX” score was being used as a definition of alexithymia—as it should—then the proportion of men in the survey with alexithymia greatly exceeds the general population prevalence of alexithymia, which for healthy people has been reported as less than 10 percent (Franz et al., 2008; Jimerson, Wolfe, Franko, Covino, & Sifneos, 1994; Mattila, Salminen, Nummi, & Joukamaa, 2006). This deviation from the norm further supports our assertion that the survey population was unrepresentative.

Bollinger and Van Howe go to some lengths to connect alexithymia to “circumcision trauma” in infancy. This claim is not, however, supported by their finding that “Age at time of circumcision was not significant ($t = 1.44, p = 0.1499$ [sic!])”. Their statement that “age at time of circumcision was not a factor, suggesting that early traumas with these participants were as likely to lead to alexithymia as the same trauma later in life” is more likely to reflect the biased nature of the study population than any effect unique to circumcision

in infancy. They also state that “Circumcision pain itself did not seem to effect [sic!] acquiring alexithymia.”

One of the references they cite actually states there is “strong empirical support for alexithymia being a stable personality trait rather than just a consequence of psychological distress” (Taylor, Bagby, & Parker, 1997), contradicting their argument.

Bollinger & Van Howe also draw on inter-country comparisons in an attempt to support their argument about alexithymia. However, there is an enormous array of variables that would influence such considerations, making inter-country comparisons strongly prone to confounding. Moreover, a recent, very large survey of 19,850 pre-school children from 24 societies (Rescorla et al., 2011) that examined a comprehensive range of emotional problems, found differences in severity of these between countries, but none would appear related to infant circumcision practice or the prevalence of circumcised males in each country. The same can be said for findings in a similar survey of children aged 6–16 from 31 countries (Rescorla et al., 2007).

The negative findings by the authors are instructive. The survey attempted to find an association with post-traumatic stress disorder (See <http://web.archive.org/web/20070329051708/http://www.babyboy.info/tmc/survey.htm>), but no findings were reported in their paper. Bollinger and Van Howe did, however, report that there was no difference in erectile dysfunction (ED) between circumcised and uncircumcised men (see their Table 3, especially the results from multivariate analysis). An association of circumcision with ED drug usage was, however, noted. One might ask what could explain equal susceptibility to ED but greater use of ED medication by circumcised men in the survey? One consideration might be socioeconomic status and thus the ability to afford drugs. It has been found consistently that circumcision is associated with upper socioeconomic indices (Laumann, Maal, & Zuckerman, 1997; Richters, Smith, de Visser, Grulich, & Rissel, 2006; Xu, Markowitz, Sternberg, & Aral, 2007). National differences may also play a role: 78 percent of participants (and, it seems likely, more circumcised men) were from the USA, where usage of pharmaceuticals per capita is relatively high.

Bollinger & Van Howe claim, without evidence, that higher ALEX scores in men than in women can be attributed to “circumcision trauma.” They cite a study by Parker, Bagby, Taylor, Endler, and Schmitz (1993) that they claim shows higher alexithymia in American men. However, that study found higher alexithymia in men in each of the German, Canadian and American college students surveyed (Parker et al.). Higher alexithymia in males has also been observed in Finland and other countries where circumcision is uncommon (Mattila et al., 2006). Parker et al. considered higher alexithymia among men was as expected, given that emotional processing involves lateralized cerebral functions, whereas women display a lesser degree of hemispheric specialization, and are better than men at communicating information about feelings and health problems. Both men *and* women in the American sample had higher alexithymia scores than obtained for men and women in the Canadian and German sample. Parker et al. attributed such between-country differences irrespective of sex to be a result of cultural differences and the older age of the German sample. Interestingly, a study in London (where circumcision is relatively common) found *female* undergraduates, particularly science students, had higher alexithymia scores than males (Mason, Tyson, Jones, & Potts, 2005).

CONCLUSION

We suggest that the recruitment methods used by Bollinger and Van Howe would strongly bias their survey towards anti-circumcision respondents. We posit that circumcised men with psychological issues are going to be more likely to become anti-circumcision activists than those who are well-adjusted, since the latter have no need to blame their circumcision for anything. Difficulty with erections is a common problem in men. We predict that vulnerable men with such difficulties may well be influenced by statements on anti-circumcision websites and blame their childhood circumcision for their sexual problems. We conclude that the present “preliminary investigation” falls well short of providing any support for an association between circumcision and alexithymia, ED or any other item in the questionnaire.

