

The Styrofoam Vagina

How a bizarre study unintentionally exposes the intellectual laziness of circumcision scholars

"You have to know how to read a scientific paper—and actually bother to do it." ^[1]

Fifteen years ago Donald Taves, a University of Washington professor, conducted an experiment to measure the effect of foreskin on the force necessary for sexual penetration. He reported his experiment in a 2002 medical journal.^[2] The study provides a shocking view into the state of scholarship and confirmation bias among academics, particularly those with an anti-circumcision agenda.

Taves cut a quarter-sized hole in the bottom of a Styrofoam cup to simulate a vaginal opening. He mounted the cup on a diet scale in order to measure and compare the force that a circumcised man and an uncircumcised man would use to enter a partner's vagina. Taves penetrated the hole with his erect penis six times with his glans exposed, and six more times with his foreskin covering the glans.^[3] He concluded that uncircumcised men use ten times less force to enter a female partner than their circumcised peers.

Study Weaknesses

The experiment consisted of the researcher having sex with a Styrofoam cup. The problems with this study (this author uses that term loosely) are so apparent, it's difficult to know where to begin.

- Vaginas come in different sizes. So do penises. The researcher measured force based on only one penile girth and only one size opening.
- Several factors can affect the force necessary for penetration: body angles, the mood of the male, the mood of the female, their levels of sexual arousal, their ages, and the point in the woman's menstrual cycle. None of these aspects was measured. In fact the researcher never considered any factor other than his own foreskin.
- Putting an exposed glans through the rough edges of a Styrofoam hole may be painful. By contrast, a vaginal opening is smooth, somewhat flexible, and naturally designed for comfortable penetration by an erect penis.
- The subject's penis rubbed against the side of the cup as it entered and withdrew. But a vaginal canal is significantly longer than the 1/4-inch edge of a cup. The vagina puts pressure on most of the penis as it penetrates and withdraws, providing pleasurable sensations leading to orgasm.



Figure 1 from the study ^[4]

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- A sexually aroused woman secretes vaginal fluid that aids intercourse. But a Styrofoam cup provides no such lubrication, and the researcher didn't indicate whether he used artificial lubrication.
- The assumption seems to be that less force and friction during penetration are preferable. But friction between the male and female genitals – the contact of the penis with the vaginal canal – is what causes stimulative pleasure. Many women have reported that the most important physical factor in a partner's genitals is his girth.

“The British research ... confirmed that women do indeed prefer a thick penis. The reason: ‘The greatest number of nerve endings are in the lowest part of the vagina,’ Nicole says. ‘So when a thick penis pushes against the labia and lower vaginal walls, it provides intense, pleasurable sensation.’”^[5]

- The male researcher had total control over penetration. But a number of sexual positions allow the female to control the depth, angle, and pace of penetration.^[6]
- While a thinner penis would provide less friction entering the vagina, a thicker penis that rubs against the vaginal wall might provide greater pleasure for both male and female partners. A lack of friction would cause the least amount of force. But such a sexual experience may be considered unsatisfying.

These flaws don't begin to cover the problems associated with Taves using himself as the sole subject. Without a baseline measurement, the results can't be compared. The researcher might have inadvertently altered the amount of force he used during successive insertions. And with only a single participant, the results are not applicable to the general population.^[7]

There is almost no reasonable comparison between the experiment and human sexual intercourse. A middle school student who submitted this experiment for a school project would receive a failing grade. One is left speechless at the realization that this study is given any consideration.

Confirmation bias

And yet, astonishingly, the study has been given serious consideration in the scientific community. The results have been cited in more than a dozen scholarly papers, articles, books, and anti-circumcision websites. Academics with advanced degrees have cited the study to prove that “circumcision has been shown to increase the difficulty of penetration”; and the foreskin “plays an essential role in the dynamics of sexual intercourse” and “the mechanical function of the penis during sexual acts, such as penetrative intercourse.” A German citation indicates that the results of the experiment have been accepted internationally. In most cases this was the **only** study cited in support of the assertion that the foreskin plays an essential role in vaginal penetration.

Confirmation bias is the tendency to seek out and embrace information that supports one's view while ignoring or dismissing information that casts doubt on one's perspective. “Deliberate use of confirmation bias is held in low esteem by scientists, and allowing confirmation bias to get the better of your results is regarded as a particularly sad form of incompetence.”^[8] Scholarly acceptance of this study is one of many examples of researchers with a clear anti-circumcision agenda showing little or no skepticism for studies

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that support their views. One wonders how many researchers don't even bother to read a study, but just blindly report the descriptions they read from earlier papers.

