The Creation and Inflation of Prevalence Statistics: The Case of "Conversion Therapy"

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In this review, I offer a critical analysis of the Williams Institute's Generations Survey and the National Center for Transgender Equality's United States Transgender Survey. On the basis of these surveys, claims are being forwarded that hundreds of thousands of minors and adults have been exposed to the torturous practices of "conversion therapy" and tens of thousands more are in imminent danger of suffering that fate. However, non-specific single-items in the Generations Study and the U.S. Transgender Survey are being misused to support non-specific restrictions on professional therapy. The methodological limitations of these surveys have likely resulted in the inflation of "conversion therapy" prevalence statistics and a serious distortion in the public's understanding of this topic. These statistics can hardly be considered a scientifically responsible basis for legal prohibitions on client-centered, professional change-allowing and fluidity-exploring talk therapies. The Williams Institute, the National Center for Transgender Equality, and scholars utilizing their data are not living up to claims of ideological independence and scientific rigor.

Keywords: Conversion therapy, prevalence rates, Williams Institute, National Center for Transgender Equality, survey misuse

A pair of surveys are being frequently cited as a basis for legal prohibitions on therapies that allow clients to pursue a self-determined goal to explore their potential for change in unwanted same-sex attractions, behaviors, and gender identities. They are being cited in legal briefs, academic journals, and even presidential campaigns.[2] A survey from the

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[2] See, for example, page 9 of the following white paper from Pete Butigieg's 2020 presidential campaign: https://storage.googleapis.com/resources.peteforamerica.com/documents/LGBTQ_white-paper.pdf

UCLA School of Law–affiliated Williams Institute purports to provide statistics on the prevalence of "conversion therapy" as it pertains to sexual orientation (also referred to as sexual orientation change efforts, or SOCE[3]) (Mallory, Brown, & Conron, 2018, 2019). The second survey, published through the National Center for Transgender Equality, is being touted as providing unambiguous evidence on the occurrence and negative effects of gender identity conversion efforts (GICE) (James, Herman, Rankin, Keisling, Mottet, & Anafi, 2016). Since these surveys are being offered by therapy ban supporters as essential justifications for legal prohibitions on professional and religious speech, it is important that this research be critically scrutinized to determine the extent to which such conclusions may be scientifically defensible. In what follows, I will examine these surveys separately, providing first a summary of the survey findings relative to professional psychotherapy followed by a critical examination of key methodological and interpretive issues with particular reference to recent GICE research. I conclude with a general discussion of the significance of these surveys in terms of the use and abuse of recent scientific research to advance policy agendas.

The Williams Institute's Generations Survey

The Williams Institute describes itself as dedicated to "conducting rigorous, independent research on sexual orientation and gender identity law and public policy." A number of well-known LGB and allied scholars are affiliated with the institute, including M. V. Lee Badgett, Ph.D.; Nanette Gartrell, M.D.; and Ilan H. Meyer, Ph.D., who served as the principal investigator of the survey utilized to derive SOCE prevalence statistics. Although its mission is to provide research to support such policy initiatives as "conversion therapy" bans and the federal Equality Act, the Institute touts a statement of independence and objectivity (Williams Institute, n.d.):

> The Williams Institute is committed to the highest standards of independent inquiry, academic excellence, and rigor. Research findings and conclusions are never altered to accommodate other interests, including those of funders, other organizations, or government bodies and officials.

According to the Institute's Generations Survey findings, 695,000 LGBT adults have undergone conversion therapy, including about 350,000 LGBT adults who were "subjected" to conversion therapy as adolescents (Mallory et al., 2019; cf. http://www.generations-study.com/). Furthermore, the Institute's report predicts that 16,000 youth (ages 13–17) in America will receive conversion therapy from a licensed clinician before age 18 in addition to 37,000 youth who will receive conversion therapy from a religious spiritual advisor before age 18. These are startling numbers and no doubt cited so frequently because they give the impression of an urgent crisis affecting hundreds of thousands of sexual minorities, including tens of thousands of adolescents. Clearly, it is much easier to pass favored legislation and public policy if there is a crisis of the magnitude portrayed in the Institute's report.

[3] Although both surveys use the terminology of conversion therapy, to avoid confusion I will generally refer to SOCE when discussing information relative to professional exploration of sexual attraction and behavior fluidity and GICE when discussing professional exploration of fluidity in gender identity.