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Preliminary Results Are Preliminary, Not “Unfounded”: Reply to Morris and Waskett

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We appreciate the interest that our preliminary study has generated and would like to respond to comments made in the critique by Morris and Waskett.

We acknowledged the limitations of our study, primarily the potential for selection bias, in the original publication. All research begins with an idea that becomes a hypothesis. The first step is to see if others have tested the hypothesis. If no one else has, the hypothesis is usually tested using a convenience sample. Convenience samples are used because of limited resources and access to a representative sample is limited and expensive. If the data from the convenience sample supports the hypothesis, then it needs to be confirmed with a more representative sample. This is where our line of inquiry stands. We have made no claims beyond our preliminary findings. Our findings are unconfirmed, not “unfounded.” To be “unfounded” there would need to be a study of a representative sample with sufficient power to show our findings were errant. Such a study has not been done.

An example of how the research process works is exemplified by research on the impact of male circumcision on the sexual experience of the female partner. A study of a convenience sample found that the male partner’s circumcision status had a significant impact on a woman’s sexual pleasure (O’Hara & O’Hara, 1999). Recently, a national health survey confirmed these findings, noting that compared to women with normal male partners, women with circumcised male sexual partners were significantly more likely to report “incomplete sexual needs fulfillment” (adjusted OR = 2.09, 95% CI = 1.05 – 4.16), overall sexual function difficulties (adjusted OR = 3.26, 95% CI = 1.15 – 9.27) (including orgasm difficulties: adjusted OR = 2.66, 95% CI = 1.07 – 6.66), and dyspareunia (adjusted OR = 8.45; 95% CI = 3.01 – 23.74) (Frisch, Lindholm, & Grønbaek, 2011).

Many of the claims made by Morris and Waskett are unfounded. For example, to suggest that we “have actively encouraged such bias” is untrue, unprofessional and unsubstantiated. Our data showed that circumcised men were more likely to report erectile dysfunction (age adjusted OR = 1.87, 0.69 – 5.05). While our findings are not statistically significant, this does not mean there is “no difference in erectile dysfunction (ED) between circum-

cised and uncircumcised men.” We found an increased likelihood of a difference that should be explored further and which is consistent with the results of a national survey in which circumcised men reported significantly more orgasm difficulties (adjusted OR = 3.26; 95% CI = 1.42 – 7.47) than normal men (Frisch, Lindholm, & Grønbaek, 2011). And, a late-breaking article found that circumcised men were four times as likely to fail to achieve a normal erection from penilo-carvenosum reflex elicitation than circumcised men ($p < .001$) (Podnar, 2012). Also, Morris and Waskett should be aware that one cannot *prove* the null hypothesis.

In addition to impacting orgasms, circumcision has been linked in several studies to premature ejaculation, with circumcised men having nearly five times the rates of normal men, suggesting that there may be trauma from circumcision (Kim & Pang, 2007; O’Hara, & O’Hara, 1999; Richardson & Goldmeier, 2005; Tang & Khoo, 2011). Studies from the Karolinska Institute in Sweden (and elsewhere) have shown that perinatal events have a long-term impact on behavior (Anand, Runeson, & Jacobson, 2004; Jacobson & Bygdeman, 1998; Jacobson, Eklund, Hamberger, Linnarsson, Sedvall, & Valverius, 1987; Jacobson, Nyberg, Eklund, Bygdeman, & Rydberg, 1988; Jacobson, Nyberg, Grönbladh, Eklund, Bygdeman, & Rydberg, 1990; Nyberg, Allebeck, Eklund, & Jacobson, 1992, 1993; Zornberg, Buka, & Tsuang, 2000). These events, based on increases in cortisol levels, are less stressful than infant circumcision, so one would expect that circumcision is also likely to have long-term impact on behavior. It has also been shown that circumcised boys cry longer and louder than normal boys when vaccinated at four to six months of age (Taddio, Goldbach, Ipp, Stevens, & Koren, 1995; Taddio, Katz, Ilersich, & Koren, 1997). The long-term effects of “circumcision trauma” are accepted by all but a small minority.

The words “Low, Moderate, and High” were inadvertently inserted into the legend of our Figure. We apologize for any confusion this may have caused. It is unclear how this typographical error was “unmathematical,” as the figure speaks for itself.