Based on the demonstrated confirmation bias and lack of skepticism on the part of both pro-circumcision and anti-circumcision researchers, any study related to this topic shouldn't be accepted at face value. Each paper should be analyzed with a degree of skepticism. Having reviewed several studies related to circumcision, this author has discovered to his amazement that studies are cited primarily based on whether the results support a scholar's agenda, and not based on whether the scholar has affirmed that a study is scientifically valid and relevant.

Any partisan who cites the Taves study should answer whether he reviewed the study. If the answer is yes, he must explain why he considers an experiment that consists of sex with a Styrofoam cup would provide any information about the effect of circumcision on sexual intercourse. If the answer is no, he must explain why others should give credence to the work of a researcher who doesn't bother to research. We must call to account those scholars who are too lazy to do even a basic review of supportive evidence.

Conclusion

This paper wasn't written in order to ridicule Donald Taves. The effect of the foreskin on the force used during vaginal penetration can be an appropriate topic for a researcher to explore. In principle Taves or a colleague should be able to test his hypothesis more rigorously. An adult toy such as an artificial vagina might effectively simulate the proper resistance during penetration. If several circumcised men and uncircumcised men can be recruited to participate, perhaps an experiment could be devised to measure intromission force.

This author's contempt is reserved for scholars who blindly cited the Taves study. One wonders how many of them bothered to read a description of the experiment. They may have assumed that the study is valid based on previous citations or its publication in a science journal. They may have assumed that it's valid because the results support their agenda. One would expect that academics know intuitively that a hole cut out of a Styrofoam cup is no substitute for a real woman. Alas, one learns with chagrin that society sometimes places too much faith in the wisdom and diligence of the academic science community.

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Notes

[1] John Bohannon, "I Fooled Millions Into Thinking Chocolate Helps Weight Loss"; io9; May 27, 2015 – accessible at

<https://io9.gizmodo.com/i-fooled-millions-into-thinking-chocolate-helps-weight-1707251800>

[2] Donald R Taves; "The intromission function of the foreskin"; *Medical Hypotheses*, pp 180-182; August 2002 – abstract accessible at <http://www.sciencedirect.com/science/article/pii/S0306987702002505>

[3] In a December 5, 2016 email to this author, Taves confirmed that he was the only subject of the experiment.

[4] The photo caption reads: Device for measuring penile force during intromission. (Diet scales, Hanson Scale Co....) Lower left: an artificial introitus was made by cutting a quarter size piece out of the bottom of the an [sic] 8 1/3 ounce foam beverage cup (Western Family Space Saver insulated FOAM CUPS...) and making 8 equidistant cuts from the margin to the thickened rim of the cup. The length and number of cuts determined the stiffness and expansibility of the 'introutus' and hence the ease of intromission.

[5] Brittany Risher and Justin Park; "How big is yours?"; *Men's Health*; January 29, 2010 – accessible at <http://www.menshealth.com/sex-women/penis-size-what-women-think>

[6] Anna Borges; "7 Sex Moves That Put YOU in Control"; *Women's Health*; November 5, 2014 – accessible at <https://www.womenshealthmag.com/sex-and-love/woman-on-top-sex>

[7] Mark Sisson; "The Pitfalls and Limitations of Self-Experimentation"; Mark's Daily Apple; 2015 – accessible at <http://www.marksdailyapple.com/the-pitfalls-and-limitations-of-self-experimentation>

[8] Chris Lee, "Confirmation bias in science: how to avoid it"; *Ars technica*; July 13, 2010 – accessible at <https://arstechnica.com/science/2010/07/confirmation-bias-how-to-avoid-it>

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APPENDIX: Studies, papers, and websites that cite “The intromission function of the foreskin”

