Alejandro and Feldman - "The discursive process of resemantisation: how global health discourses turned male circumcision into an anti-HIV policy – Additional Analysis"

This document provides additional analysis for the article: Alejandro and Feldman "The discursive process of resemantisation: how global health discourses turned male circumcision into an anti-HIV policy", *International Relations*, 2024.

Sentiment analyses based on Mohammed and Turney (2013) and Liu (2012)

According to a sentiment analysis of the corpus based on Mohammad and Turney's NRC emotion lexicon[i], the second most common sentiment – after 'positive' – is 'trust' (see Figure 2). The term that contributes most to this sentiment is 'inform' (n = 5804), which most frequently refers to 'inform[ed] consent' (n = 486).

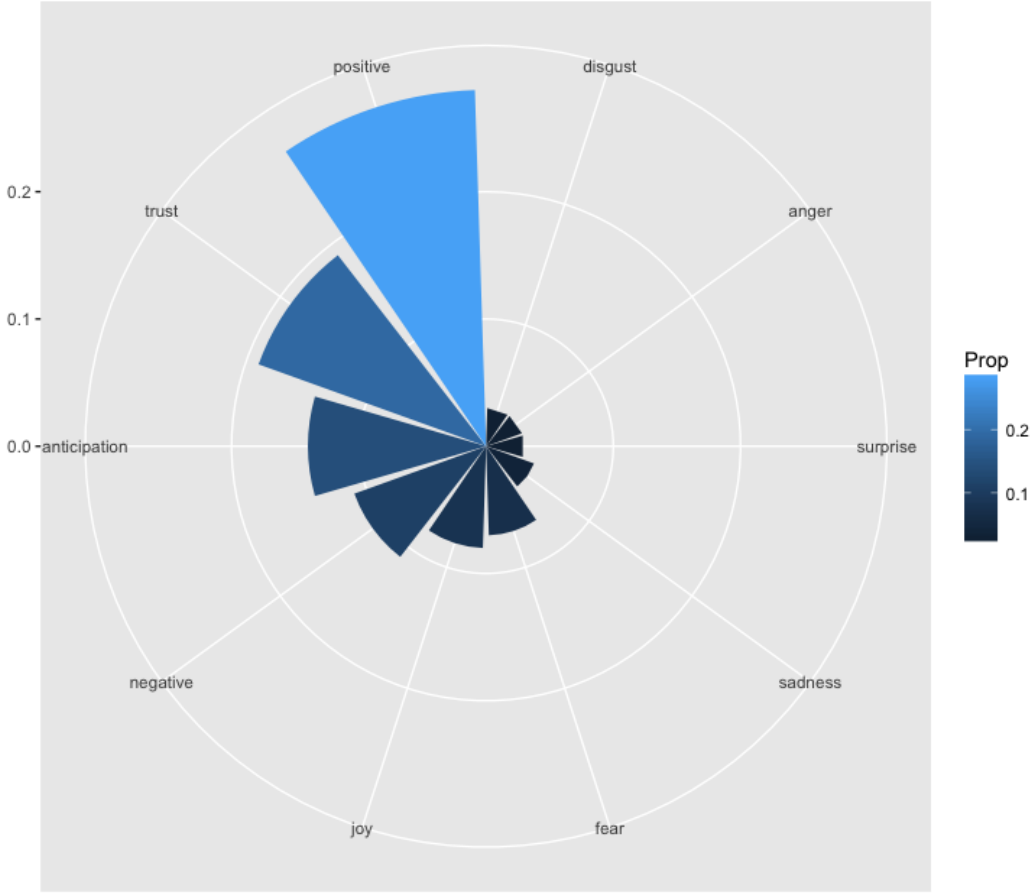

Figure 1 - Sentiment analysis based on Mohammad and Turney's (2013) NRC emotion lexicon. 28% of the overall sentiment is characterised as 'positive', and 19% is characterised as 'trust'.