We were surprised by Morris and Waskett’s use of the “cut and weigh” to determine the area under the curve as a possible replacement for two-by-two tables in evaluating dichotomous and categorical variables. Typically, dichotomous variables are evaluated by calculating a chi-square, a Fisher’s exact test, or a Mantel-Haenszel (MH) odds ratio, thus eliminating need for a scissors or a scale. When the respondents were categorized as having low, moderate or high ALEX scores, a statistically significant trend for circumcised men to have higher scores (chi-square ($df = 1$) = 6.11, $p = .0134$) was found. Of the circumcised men who responded to the survey 78 of 236 (33.1%, 95% CI = 27.05 – 39.05) had a low ALEX score. Of the normal men, 34 of 64 (53.1%, 95% CI = 40.9 – 65.35) had a low ALEX score. The chi-square for the two-by-two table was 8.67, which corresponds to a p-value of .0032. The Fisher’s exact p-value was .0053. The MH odds ratio was 2.30 (95% CI = 1.31 – 4.02). All of these differences are statistically significant, even when adjusted for multiple comparisons using the Bonferroni method. Of the circumcised men 94 of 236 (39.8%, 95% CI = 33.6 – 46.1) reported a high ALEX score while 19 of 64 (29.7%, 95% CI = 18.5 – 33.5) of normal men reported a high ALEX score (OR = 1.56, 95% CI = 0.86 – 2.85). When the number of men with high ALEX scores are compared to the number men with low ALEX scores, circumcised men were significantly more likely to have a high ALEX score (OR = 2.16, 1.14 – 4.08).

We were further surprised by the comments that “an n value of 23 is too low to provide confidence that the conclusion reached is reliable.” We are unsure of where this notion came

from. We speculate that Morris and Waskett are referring to the number of patients needed to satisfy asymptotic assumptions. For example, if a cell of a two-by-two table or a stratum has a count of ten or fewer (some say five or fewer) the asymptotic assumptions that allow for the calculation of accurate estimates using common statistical methods are not met. In such cases calculations using exact statistics are needed to provide accurate results. For example, a study with data from five countries was published in the *New England Journal of Medicine* in which seven of the 20 cells (four cells for each of five countries) had a count of five or fewer, yet exact statistics were not used. Consequently, their estimates were calculated using unreliable statistical methods, so the reported results are likely to be inaccurate (Castellsagué et al., 2002). The only two-by-two table in our report that had a cell with a count fewer than five was in the comparison of the number of men who had taken medication for erectile dysfunction. When tested using Fisher's *exact* test, the *p*-value was .0058.

Morris and Waskett note that in general populations only 10 percent will have high ALEX scores, and the high rates seen in our study suggests that our population is unrepresentative. By this standard the rates for high ALEX scores were high in both our circumcised men and our normal men. The fact that the overall rates of high ALEX scores in the population we studied are higher than expected in the population at large does not mean that difference seen between circumcised and normal men is not valid. It indicates that a difference exists in a population with a higher than average rate of high ALEX scores. As we noted in our original publication we believe these findings need to be replicated in other populations.

It seems that our statement "Circumcision pain itself did not seem to effect [sic!] acquiring alexithymia" is taken out of context. It appears that circumcision, regardless of whether anesthetics were used, affects alexithymia scores.

The use of erectile dysfunction medication is more likely to be a measure of the severity of erectile dysfunction than a measure of economic access to the medication. We believe that Morris and Waskett wrongly assert that circumcision is consistently associated with upper socioeconomic indices. This association has shifted with time. More recent studies have found that mothers who do not have their sons circumcised are more likely to have greater levels of education. As Edgar Schoen has pointed out in one of his poems, the intact penis will belong to the sons of Berkeley professors and the "genital chic" (Schoen, 1987). It is also quite unlikely that economic factors and access to medication alone would explain the four-fold difference between the 4.7 percent of normal men and 22.7 percent of circumcised men who reported using medications for erectile dysfunction. We likewise doubt that statements on anti-circumcision websites had any influence on whether a man has erectile dysfunction or his willingness to report it. Where a man places the blame for such dysfunction does affect whether or not he has dysfunction. Difficulty with erections is a common problem in men, but increasingly data are suggesting that the problem is more common in circumcised men.

We are not convinced that Morris and Waskett have presented anything to negate our findings that circumcised men had significantly higher alexithymia scores and were significantly more likely to use medications for erectile dysfunction than normal men. We stand by our findings with the already established caveat that our convenience sample may not be representative of the population at large. We are encouraged that our findings are consistent with the findings of increased rates of sexual difficulties in circumcised men seen in a national health survey (Frisch, Lindholm, & Grønbaek, 2011). Perhaps Morris and Waskett should let the full research process play itself out by considering testing a similar hypothe-

sis in a more random sampling of the population. After all, it is better to light a candle than to curse the darkness.

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