1. Circumcision Reference Library (published the entire paper)
<http://www.cirp.org/library/anatomy/taves1>
2. Hill, George; “Can Anyone Authorize the Nontherapeutic Permanent Alteration of a Child's Body?”; American Journal of Bioethics; 2003
<http://www.tandfonline.com/doi/abs/10.1162/152651603766436342?journalCode=uajb20>
"The foreskin plays an essential role in the dynamics of sexual intercourse, enabling nontraumatic intromission (Taves 2002)"
3. Fox, Mary; “A covenant with the status quo? Male circumcision and the new BMA guidance to doctors; 2005”; Journal of Medical Ethics; 2005
<http://jme.bmj.com/content/31/8/463.full>
“The prepuce is a complex structure that has a range of significant sexological functions playing ‘an important role in the mechanical functioning of the penis during sexual acts, such as penetrative intercourse and masturbation.’” [citing Taves from other sources]
4. Dalton, JD; “Male circumcision -- see the harm to get a balanced picture”; Journal of Men's Health and Gender. 2007
<http://docplayer.net/21022777-Male-circumcision-see-the-harm-to-get-a-balanced-picture.html>
“Male circumcision permanently removes normal, functional, specialised tissue. It removes ... the normal gliding function that facilitates intromission.” [citing Taves]
5. Dalton, John D; “Effect of circumcision on intromission and sexual satisfaction”; BMJ; 2007
<http://www.bmj.com/rapid-response/2011/11/01/effect-circumcision-intromission-and-sexual-satisfaction>
“The intromission function of the foreskin has been documented by Taves.”
6. Hill, George; “The Case Against Circumcision”; Journal of Men’s Health & Gender; 2007
“The force required to penetrate increases 10-fold when the foreskin is absent.”
[citing Taves]
7. Wilson, Christopher G; Male genital mutilation: an adaptation to sexual conflict; Evolution and Human Behavior; 2008
<http://documentslide.com/documents/male-genital-mutilation-an-adaptation-to-sexual-conflict.html>
"Miscellaneous findings can be used to suggest potential mechanisms by which circumcision may impact competition for fertilizations. These include increased effort required to overcome friction during intromission (Taves, 2002)"
8. Schreiber, M; Juristische Aspekte der rituellen Zirkumzision; Klinische Pädiatrie; 2009
https://upload.wikimedia.org/wikipedia/commons/b/be/Juristische_Aspekte_der_rituellen_Zirkumzision.pdf
“In einem Experiment wurde gezeigt, dass eine fehlende Vorhaut beim Einführen des erigierten Penis die Reibkraft um den Faktor 10 steigern kann.” [citing Taves]
TRANSLATION: “In an experiment it was shown that the lack of foreskin when introducing the erect penis can increase the force of friction by a factor of 10.”

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9. Bunker, C.B.; “The Genital, Perianal and Umbilical Regions”; *Andrologia*; 2010
Song, B; “Possible function of the frenulum of prepuce in penile erection”; *Andrologia*; 2012
10. Schröder, Annette; “Circumcision: Case Against Surgery Without Medical Indication”; *Frontiers in Immunology*; 2012, p 188
http://link.springer.com/chapter/10.1007%2F978-1-4471-2858-8_16#page-1
“An experimental study showed that the foreskin, being a double invagination of skin that covers the glans and unfolds with intromission, facilitates intromission significantly (measured by force in g) compared to the exposed glans.” [citing Taves]
11. Hegazy, AA; “Male circumcision: review and authors perspective”; *theHealthj*; 2012
http://www.thehealthj.com/march_2012/male_circumcision.pdf
“The foreskin that is retracted over the body of the glans during coitus facilitating the intromission.” [citing Taves]
12. “Rook’s Textbook of Dermatology; Griffins, Christopher et al, editors; Wiley; 2015 [citing Taves]
13. Denniston, George; “A Short Guide to Male Circumcision”; *Doctors Opposing Circumcision*; 2016
<https://www.doctorsopposingcircumcision.org/wp-content/uploads/2016/01/Male-Infant-Circumcision-Brief-Overview-of-Issues.pdf>
“Circumcision has been shown to increase the difficulty of penetration” [citing Taves and a 2004 article about erectile dysfunction following *adult* circumcision]
14. Esra, RT; “Does HIV Exploit the Inflammatory Milieu of the Male Genital Tract for Successful Infection?”; *Frontiers in Immunology*; 2016
<http://journal.frontiersin.org/article/10.3389/fimmu.2016.00245/full#F1>
“Although not necessary for normal penile functioning, the foreskin is thought to confer physical and immunological protection to the sensitive glans penis.” [citing Taves]
15. J. Stephen Svoboda, “Nontherapeutic Circumcision of Minors as an Ethically Problematic Form of Iatrogenic Injury”; *AMA Journal of Ethics*; August 2017
<http://journalofethics.ama-assn.org/2017/08/msoc2-1708.html>
“The foreskin keeps the glans moist and facilitates a gliding action that promotes pleasurable sexual sensations.” [citing Taves]