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Abstract

Clitorrectomies performed on the genitals of infants identified as female and as intersex have been both described as similar procedures and as different procedures. The former types of surgery have been recognised more consistently as human rights abuses than the latter in recent decades. We tested social psychological explanations of why human rights are differently recognised when infants are described as ‘intersex’ or ‘female’. 122 laypeople in the UK read one of two near-identical descriptions of clitorrectomies performed on intersex or female infants and reported their agreement with 22 items about the human rights of such infants. Clitorrectomies were perceived as violating human rights more by women than by men, and more so when infants were described as female than intersex. Endorsement of human rights was better predicted by several psychological variables when infants were described as female than as intersex. Less politically conservative participants, as assessed by a Right-Wing Authoritarianism measure, and participants who trusted medical authority more, recognised human rights violations of female infants more than intersex infants. Results are discussed with respect to the human rights efforts to protect infants from medically non-necessary genital surgery on the basis of membership in identity categories or possession of sex characteristics.

Keywords: intersex, FGM, public opinion, human rights, clitorrectomy

Introduction

In an early article on the first wave of intersex patient activism, Cheryl Chase (1998) made a historical point about the legitimacy of conducting clitorrectomy (the surgical removal, partial removal or reduction of the size of a clitoris) on infants. In the 1960s, as more children with Congenital Adrenal Hyperplasia survived infancy with cortisol injections, surgeons increasingly performed clitorrectomies on children with Congenital Adrenal Hyperplasia, identified as girls, to normalise their appearance. In this historical context, medical researchers sometimes compared modern Western medical clitorrectomies on girls with Congenital Adrenal Hyperplasia to traditional African clitorrectomy (see e.g. Gross, Randolph and Crigler 1966). Their reasoning was that as the two forms of clitorrectomy were analogous, and since African clitorrectomies were long standing, that modern Western clitorrectomies on intersex infants were also acceptable.

Writing just after the first laws against female genital mutilation in the USA criminalised Female Genital Mutilation in 1996, Chase (1998) noted that intersex doctors now seemed keen to distinguish their own modern Western practices from traditional African ones. As she argued elsewhere, Western surgical practices were increasingly described as “clitoral recession” rather than “clitorrectomy” (also called “clitoridectomy”) and the material basis for the rhetorical distinction might be smaller than it appears. “‘-Ectomy’ means ‘to cut’ – if you cut on something, it’s an –ectomy” (Hegarty and Chase 2000, 124).

Over the past twenty years, modern Western surgical practices of cutting on clitoral tissues of infants that are larger than is typically the case for infant girls, have remained at the centre of debates about the medicalisation of variable sex characteristics, (see Liao et al. (2019) for discussion). The terms ‘intersex traits’ and ‘disorders of sex development’ have also applied to diverse bodily variations in social science disciplines and biomedical disciplines respectively (see Lundberg, Hegarty and Roen 2018 for discussion). In the early 2000s, studies of adult women with variable sex characteristics who had undergone clitoral surgeries in childhood evidenced clear iatrogenic harms such as higher rates of non-sensuality and lower ability to achieve orgasm (Minto et al. 2003), and poor cosmetic outcome and need for follow-up surgery (Creighton, Minto and Steele 2001). Risks of such iatrogenic harms were acknowledged by the landmark Consensus Statement on Management of Intersex Disorders (Lee et al. 2006).

One might have expected a rapid reduction in clitoral surgery in this patient group following this recognition in the Consensus Statement. However, a study of the statement’s effects in Europe found that only of half of the disorders of sex development multidisciplinary teams surveyed reported a reduction in rates of clitoral surgery (Pasterski, Prentice and Hughes 2010). UK National Health Service data show no change in rates of clitoral surgery on girls following the Chicago consensus statement (Michala et al. 2014). In the USA, genitoplasty is chosen for infants with a range of variable sex characteristics far more often than it is refused (Ellens et al. 2017). A recent interview study of paediatric endocrinologists from 23 centres in 60 countries (Liao et al. 2019) showed that European Disorders of Sex Development professionals were aware that clitoral surgery for variable sex characteristics was controversial yet continued to rely on social ‘normalising’ justifications for it. The authors suggested that a social psychological dynamic of ‘pluralistic ignorance’ (see Prentice and Miller 1996) may operate in disorders of sex development multidisciplinary teams, such that all teams construct their own team as doing less aggressive surgery than is the norm in clinical practice.

Over the last twenty years, laws against female genital mutilation have become stronger in the Western context, creating greater distance between the protection from surgery for children who might be categorised as female and those categorised as intersex or diagnosed with a disorders of sex development on the basis of having variable sex characteristics. In the UK, where the present study was conducted, the Female Genital Mutilation Act (2003) defines Female Genital Mutilation as occurring when someone “excises, infibulates or otherwise mutilates the whole or any part of a girl’s labia majora, labia minora or clitoris”(chapter 31, section 1) The Act excludes genital cutting enacted by an approved healthcare professional for a woman’s mental or physical health, or during labour, but not cutting enacted for reasons of ‘ritual’ or ‘custom’ (ibid.). Like many laws against genital mutilation, the 2003 UK Act applies only to girls and women, and such restrictions to one gender category have recently made such laws vulnerable to challenge (Earp, in press). The 2006 USA Act that banned female genital mutilation and set the context for Chase’s early writings has been struck down in a recent case. The genital surgery that prompted the case was conducted by a physician in a clinical environment on a girl who was a member of the Dawoodi Bohra community (Earp, in press). In this community, male genital cutting can very plausibly be argued to be more physically invasive than the form of female genital cutting that is practised. Judge Bernard A. Friedman described the law which protected only girls as failing to satisfy requirements for non-discrimination on the basis of sex. However, as Earp (in press) points out, he struck down the law on the basis of the federalist principle that the national government does not have the authority to regulate ‘local criminal activity’ (here, physical assault).

This development has informed recent discussion of the bioethics of genital surgery on infants that seeks to conceptualise the bodily integrity of female, intersex and male infants under similar principles (see The Brussels Collaboration on Bodily Integrity 2019). This is a shift away from understanding the grounds for protection from harmful surgery from the social identity of being a girl/woman towards the severity of harm to sex characteristics risked by intervention. This shift away from identity categories resonates with concerns of the 10-year update to the Yogyakarta Principles (The Yogyakarta Principles Plus 10 2017) whose authors emphasise human rights protection on the basis of sex characteristics rather than intersex identity (Carpenter, this volume). Young people with variable sex characteristics less often construct variable sex characteristics as an intersex social identity than laypeople might predict, sometimes describing it as ‘only part of me’ (Lundberg et al. 2016: 340).