Representing VMMC as a medical service seems to align with literature emphasising the ongoing depolitisation of international interventions which represent IOs as benevolent expert entities.[ii] The role of the IOs in charge of delivering VMMC is to 'counsel' (n = 3021), 'recommend' (n = 2093) and 'suggest' (n = 989); they establish 'partnership[s]' (n = 831) with governments and traditional practitioners, but they never impose their own agenda. Such representations can help legitimise VMMC and the IOs that endorse it.[iii]

In addition to the sentiment analysis based on Mohammad and Turney's dictionary, we conducted a more straightforward classification of language as positive or negative through a sentiment analysis based on Liu's [iv]. The results of this analysis align with the sentiment based on Mohammad and Turney's dictionnary and support some of the other findings presented. For example, the opinion lexicon reveals that the word that contributes the most to the negative sentiment is 'risk' (n = 4795), which may seem to contradict the idea that circumcision is represented as safe. However, a KWIC analysis of this term suggests that it usually refers to the risks of HIV infection, rather than the risks of circumcision. This finding is confirmed by an analysis of term similarity. At the paragraph level, the cosine similarity between 'risk' and 'HIV' is substantially higher than that between 'risk' and 'circumcision' ($\cos(\theta)$ = 0.51; $\cos(\theta)$ = 0.38), and the same is true at the sentence level ($\cos(\theta)$ = 0.28; $\cos(\theta)$ = 0.20).

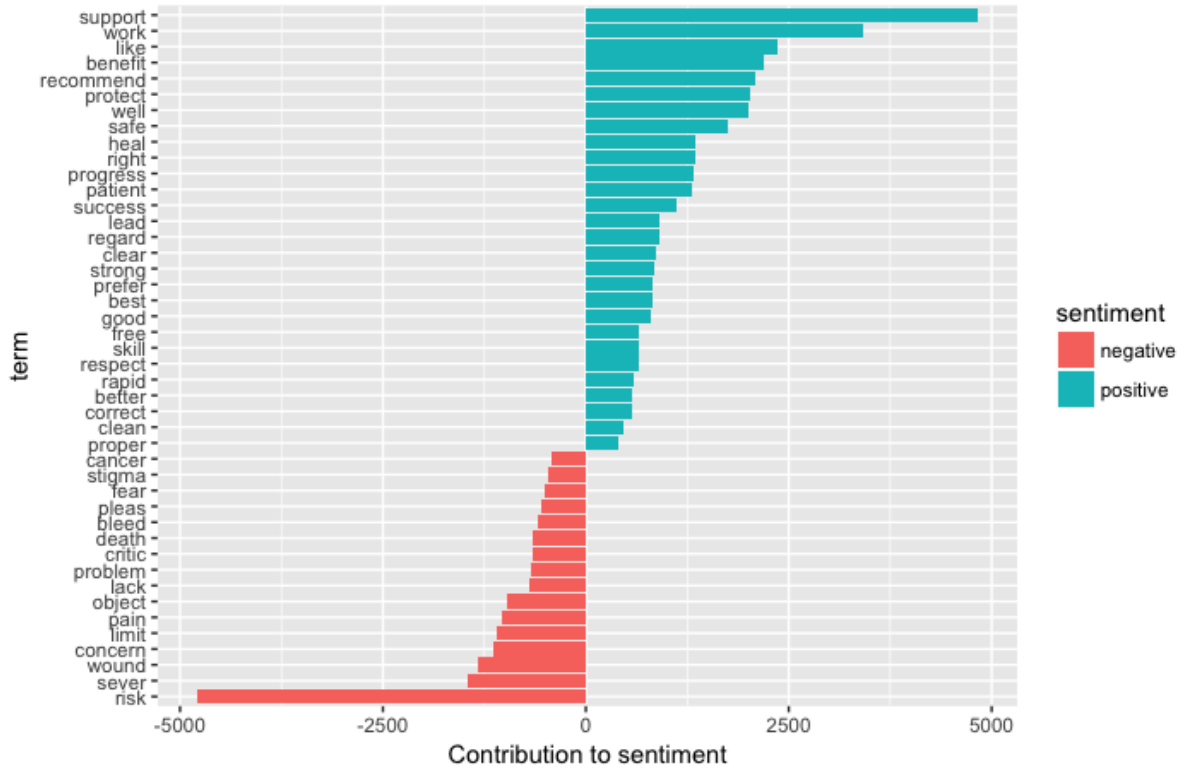

Figure 2 - Sentiment analysis based on Liu (2012)