The present study aims to describe how laypeople apply human rights thinking to clitorectomies on female vs ‘intersex infants, and which individual differences in psychological attitudes and beliefs might moderate that application. We build on a small body of psychology experiments (see Streuli et al. 2013; Hegarty, Smith, and Bogan-Carey et al. 2019) that have manipulated features of information to demonstrate their effects on beliefs and decisions about surgical interventions on children’s variable sex characteristics. We contribute to what Earp et al. (2020) have recently described as experimental philosophical bioethics; an interdisciplinary approach employing empirical methods to advance theoretical debates. Kessler (1998) asked young women, who were not parents, to consider a hypothetical choice about clitorectomy for a daughter just born with a larger-than-typical clitoris, or to consider that their parents had earlier faced the same decision regarding those young women themselves. Most participants chose surgery for their daughter, but most also reported that they would have wanted their parents to reject the surgery option for themselves. Streuli et al. (2013) asked trainee medical professionals to consider a

hypothetical surgery decision about a child with variable sex characteristics. Most chose surgery when the information was presented through medical language, but most rejected it when it was presented through non-medical psychological language. Hegarty, Smith and Bogan-Carey (2019) asked psychology students to view *YouTube* videos in which intersex people spoke from experience, leading to more negative beliefs about the effects of medicine when intersex speakers presented a social identity framing rather than a medicalised framing of life experience with variable sex characteristics. Such studies respond to Liao and Simmonds' (2014) call to study lay understandings of intersex/ disorders of sex development and heighten concerns arising from interview studies that disorders of sex development professionals' personal assessments about psychosocial factors inform their discourse about which interventions are necessary and which are in their patients' best interests (e.g. Liao et al. 2019; Roen et al. 2018; Roen and Hegarty 2018).

This study

In dialogue with such bioethical opinion, the first aim of this experimental study was to test the hypothesis that laypeople would consider clitorectomies to infringe human rights *less* when performed on infants nominated as 'intersex' rather than 'female.' Earp et al. (2020) have argued that experimental philosophical bioethics can particularly reveal the psychological mechanisms and situational factors that shape normative bioethical judgments. To date, such experimental studies have focused on perspective taking (Kessler 1998) and variably medicalised framing of information (Hegarty, Smith, and Bogan-Carey 2019; Streuli et al. 2013). But bioethicists have also claimed that variable sex characteristics are not always culturally recognised as prototypical human tissues, and that this failure of recognition leads to the failure to recognise non-necessary medical intervention on variable sex characteristics as infringing human rights (Feder 2014). These views motivated our primary hypothesis.

Our second aim was to explore five psychological constructs that might point to 'mechanisms' (Earp et al. 2020) that might sustain beliefs that clitorectomy is similarly or differentially infringing of human rights when conducted on infants who are described as 'intersex' vs. 'female.' We describe these five constructs next.

Beliefs in gender binary was the first psychological construct. Some of the earliest social science on intersex pointed to a 'natural attitude' that gender is a binary category rooted in anatomical difference (Garfinkel 1967). Tee and Hegarty (2006) developed an individual differences measure that assesses these beliefs. In a recent survey of UK and US adults, Hegarty et al. (in press) found variation in endorsement of early surgical interventions, in legal protections of human rights that such interventions might risk and in a range of supports for people with intersex traits from parents, support groups and government policies. Support for medical intervention was strongly predicted by belief in the gender binary as measured by Tee and Hegarty's (2006) measure. These findings suggest that people who score high on a measure of gender binary beliefs might particularly consider clitorectomy more legitimate when conducted on intersex than female infants, as they have less regard for the inherent value of sex characteristics that are different from binary norms.

The second construct we measured was *beliefs in medical authority*. As the introduction makes clear, Western medical authorities have constructed both similarities and differences between Western and African clitorectomies to describe clitorectomies on variable sex characteristics as benevolent. Trust in the benevolence of medical authority can sustain a perception that cutting in medicalised environments does not infringe human rights.

Hegarty et al. (in press) developed a face valid measure of belief in medical authority and found it to predict support for surgery on infants' intersex characteristics. However, its relationship to support for surgery on female infants has not been assessed.

The third construct that we assessed was related to colonial beliefs. In 'minority world' countries (Alam 2008) such as the UK, female genital mutilation is often stereotyped as a barbaric and backward practice that is peculiar to third world societies (Arora and Jacobs 2016). Guiné and Fuentes (2007) found that differences in female genital mutilation prevention strategies between the UK and France were contingent on acceptance of ethnic minorities as a "colonial inheritance". Measures of this ideology are not common in psychology, but one subscale of David and Okazaki's (2006) colonial mentality scale, which was developed for the Filipino American population, measures belief in *colonial debt*. Adapting this scale to this cultural context allowed us to test the hypothesis that clitorectomies on intersex vs female infants would seem most different to participants who most believed that formerly colonised African groups were most indebted to their former UK colonisers.

Fourth, we utilised the *tolerance for ambiguity* subscale from the *need for closure* scale (Roets and Van Hiel 2011). Need for closure is a psychological orientation towards firm answers to questions and aversion to ambiguity (Kruglanski 1996). It is associated with political conservatism (Jost et al. 2003) and occupational stress among healthcare professionals (Iannello et al. 2017). Surgery on infants' variable sex characteristics has long been described as a response to parental anxiety, whilst deferring such interventions seems to demand considerable tolerance for uncertainty (Karkazis 2008; Roen 2008, 2019; Roen and Hegarty 2018). Hegarty et al. (in press) found intolerance for ambiguity to predict greater support for surgical intervention on infants' variable sex characteristics and greater support for social support for people with those same characteristics.

Finally, we investigated *right-wing authoritarianism*, a desire for social cohesion and security that predisposes people to submit to authority (Altemeyer, 1981). Some authors argue that right-wing authoritarianism is composed of two or three statistically distinct factors (Rattazzi, Bobbio and Canova 2007; Mavor, Louis and Sibley 2010). High right-wing authoritarianism engenders prejudice towards LGBT groups (Crawford et al. 2016; Norton and Herek 2013), prejudice towards people with mental and physical health conditions (Crowson, Brandes and Hurst 2013; Fodor 2006), and tolerance of human rights violations (Benjamin 2016; Moghaddam and Vuksanovic 1990). Hegarty et al. (in press) found that right-wing authoritarianism predicted tolerance of surgery on infants' variable sex characteristics and opposition to its legal regulation. These findings prompt competing predictions. First, high right-wing authoritarianism participants might consider all clitorectomies more legitimate because all such interventions risk infringing human rights. Second, high right-wing authoritarianism participants may conceive of these practices as different because clitorectomies on 'female' infants have been de-legitimised by legal authority whilst clitorectomies on 'intersex' infants have not.