Pathologizing the foreskin: Circumcision as protective and clean

The computational discourse analysis of representations of the foreskin in the corpus confirms the arguments put forward by historians regarding the "demonization of the foreskin" in pro-circumcision milieux [v]. Through a gauze of medico-scientific language, global health organizations represent the foreskin as a site of disease and contamination: "The area under the foreskin is a warm, moist environment that may enable some pathogens to persist and replicate... In an uncircumcised man, the cells in the inner foreskin and frenulum are directly exposed to vaginal secretions during intercourse, and this superficial location of the HIV-1 target cells presumably increases risk of infection" [vi]. Notice here that the foreskin – despite being a part of the natal anatomy – is said to increase the risk of infection, implying that the absence of a foreskin is the default, the baseline to which its presence is compared.

While acknowledging the existing of a 'debate' regarding the role of the foreskin, the policy documents do not reference relevant expertise or the fact that this literature proves rather than disproves that the foreskin is a sensitive organ that contributes to sexual pleasure.[vii] As Boyle et al. (2002) write, "the complex innervation of the foreskin... has been well documented, and the genitally intact male has thousands of fine touch receptors and other highly erogenous nerve endings – many of which are lost to circumcision".[viii] Implicitly acknowledging its detriment to their cause, the documents tend to minimise the sexual sensitivity of the foreskin. In a key publication on male circumcision (MC) for HIV prevention, the WHO and UNAIDS (2007) summarise the issue as follows: "There is debate about the role of the foreskin, with possible functions including keeping the glans moist, protecting the developing penis in utero, or enhancing sexual pleasure due to the presence of nerve receptors". The documents do not elaborate on this 'debate' or provide medical justification for the 'possible functions' of the foreskin, as they do for its role in HIV transmission.

On the contrary, the dissociation between the foreskin and its erogenous capacity is reflected in term similarities. At the paragraph level, the cosine similarity between 'foreskin' and 'pleasur[e]' is very low at 0.06. 'Foreskin' is predominantly associated with 'remov[e]' ($\cos(\theta)$ = 0.56), 'inner' ($\cos(\theta)$ = 0.52) and 'peni[s] ($\cos(\theta)$ = 0.51), while 'pleasur[e]' is predominantly associated with 'sexual' ($\cos(\theta)$ = 0.28), 'unmasculin[e]' ($\cos(\theta)$ = 0.25) and 'hygien[e]' ($\cos(\theta)$ = 0.24). Results are similar at the sentence level, where the cosine similarity between 'foreskin' and 'pleasure' is just 0.02. Again, 'foreskin' is most associated with 'remov[e]' ($\cos(\theta)$ = 0.43), 'inner' ($\cos(\theta)$ = 0.29) and 'peni[s] ($\cos(\theta)$ = 0.28), while 'pleasur[e]' is most associated with 'sexual' ($\cos(\theta)$ = 0.22), 'hygien[e]' ($\cos(\theta)$ = 0.13) and 'unfulfil[led] ($\cos(\theta)$ = 0.12).[ix] Implicitly acknowledging its detriment to their cause, the documents minimise the sexual sensitivity of the foreskin. In a key publication on male circumcision for HIV prevention, the WHO and UNAIDS (2007) summarise the issue as follows: "There is debate about the role of the foreskin, with possible functions including keeping the glans moist, protecting the developing penis in utero, or enhancing sexual pleasure due to the presence of nerve receptors". The reference to the foreskin as 'warm' and 'moist' inverts otherwise sexual connotations to suggest disease and infection, since it is precisely the 'soft and moist' (n = 10) nature of the foreskin that increases its susceptibility to tearing and viral transmission.[x]

In the communications documents, the protective capacity of circumcision modulates into language of cleanliness and hygiene. According to "Guidelines for male circumcision phone-in radio shows" for Zambia [xi], one of the four key messages for speaking with the media is: "Male circumcision can improve the hygiene of men by making the penis easier to keep clean". Similarly, a presentation by Jhpiego [xii] on demand creation in Tanzania suggests that global health actors should "[r]einforce positive perception of VMMC as 'clean' and 'hygienic'", and a report by the National AIDS Commission[xiii] suggests that practitioners should emphasize the "improved hygiene and cleanliness" of VMMC. In all cases, these organizations are consolidating the views already existing in some of the beneficiary contexts that circumcision is sanitary, implicitly reinforcing the image of the foreskin as dirty and disease-ridden.