Method

Development of Colonial Debt Scale

A pilot study assessed the validity and reliability of a colonial debt scale adapted for this context. Fifty-five women and twenty men aged 18-56 years (M age = 32.27 years, SD = 9.32)

were recruited via opportunity sampling online and completed all the items. All were British and they reported ethnicity as White/Caucasian British ($n = 68$), British ($n = 5$) and Black/Mixed race British ($n = 3$). Participants completed seven items adapted from David and Okazaki (2006), from the Filipino Americans context to a British population. For example, the original item “Filipinos should feel privileged and honoured that Spain and the United States had contact with them” was adapted to: “People from former British Overseas Territories should feel privileged and honoured that the United Kingdom had contact with them” (see Appendix A in online supplemental materials for original and adapted items). The study included the required ratio of 10 participants to item assessed (Nunnally and Bernstein 1978). All were presented in 7-point attitude items ranging from 1 “strongly disagree” to 7 “strongly agree”. Higher scores indicated tolerating or minimising historical and contemporary oppression of African cultures as an appropriate cost of civilisation.

Overall scores were significantly lower than the midpoint of the scale, $M = 3.07$, $SD = 1.25$, one-sample $t(74) = -6.48$, $p < .001$, and normally distributed (skewness = 0.31, $SE = 0.28$, and kurtosis = -0.62, $SE = 0.55$). Kaiser-Meyer-Olkin measure of sampling adequacy was .87. Factor analysis revealed one component with Eigenvalue 4.39 explaining 62.7% of the variance in responses to the seven items. A single 7-item scale was found to be highly reliable (7 items; $\alpha = .89$). All seven adapted items were retained to measure colonial debt in the main study.

Participants

A priori power analysis using G*power projected that a sample size of 128 participants was needed to detect a medium effect size ($d = 0.5$), with an alpha of .05 and statistical power of 0.80 (Faul and Erdfelder 2004). 128 British participants were therefore recruited. After screening out six participants who were not British, younger than 18, or withheld final consent, 58 women, 63 men and one non-binary participant were retained for analyses (M age = 30.60, $SD = 11.70$, range = 18-61 years). They reported their ethnicity as White ($n = 109$), Asian/Asian British ($n = 7$), Black/Black British ($n = 3$), Mixed ethnic ($n = 2$) or Other/prefer not to say ($n = 1$). They reported religion as None ($n = 74$), Christian ($n = 23$), Hindu ($n = 3$), Muslim ($n = 2$), Buddhist ($n = 1$) Jewish ($n = 1$), or other/prefer not to say ($n = 18$). Sexual orientation was reported on a 7-point scale from 1 “exclusively heterosexual” to 7 “exclusively homosexual” and the sample was predominantly heterosexual ($M = 2.05$, $SD = 1.88$). Participants reported their highest educational level as GCSE ($n = 9$), A-level ($n = 45$), undergraduate ($n = 49$) or doctorate degree ($n = 19$). Political views were assessed on a 7-point scale from 1 “left-wing” to 7 “right-wing.” One participant did not complete this item, and the sample was otherwise significantly more left-wing than the middle of the scale ($M = 3.08$, $SD = 1.38$), one-sample $t(120) = -7.30$, $p < .001$. Participants were recruited online through Prolific, a participant recruitment platform, and through opportunity sampling via email. Prolific users were awarded £1 for their participation.

Materials

Participants invited to this online study on “genital surgeries performed on infants” read a short recruitment text, which warned the survey “includes potentially upsetting content on a sensitive topic”, before activating the survey link. Participants who activated the survey link

completed a participant information sheet, a consent form and short introduction to controversies around infant genital surgery.

Participants read one of two very similar texts that introduced clitoridectomy on infants, and differed only in (1) their reference to 'intersex' or 'female' genitals, and (2) the addition of a first clarifying definition of 'intersex' in the intersex text:

[Intersex people are born with variations in sex characteristics that do not fit the typical definitions for male or female bodies]. Female Genital Procedures (FGP)/ Intersex Genital Procedures (IGP)] are performed on infants and children worldwide, for many reasons. These reasons include "normalising" appearance to conform to cultural norms and to prepare children for sexual adulthood in cultural contexts. These surgical practices are called *clitoridectomies* when they involve cutting on the clitoris, and they are sometimes conducted in NHS hospitals. Clitoridectomies are the most controversial surgical practices among these genital procedures. These procedures are often undertaken by medical professionals, often with a parent or guardian's consent, as children are often too young to consent to the procedures themselves. There is considerable debate about whether these controversial surgeries should be performed now.

These two texts operationalised the independent variable, and Qualtrics survey software randomly assigned participants to the intersex or female genital surgery conditions in which the relevant texts were presented.

Next the measures of support for human rights were presented. We created 22 statements - adapted from research literature, consensus statements and legal documents (see Appendix B in online supplemental material) - and presented each as a 7-point item ranging from 1 "strongly disagree" to 7 "strongly agree". Items varied by condition only by referring to "intersex infants" or "female infants," consistent with experimental condition. We constructed items that assessed five dimensions of human rights concern. Five items assessed *parents' rights* to make surgical decisions in infant children's best interests (e.g. "Parents do not always know what medical procedures are best for their own child", reverse coded item). Because the human rights to bodily integrity are held to inhere in the child themselves, parents' rights to make decisions about medical intervention are somewhat at odds with children's rights. Four items assessed rights to *bodily integrity* (e.g. "States must act to guarantee and protect the rights of all children to bodily integrity"). Four items assessed children's *open future rights* (e.g. "These surgeries violate an individual's right to personal autonomy over their own future"). Five items assessed belief in long-term physical and mental *health consequences* (e.g. "After [Intersex/Female] Genital Procedures, people report normal sexual function," reverse coded item). Four items address rights as defined by the United Nations Universal Declaration of Human Rights (UN General Assembly 1948) ("I think that these genital surgeries on children infringe their human rights"). Items were reverse coded as appropriate, and averaged to create a single measure of Support for Human Rights

Two items reduced reliability in one or other conditions and were removed. One assessed bodily integrity "children do not need a sensate clitoris, as a penetrable vagina is all that is strictly necessary for a functional female", and the other assessed parental rights "It is health care providers' duty to support the parents' choices for or against genital surgery." Items indicating support for parental rights to decision making were negatively correlated with all other items assessing support for other rights. The remaining twenty items were

averaged to form a single reliable measure of support for human rights ($\alpha = .89$ in both conditions, see Appendix B in online supplemental material for all items, reverse coding information and further reliability statistics).

We next presented five standard psychological scales to measure five variables of interest. All items were presented on all scales in 7-point format with responses ranging from 1 "Strongly Disagree" to 7 "Strongly Agree," and all were reliable in this sample. In order of their presentation, these scales were our adapted seven-item colonial debt scale ($\alpha = .93$), Tee and Hegarty's (2006) Gender Binary Beliefs measure ($\alpha = .89$, 9 items), the items from Rattazzi, Bobbio and Canova's (2007) Right-Wing Authoritarianism scale, which yielded reliable subscales of Aggression/Submission ($\alpha = .94$, 7 items), and Conservatism ($\alpha = .83$, 7 items), Roets and Van Hiel's (2011) Tolerance for Ambiguity items from the Need for Closure scale ($\alpha = .81$, 9 items) and the Belief in Medical Authority scale developed by Hegarty et al. (in press) ($\alpha = .72$, 6 items). Finally, participants reported demographic information.

Procedure

Participants who responded to the call worked through the study materials online at a time and place of their own choosing. Participants were randomly assigned to text condition by the Qualtrics software. After completing the study, they read a written debrief on the aims of the study, and were asked for final, informed consent, invited to provide feedback and signposted to support groups and websites.

Results

We tested the main hypothesis that support for human rights would be greater in the context of female than intersex genital surgery using a 2x2 ANOVA with experimental condition (intersex vs female) and participant gender (man vs woman) as independent between-subjects variables. The one non-binary gender participant was not included in these analyses. Support for human rights was high, and we observed two significant main effects that qualified that support. First, as predicted, support for human rights was significantly lower in the intersex condition ($M = 5.71$, $SD = 0.92$) than in the female condition ($M = 6.07$, $SD = 0.86$), $F(1,117) = 3.91$, $p = .05$, $\eta_p^2 = .03$. Second, there was a larger significant main effect of participant gender $F(1,117) = 6.06$, $p = .015$, $\eta_p^2 = .05$, as men ($M = 5.70$, $SD = 0.98$) endorsed rights across the experiment less than women did ($M = 6.12$, $SD = 0.76$). As these two main effects did not interact, $F(1,121) = 0.07$, $p = .80$ we analysed data from women and men participants together in the further analysis.

We next explored the psychological measures as predictors of this different support for female vs. intersex infants' rights. Table 1 shows Pearson correlations between support for human rights and the five psychological predictors by condition. Five of the six psychological variables predicted support for human rights in the female condition, but none did in the intersex condition. Fisher Z tests examined where the correlation between support for human rights and each of the five psychological variables varied significantly by condition. right-wing authoritarianism -conservatism was significantly negatively correlated with support for human rights in both conditions, but the correlation was significantly weaker in the intersex condition than in the female condition, Fisher $Z = 3.01$, $p < .001$, $Z = -3.02$, $p = .003$. Support for human rights was positively correlated with belief in medical authority in

the female condition only, and this correlation also varied between conditions, $Z = 2.89$, $p = .004$. All other tests of moderation were non-significant, all $|Z| < 1.05$.

Table 1 about here

Support for human rights, by condition, is plotted against right-wing authoritarianism conservatism in Figure 1, and against belief in medical authority in Figure 2. Participants who scored lower on right-wing authoritarianism-conservatism differentiated support for intersex and female infants' rights more than those who scored higher. Participants who scored higher on belief in medical authority differentiated support for intersex and female infants' rights than those who scored lower.

Figure 1 and 2 about here

Discussion

This contribution to experimental philosophical bioethics (Earp et al. 2020) evidences that human rights, as framed in research and policy, were more readily endorsed in regard to clitorectomies performed on female rather than intersex bodies. These predicted findings justify concerns of bioethicists and human rights advocates that variable sex characteristics may make a child vulnerable to non-necessary medical interventions and that protections on the basis of intersex identity may not address this risk adequately (Carpenter, this volume). Participants were members of the UK public, with no particular prior expertise in this area.

The present study is a relative unique contribution to philosophical experimental bioethics in this area because it examined how manipulating a sex category, rather than manipulating medicalised language, impacted opinions about a form of medicalisation. This original feature may explain two of this study's particular findings. First, women supported infants' human rights across contexts more than men did, and this difference was larger than the gender difference found in other studies (e.g. Hegarty et al. in press). Differences in sampling practices across these two studies may account for the different sizes of this gender difference, but our consistent use of terms for sex-specific terms for genital anatomy, such as 'clitoris' here, may also have made the vignettes more self-relevant to women than to men in both conditions. Second, by designating all infants as at least somewhat female through this language for genital anatomy, we may have suppressed the role of belief in the gender binary in predicting support for genital surgery on 'intersex' infants that emerged in other studies (Hegarty, Smith, and Bogan-Carey 2019; Hegarty et al. in press).

Several plausible psychological mechanisms could lead to a difference in the recognition of non-necessary surgery as an infringement of human rights. Exploration of five psychological variables here focused attention on conservatism and trust in medical authority in particular. Accordingly, these two constructs warrant more extensive discussion. Previous work on authoritarianism has focused on perceptions of human rights in conflict situations rather than medicalised environments, and has tended to alight on aggression, rather than conservatism, as the element of right-wing authoritarianism that grounds tolerance for human rights abuses in such contexts. Items on the right-wing authoritarianism-conservatism scale here, which were all reverse coded, assessed attitudes towards religious authorities and tolerance towards freedoms expressed by atheists, feminists, homosexuals, nudists, and young people. For example, one such reverse-coded item reads "Homosexuals and feminists

should be praised for being brave enough to defy “traditional family values”. Given that achieving the recognition of female genital mutilation as human rights abuse has been a feminist project that has often opposed traditional religious authority sanctioning such practices, it is not surprising that participants in the ‘female’ condition who agreed with the right-wing authoritarianism-conservatism items more also recognised clitorrectomy as infringing human rights more. The lack of an equivalent correlation in the ‘intersex’ condition may be a result of less public discussion of controversial surgeries on intersex genitals than female genital mutilation.