Since it removes the foreskin, circumcision is conversely portrayed as protective: "in a circumcised man the penile shaft is covered with a thickly keratinized epithelium, providing some protection from infection" [xiv]. Here, the 'thickly keratinized epithelium' is a medical boon, a means of protecting an individual from a life-threatening disease. However, it could equally be depicted as a reaction to physical trauma, a dermatological adjustment following

the excision of healthy tissue. Indeed, circumcision – medical or otherwise – always results in a scar that encircles the shaft of the penis [xv]; although a 'thickly keratinized epithelium' is not a scar, it too is a lasting physical effect of a wound, whose perhaps otherwise troubling permanence is disguised by the bland technicality of its expression.

Finally, the corpus suffers discursive inconsistency as the presence of discourses mobilising evidence-based medicine contrasts with the lack of engagement with up-to-date, evidence-based literature. The tension between the use of existing norms and beliefs associated with MC to promote VMMC and the medical evidence of the time is sometimes acknowledged in the corpus itself. This is for example the case regarding the claims that MC increases sexual pleasure and improves sexual performance. In their section on 'opportunities for VMMC uptake and compliance', the National Aids Commission (2012) suggests that discussions about VMMC should emphasise "potentially greater… sexual pleasure", before acknowledging that "this is contentious".[xvi]

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[i] S. M. Mohammad and P. D. Turney, "NRC Emotion Lexicon," 2013.

[ii] Louis, Marieke, and Lucile Maertens. 2021. *Why International Organizations Hate Politics*. Abingdon ; New York: Routledge.

[iii] Steffek, Jens. 2009. "Discursive Legitimation in Environmental Governance." *Forest Policy and Economics* 11 (5–6): 313–18.

[iv] B. Liu, *Sentiment Analysis and Opinion Mining* (San Rafael, CA: Morgan & Claypool Publishers, 2012).

[v] Phillip Darby, *A Surgical Temptation: The Demonization of the Foreskin and the Rise of Circumcision in Britain* (Chicago: University of Chicago Press, 2005).

[vi] WHO and UNAIDS, "Male Circumcision: Global Trends and Determinants of Prevalence, Safety and Acceptability," 2007, https://www.malecircumcision.org/file/33006/download?token=SwvtfG-c.

[vii] Taylor JR, Lockwood AP and Taylor AJ (1996) The prepuce: Specialized mucosa of the penis and its loss to circumcision. *British Journal of Urology* 77(2): 291–295.

Kim D and Pang M-G (2007) The effect of male circumcision on sexuality. *BJU International* 99(3): 619–622.

[viii] Boyle GJ, Goldman R, Svoboda JS, et al. (2002) Male circumcision: Pain, trauma and psychosexual sequelae. *Journal of Health Psychology* 7(3): 329–343.

[ix] The associations of 'pleasur[e]' demand contextualisation. The association with 'unfulfil[led] is based on two examples from a single document, where the term refers to 'unfulfilled appointments' rather than – for example – sexual unfulfillment, and is therefore of no qualitative significance. The same seems to be true for 'hygien[e]', which is listed alongside 'pleasur[e]' in three documents with regard to the public health benefits of male circumcision.

[x] Ibid.

[xi] Unknown, "Guidelines for Male Circumcision Phone-in Radio Shows," 2014.

[xii] Jhiepo, "Getting to Know Key Audiences: Field Research That Informs Demand Creation Strategy," 2012, https://www.malecircumcision.org/file/32949/download?token=2z2YUIkz.

[xiii] National AIDS commission, "Malawi Voluntary Medical Male Circumcision Strategy 2012-2016," 2012.

[xiv] Ibid.

[xv] C. J. Cold and J. R. Taylor, "The Prepuce," *British Journal of Urology* 83, no. 1 (1999): 34–44.

[xvi] NAC. (2012). *Malawi voluntary medical male circumcision strategy 2012-2016*. Retrieved from https://www.malecircumcision.org/file/32682/download?token=A3DZj9dE