Clitorrectomies on female vs intersex infants also seemed more similar to participants who believed more strongly in medical authority than to those who doubted it. This result is consistent with and informs previous findings that trust in medical authority predicts support for surgery on intersex traits (Hegarty et al. in press) and framing experiments which have found that medicalised language engenders support for such surgery (Streuli et al. 2013). Multidisciplinary medical teams who specialise in disorders of sex development care can inadvertently ‘frame’ clitorrectomy as necessary (Liao et al. 2019). This study suggests that parents who trust medical authority in general, might be most easily swayed by such inadvertent framing by healthcare professionals in such contexts.

Future Directions

As noted in the introduction, there is a long history of medical and legal authorities and their critics of constructing clitorrectomies on female and intersex genitals as equivalent and of constructing them as categorically different. What this study adds to intersex studies is a social psychological understanding of who, among the public, might be most likely to believe this rhetoric and why. We added to emerging findings that social psychological variables associated with political liberalism and scepticism of a medicalised conceptualisation of intersex are associated with rejecting the legitimacy of early surgical interventions (e.g., Hegarty et al., in press). These findings respond to Liao and Simmonds’ (2014) call for more studies of public understanding of intersex.

Because experiments are not a typical way of understanding the relationship between sexuality, culture and health, we conclude with some comments about how social psychological experiments can be useful in illuminating such understandings in intersex studies. Experimental social psychology and social constructionism are similarly grounded in a mutual interest in how people construe reality, and how those construals impact thoughts, feelings and actions to a greater extent than is consciously noticed or elaborated (Jost and Kruglanski 2002). Like Markus and Kitayama (2010), we understand experiments as an (admittedly individualist) window onto culturally particular constructions of personhood. Whilst experiments can be critiqued as apolitical on the basis of this individualism, they also provide a way to simulate social events that are hard to observe or rarely occur and to make inferences about such events (Spears and Smith 2001). A concern that might be raised about experimental philosophical bioethics is that social psychological experiments are not always replicated successfully (Open Science Collaboration 2012). We did not engage in all the best practices of open science here. For example, we did not pre-register our hypotheses, and as such, this study should be regarded as somewhat exploratory, and its conclusions tentative and subject to tests of replication. However, it is an advantage of experimental methods that they can be assessed for replication and can be extended to test wider hypotheses. For example, the gender differences observed here might or might not emerge in a study that

examines the application of human rights concepts to surgery on mild or severe hypospadiac penises described in vignettes about 'male' or 'intersex' infants for example, or in a study that used less clearly 'gendered' language for genital anatomy.

Finally, experiments such as this one require incomplete disclosure of hypotheses to participants to avoid such biases as social desirability effects and reactance against the experimenter's hypothesis. As disclosure and deception are central to intersex bioethics, there is a relationship between the positivist methods that social psychological experiments use and the history of medicalisation that intersex studies must critically address. Consistent with modern ethics practices, we asked for participants' consent both prior to participation and after they had been debriefed about the study's design and full purpose. We also asked for open-ended comments on the experience of research participation. Nearly 10% of respondents chose to leave comments (e.g. "Male or Female, no child should have to suffer GM. It's good work you're doing"), which largely endorsed the research. On the basis of this study's results and its participants' reflections it seems feasible, ethical, and informative to connect empirical philosophical bioethics and public understanding of intersex, to consider how medicalisation might rationally retract to address human rights concerns. As Hegarty et al. (in press) have recently argued, early surgery on variable sex characteristics has long been warranted on grounds that social stigma is unbearable, whilst social understanding of variable sex characteristics has rarely been empirically addressed. We hope this study contributes to a trend to replace fear and ignorance about public reactions to people with variable sex characteristics with measured social psychological understanding of support and opposition to such surgery, and to the people on whom surgery is brought to bear.

References

- Alam, Shahidul. 2008. "Majority World: Challenging the West's Rhetoric of Democracy." *Amerasia Journal* 34 (1): 88-98. doi:10.17953/amer.34.1.l3176027k4q614v5
- Altemeyer, Bob. 1981. *"Right-wing Authoritarianism"*. Winnipeg: University of Manitoba Press.
- Arora, Kavita Shah, and Allan J. Jacobs. 2016. "Female Genital Alteration: A Compromise Solution." *Journal of Medical Ethics* 42 (3): 148-154. doi:10.1136/medethics-2014-102375
- Bauer, Markus, Daniela Truffer, and Karin Plattner. 2014. "Intersex Genital Mutilations: Human Rights Violations of Children with Variations of Sexual Anatomy." In *NGO Report to the 2nd, 3rd and 4th Periodic Report of Switzerland on the Convention on the Rights of the Child (CRC)+ Supplement "Background Information on IGMs*. Retrieved from http://intersex.shadowreport.org/public/2014-CRC-Swiss-NGO-Zwischengeschlecht-Intersex-IGM_v2.pdf
- Beh, Hazel Glenn, and Milton Diamond. 2000. "An Emerging Ethical and Medical Dilemma: Should Physicians Perform Sex Assignment Surgery on Infants with Ambiguous Genitalia." *Michigan Journal of Gender & Law* 7: 1. Retrieved from <https://heinonline.org/HOL/P?h=hein.journals/mjgl7&i=11>
- Benjamin Jr, Arlin James. 2016. "Right-wing Authoritarianism and Attitudes toward Torture." *Social Behavior and Personality* 44 (6): 881-887. doi:10.2224/sbp.2016.44.6.881
- Brussels Collaboration on Bodily Integrity. 2019. "Medically Unnecessary Genital Cutting and the Rights of the Child: Moving toward Consensus." *The American Journal of Bioethics* 19 (10): 17-28. doi:10.1080/15265161.2019.1643945
- Carpenter, Morgan. (in press) *Intersex Human Rights and the Yogyakarta Principles Plus 10. Culture, Health & Sexuality*.
- Chase, Cheryl. 1988. "Hermaphrodites with Attitude: Mapping the Emergence of Intersex Political Activism." *GLQ: A Journal of Lesbian and Gay Studies* 4 (2): 189-211. doi:10.1215/10642684-4-2-189
- Crawford, Jarret T., Mark J. Brandt, Yoel Inbar, and Stephanie R. Mallinas. 2016. "Right-wing Authoritarianism Predicts Prejudice Equally toward "Gay Men and Lesbians" and "Homosexuals"." *Journal of Personality and Social Psychology* 111 (2): e31. doi:10.1037/pspp0000070
- Creighton, Sarah M., Catherine L. Minto, and Stuart J. Steele. 2001. "Objective Cosmetic and Anatomical Outcomes at Adolescence of Feminising Surgery for Ambiguous Genitalia done in Childhood." *The Lancet* 358 (9276): 124-125. doi: 10.1016/S0140-6736(01)05343-0
- Creighton, Sarah M., Lina Michala, Imran Mushtaq, and Michal Yaron. 2014. "Childhood Surgery for Ambiguous Genitalia: Glimpses of Practice Changes or More of the Same?." *Psychology & Sexuality* 5 (1): 34-43. doi: 10.1080/19419899.2013.831214
- Crowson, H. Michael, Joyce A. Brandes, and Rebecca J. Hurst. 2013. "Who Opposes Rights for Persons with Physical and Intellectual Disabilities?." *Journal of Applied Social Psychology* 43: E307-E318. doi: 10.1111/jasp.12046

- David, Eric J.R., and Sumie Okazaki. 2006. "The Colonial Mentality Scale (CMS) for Filipino Americans: Scale Construction and Psychological Implications." *Journal of Counseling Psychology* 53 (2): 241. Doi: 10.1037/0022-0167.53.2.241
- Earp, Brian D., Joanna Demaree-Cotton, Michael Dunn, Vilius Dranseika, Jim AC Everett, Adam Feltz, Gail Geller et al. 2020. "Experimental Philosophical Bioethics." *AJOB Empirical Bioethics* 11 (1): 30-33. doi: 10.1080/23294515.2020.1714792
- Earp, Brian D. In press. "Why was the U.S. ban on female genital mutilation ruled unconstitutional, and what does this have to do with male circumcision?." *Ethics, Medicine, and Public Health*.
- Ehrenreich, Nancy, and Mark Barr. 2005. "Intersex Surgery, Female Genital Cutting, and the Selective Condemnation of Cultural Practices." *Harvard Civil Rights-Civil Liberties Law Review*, 40 (1): 71-140. Retrieved from <https://ssrn.com/abstract=2926589>
- Ellens, Rebecca EH, Dana M. Bakula, Alexandria J. Mullins, Kristy J. Scott Reyes, Paul Austin, Laurence Baskin, Kerlly Bernabé et al. 2017. "Psychological Adjustment of Parents of Children Born with Atypical Genitalia 1 Year after Genitoplasty." *The Journal of Urology* 198 (4): 914-920. doi:10.1016/j.juro.2017.05.035
- Faul, Franz, and Edgar Erdfelder. 2004. GPOWER: A Priori, Post-hoc, and Compromise Power Analyses for MS-DOS [Computer program]. Bonn, FRG: Bonn University, Department of Psychology.
- Feder, Ellen K. 2014. *"Making Sense of Intersex: Changing Ethical Perspectives in Biomedicine"*. Bloomington: Indiana University Press.
- Female Genital Mutilation Act 2003. Retrieved from www.opsi.gov.uk/acts/acts2003/20030031.htm#1
- Fodor, Eugene M. 2006. "Right-wing Authoritarianism and Managerial Assessment of a Schizophrenic Candidate." *Journal of Applied Social Psychology* 36 (4): 953-978. doi:10.1111/j.0021-9029.2006.00051.x
- Garfinkel, Harold. 1967. "What is Ethnomethodology?." *Studies in Ethnomethodology*. New York, N.Y.: Prentice-Hall
- Gross, Robert E., Judson Randolph, and John F. Crigler. 1966. "Clitorectomy for Sexual Abnormalities: Indications and Technique." *Surgery* 59 (2): 300-308.
- Guiné, Anouk, and Francisco Javier Moreno Fuentes. 2007. "Engendering Redistribution, Recognition, and Representation: The Case of Female Genital Mutilation (FGM) in the United Kingdom and France." *Politics & Society* 35 (3): 477-519. doi:10.1177/0032329207304315
- Hegarty, Peter, and Cheryl Chase. 2000. "Intersex Activism, Feminism and Psychology: Opening a Dialogue on Theory, Research and Clinical Practice." *Feminism & Psychology* 10 (1): 117-132. doi:10.1177/0959353500010001014
- Hegarty, Peter, Annette Smith, and Tadhg Bogan-Carey. 2019. "Stigma as Framed on YouTube: Effects of Personal Experiences Videos on Students' Beliefs about Medicalizing Intersex." *Journal of Applied Social Psychology* 49 (3): 133-144. doi:10.1111/jasp.12570
- Hegarty, Peter, Lois Donnelly, Paul Francis Dutton, Sara Gillingham, Valentino Vecchietti, and Kaz Williams. In press. "Understanding of Intersex: The Meanings of Umbrella Terms and Opinions about Medical and Social Responses among Lay People in the USA and UK". *Psychology of Sexual Orientation and Gender Diversity*
- Human Rights Watch. 2017. "I want to be like nature made me: Medically unnecessary surgeries on intersex children in the US." Retrieved from

- <https://www.hrw.org/report/2017/07/25/i-want-be-nature-made-me/medically-unnecessary-surgeries-intersex-children-us>
- Iannello, Paola, Anna Mottini, Simone Tirelli, Silvia Riva, and Alessandro Antonietti. 2017. "Ambiguity and Uncertainty Tolerance, Need for Cognition, and their Association with Stress. A Study among Italian Practicing Physicians." *Medical Education Online* 22 (1): 1270009. doi:10.1080/10872981.2016.1270009
- Jost, John T., and Arie W. Kruglanski. 2002. "The Estrangement of Social Constructionism and Experimental Social Psychology: History of the Rift and Prospects for Reconciliation." *Personality and Social Psychology Review* 6 (3): 168-187. doi:10.1207/S15327957PSPR0603_1
- Jost, John T., Jack Glaser, Arie W. Kruglanski, and Frank J. Sulloway. 2003. "Political Conservatism as Motivated Social Cognition." *Psychological Bulletin* 129 (3): 339. doi:10.1037/0033-2909.129.3.339
- Karkazis, Katrina. 2008. *Fixing Sex: Intersex, Medical Authority, and Lived Experience*. Durham, N.C.: Duke University Press.
- Kessler, Suzanne J. 1998. *Lessons from the Intersexed*. New Brunswick, N.J.: Rutgers University Press.
- Kruglanski, Arie.W. 1996. "A Motivated Gatekeeper of Our Minds: Need-for-closure Effects on Interpersonal and Group Processes. In *Handbook of Motivation and Cognition, Volume 3: The Interpersonal Context*, edited by Sorrentino, Richard M., and E. Tory Higgins, 465-496. New York: Guilford Press.
- Lee, Peter A., Christopher P. Houk, S. Faisal Ahmed, and Ieuan A. Hughes. 2006. "Consensus Statement on Management of Intersex Disorders." *Pediatrics* 118 (2): e488-e500. doi:10.1542/peds.2006-0738
- Lee, Peter A., Anna Nordenström, Christopher P. Houk, S. Faisal Ahmed, Richard Auchus, Arlene Baratz, Katharine Baratz Dalke et al. 2016. "Global disorders of sex development update since 2006: perceptions, approach and care." *Hormone Research in Paediatrics* 85 (3): 158-180. doi:10.1159/000442975
- Liao, Lih-Mei, and Margaret Simmonds. 2014. "A Values-driven and Evidence-based Health Care Psychology for Diverse Sex Development." *Psychology & Sexuality* 5 (1): 83-101. doi:10.1080/19419899.2013.831217
- Liao, Lih-Mei, Peter Hegarty, Sarah Creighton, Tove Lundberg, and Katrina Roen. 2019. "Clitoral Surgery on Minors: An Interview Study with Clinical Experts of Differences of Sex Development." *BMJ Open* 9 (6): e025821.
- Lundberg, Tove, Katrina Roen, Angelica L. Hirschberg, and Louise Frisé. 2016. "'It's Part of Me, Not All of Me': Young Women's Experiences of Receiving a Diagnosis Related to Diverse Sex Development." *Journal of Pediatric and Adolescent Gynecology* 29 (4): 338-343. doi:10.1016/j.jpag.2015.11.009
- Lundberg, Tove, Peter Hegarty, and Katrina Roen. 2018. "Making sense of 'Intersex' and 'DSD': How Laypeople Understand and Use Terminology." *Psychology & Sexuality* 9 (2): 161-173. doi:10.1080/19419899.2018.1453862
- Markus, Hazel Rose, and Shinobu Kitayama. 2010. "Cultures and Selves: A Cycle of Mutual Constitution." *Perspectives on Psychological Science* 5 (4): 420-430. doi:10.1177/1745691610375557
- Mavor, Kenneth I., Winnifred R. Louis, and Chris G. Sibley. 2010. "A Bias-corrected Exploratory and Confirmatory Factor Analysis of Right-wing Authoritarianism: Support for a Three-

- factor Structure." *Personality and Individual Differences* 48 (1): 28-33. doi:10.1016/j.paid.2009.08.006
- Michala, Lina, Lih-Mei Liao, Dan Wood, Gerard S. Conway, and Sarah M. Creighton. 2014. "Practice Changes in Childhood Surgery for Ambiguous Genitalia?." *Journal of Pediatric Urology* 10 (5): 934-939. doi:10.1016/j.jpuro.2014.01.030
- Minto, Catherine L., Lih-Mei Liao, Christopher RJ Woodhouse, Phillip G. Ransley, and Sarah M. Creighton. 2003. "The Effect of Clitoral Surgery on Sexual Outcome in Individuals Who Have Intersex Conditions with Ambiguous Genitalia: A Cross-sectional Study." *The Lancet* 361 (9365): 1252-1257. doi:10.1016/S0140-6736(03)12980-7
- Moghaddam, Fathali M., and Vuk Vuksanovic. 1990. "Attitudes and Behavior toward Human Rights across Different Contexts the Role of Right-wing Authoritarianism, Political Ideology, and Religiosity." *International Journal of Psychology* 25 (2): 455-474. doi:10.1080/00207599008247877
- Norton, Aaron T., and Gregory M. Herek. 2013. "Heterosexuals' Attitudes toward Transgender People: Findings from a National Probability Sample of US Adults." *Sex Roles* 68 (11-12): 738-753. doi:10.1007/s11199-011-0110-6
- Nunnally, June C., and Ira Bernstein. 1978. *Psychometric Theory*. New York: McGraw-Hill.
- Open Science Collaboration. 2012. "An Open, Large-scale, Collaborative Effort to Estimate the Reproducibility of Psychological Science." *Perspectives on Psychological Science* 7 (6): 657-660. doi:10.1177/1745691612462588
- Pasterski, Vickie, Philippa Prentice, and I. A. Hughes. 2010. "Consequences of the Chicago Consensus on Disorders of Sex Development (DSD): Current Practices in Europe." *Archives of Disease in Childhood* 95 (8): 618-623. doi:10.1136/adc.2009.163840
- Prentice, Deborah A., and Dale T. Miller. 1996. "Pluralistic Ignorance and the Perpetuation of Social Norms by Unwitting Actors." *Advances in Experimental Social Psychology* (28): 161-210. doi:10.1016/S0065-2601(08)60238-5
- Rattazzi, Anna Maria Manganelli, Andrea Bobbio, and Luigina Canova. 2007. "A Short Version of the Right-Wing Authoritarianism (RWA) Scale." *Personality and Individual Differences* 43 (5): 1223-1234. doi:10.1016/j.paid.2007.03.013
- Reisel, Dan, and Sylvan Fraser. 2016. "Constructing the Female Body: Using Female Genital Mutilation Law to Address Genital-normalizing Surgery on Intersex Children in the United States." *International Journal of Human Rights in Healthcare* 9 (1): 62-72 doi:10.1108/IJHRH-05-2015-0014
- Roen, Katrina. 2008. "But We Have to Do Something': Surgical 'Correction' of Atypical Genitalia." *Body & Society* 14 (1): 47-66. doi: 10.1177/1357034X07087530
- Roen, Katrina. 2019. Intersex or diverse sex development: Critical review of psychosocial health care research and indications for practice. *Journal of Sex Research*, 56 (4-5), 511-528. Doi:10.1080/00224499.2019.1578331
- Roen, Katrina, Sarah M. Creighton, Peter Hegarty, and Lih-Mei Liao. 2018. "Vaginal Construction and Treatment Providers' Experiences: A Qualitative Analysis." *Journal of Paediatric and Adolescent Gynaecology* 31 (3): 247-251. doi:10.1016/j.jpag.2018.01.001
- Roen, Katrina, and Peter Hegarty. 2018. "Shaping Parents, Shaping Penises: How Medical Teams Frame Parents' Decisions in Response to Hypospadias." *British Journal of Health Psychology* 23 (4): 967-981. doi:10.1111/bjhp.12333

- Roets, Arne, and Alain Van Hiel. 2011. "Item Selection and Validation of a Brief, 15-item Version of the Need for Closure Scale." *Personality and Individual Differences* 50 (1): 90-94. doi:10.1016/j.paid.2010.09.004
- Spears, Russell, and Heather J. Smith. 2001. "Experiments as Politics." *Political Psychology* 22 (2): 309-330. doi:10.1111/0162-895X.00241
- Streuli, Jürg C., Effy Vayena, Yvonne Cavicchia-Balmer, and Johannes Huber. 2013. "Shaping Parents: Impact of Contrasting Professional Counseling on Parents' Decision Making for Children with Disorders of Sex Development." *The Journal of Sexual Medicine* 10 (8): 1953-1960. doi:10.1111/jsm.12214
- Tamar-Mattis, Anne. 2006. "Exceptions to the rule: curing the law's failure to protect intersex infants." *Berkeley Journal of Gender, Law and Justice* (21): 59 doi:10.15779/Z385717N04
- Tee, Nicola, and Peter Hegarty. 2006. "Predicting Opposition to the Civil Rights of Trans Persons in the United Kingdom." *Journal of Community & Applied Social Psychology* 16 (1): 70-80. doi:10.1002/casp.851
- UNICEF. "Changing a Harmful Social Convention: Female Genital Mutilation/Cutting." 2005. *Innocenti Digest*, 12. Retrieved from <https://www.unicef-irc.org/publications/396-changing-a-harmful-social-convention-female-genital-mutilation-cutting.html>
- United Nations Human Rights Campaign fact sheet on Intersex. 2015. Retrieved from <http://interactadvocates.org/new-un-intersex-fact-sheet/>.
- UN General Assembly. 1948. "Universal Declaration of Human Rights." 217 (III) A. Paris. Retrieved from <http://www.un.org/en/universal-declaration-human-rights/>
- Wiesemann, Claudia, Susanne Ude-Koeller, Gernot HG Sinnecker, and Ute Thyen. 2010. "Ethical principles and recommendations for the medical management of differences of sex development (DSD)/intersex in children and adolescents." *European Journal of Pediatrics* 169 (6): 671-679. doi:10.1007/s00431-009-1086-x
- World Health Organization. 2008. "Eliminating female genital mutilation: an interagency statement-OHCHR, UNAIDS, UNDP, UNECA, UNESCO, UNFPA, UNHCR, UNICEF, UNIFEM, WHO." Retrieved from <https://www.who.int/reproductivehealth/publications/fgm/9789241596442/en/>
- Yogyakarta Principles. 2017. "The Yogyakarta Principles Plus 10: Additional Principles and State Obligations on the Application of International Human Rights Law in Relation to Sexual Orientation, Gender Identity, Gender Expression and Sex Characteristics, to Complement the Yogyakarta Principles." United Nations, Geneva . Retrieved from <https://yogyakartaprinciples.org/principles-en/yp10/>

Table 1. Correlation between Support for Human Rights and Psychological Variables by Infant Surgery Condition

	1	2	3	4	5	6	7
1.Global Rights		-.135	-.235	-.223	-.098*	.091	-.181
2.Colonial Debt	-.125*		.504**	.835**	.192	.207	.011
3.Gender Binary	-.327**	.292*		.563**	.317*	.319*	-.006
4.RWA – A/S	-.401**	.399**	.410**		.214	.332*	-.033
5.RWA -C	-.582**	.081	.326**	.493**		.064	-.178
6.Tolerance for Ambiguity	.059	.188	.175	.204	-.038		-.214
7.Belief in Medical Authority	.336**	-.122	.003	-.145	-.345**	.252*	

Note. Intersex condition above the diagonal (n = 57), female condition below the diagonal (n = 64). RWA-A= Right-Wing Authoritarianism (Aggression Subscale), RWA-C = Right-Wing Authoritarianism (Conservatism Subscale), * $p < .05$ ** $p < .01$

Figure 1: Support for Intersex and Female Infants' Human Rights as Moderated by RWA-Conservatism

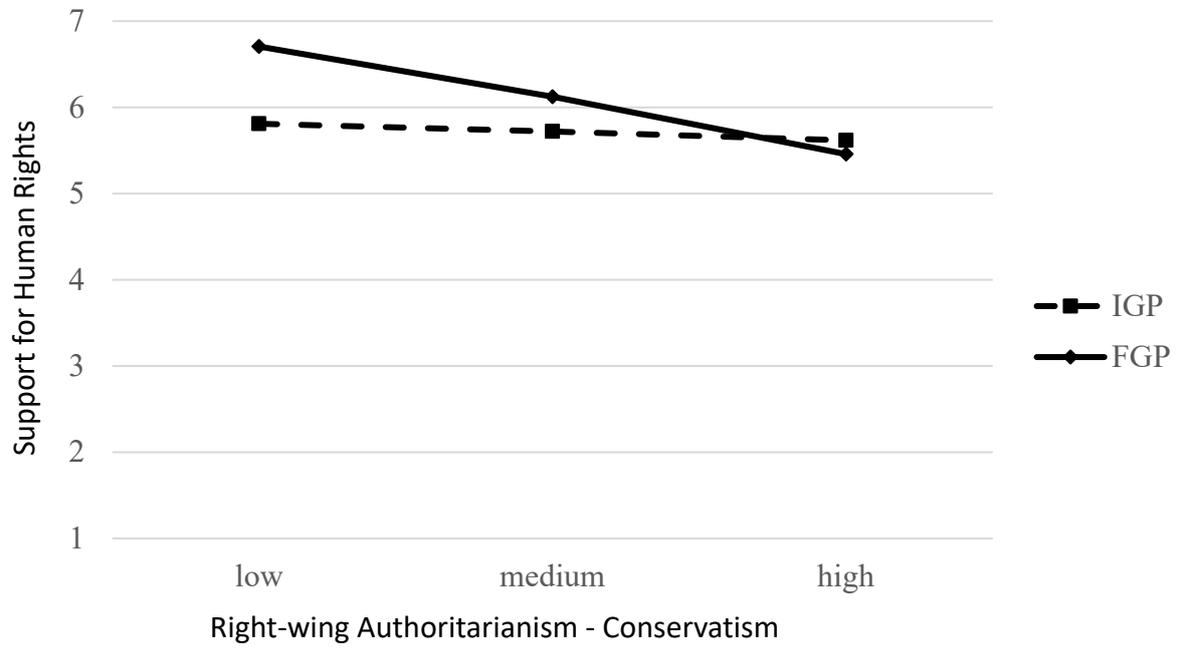


Figure 2: Support for Intersex and Female Infants' Human Rights as Moderated by Belief in Medical Authority