Disconcerting Details

Despite the Institute's claims of objectivity and rigor, even a cursory examination of their report appears to bring such claims into question. The first paragraph of the executive summary asserts, "Efforts to change someone's sexual orientation or gender identity are associated with poor mental health, including suicidality" (Mallory et al, 2019, p. 1). These alleged outcomes are supported in footnotes referencing studies by Flentje, Heck, & Cochran (2013), Weiss et al., (2010), Shidlo & Schroeder (2002), Ryan et al., (2020), and the 2015 U. S. Transgender Survey (USTS), the latter of which I examine in detail below. As I and others have discussed previously, the articles cited in the executive summary to support the health risks attributed to SOCE are little more than pilot studies with serious methodological limitations and simply cannot be generalized beyond their samples (Rosik, 2014, 2019). It is difficult to construe such unqualified generalizations as objective or rigorous.

A second example is more egregious yet. The Institute's report provides statistics that suggest large majorities support bans on SOCE with minors provided by health care professionals, citing recent polling in six states. One of these states was North Carolina, where the executive summary reported 80% of people in this state support laws banning conversion therapy on minors. The footnote for this statistic further notes,

> In response to the poll, 80% of respondents immediately said that they think conversion therapy should be illegal on children under 18. Half of the remaining 20% of respondents (those who initially agreed or had no opinion) agreed that the practice should be banned when they had a better understanding of what the practice entails. (Mallory et al., 2019, p. 10)

The footnote also provides a link to the source of this polling, the advocacy group Born Perfect NC. Born Perfect NC's website provides a report on the polling, which includes verbatim the above description included in the Institute's executive summary (Nichols & Polaski, 2019). This all sounds quite bleak for the future of change-allowing therapies with minors if 90% of respondents in a fairly conservative state such as North Carolina are in favor of legal prohibitions. However, as is often the case in these matters, the devil in in the details. Should anyone have enough curiosity to ask, "How does Born Perfect NC define conversion therapy?" that person would discover the following:

> Conversion therapy, also referred to as "reparative therapy," is the practice of attempting to change an individual's sexual orientation or gender identity. Techniques can range from extreme electroshock treatments or institutionalization to "counseling" services based on pseudoscience. (Born Perfect NC, n.d.)

If citing such statistics is an example of the William Institute's objectivity and rigor, then they appear to set a very low bar indeed for these standards. That professional change-allowing therapies do not use electroshock or other aversive and coercive practices is well-known with the LGBT academic community, as was recently acknowledged by the acclaimed LGBT legal advocate and University of Utah College of Law professor Clifford Rosky, who stated to the gay press ("Watered down anti-conversion therapy bill," 2019), "Licensed therapists haven't been doing electric shock therapy and adversant [sic] practices in decades." Thus, when one digs into the facts

of this polling, the real story is not that 90% of North Carolinians support banning conversion therapy for minors. No one I know would support such practices as they are depicted. The real story of an impartial and honest accounting about this polling, one free of advocacy objectives, is that 10% of respondents apparently support institutionalized electroshock treatments of sexual minority minors. In a less politically contaminated environment, scholars such as those affiliated with the Williams Institute would seek out and align with Alliance professionals to jointly counter such public sentiment. However, by uncritically adopting this polling for advocacy purposes, the Williams Institute seems to have engaged in sloppy science at best or, at worst, a conscious effort to manipulate public opinion about change-allowing talk therapies through their use of a prejudicial and deceptive Born Perfect NC survey. Their independent inquiry and research appear to include independence from exposure to alternate critical perspectives that could have identified and constrained such excesses, which are common to groupthink and confirmation bias dynamics.

The description of conversion therapy presented in the text of the Institute's executive summary is a slight improvement over the distortions of the Born Perfect NC depiction. The Institute acknowledges that, "Currently, talk therapy is the most commonly used therapy technique" (Mallory et al., 2019, p. 2). Unfortunately, they go on to quote the APA Task Force report:

> Some practitioners have also used "aversion treatments, such as inducing nausea, vomiting, or paralysis; providing electric shocks; or having the individual snap an elastic band around the wrist when the individual became aroused to same-sex erotic images or thoughts." (p. 2)

Again, context here is everything, and the Williams Institute fails to provide it. Examining page 22 of the Task Force report, it becomes apparent that the APA is referring to techniques from the 1960s and 1970s. The actual beginning of the above quote from the report omitted by the Institute reads, "*Behavior therapists tried* a variety of aversion treatments, such as inducing nausea, vomiting, or paralysis; . . ." (American Psychological Association (APA), 2009, p. 2; emphases added). The Institute makes no effort to clarify that these techniques are no longer in use by licensed therapists as pertains to sexual orientation change, including clinicians who are open to the possibility of sexual attraction and behavior fluidity.

If the Williams Institute's numbers are not in some manner inflated, and even if only 1% of the tens of thousands of minors the Williams Institute alleges have undergone or are undergoing SOCE with a licensed therapist have been subjected to the aversive practices suggested by the executive summary, it is incomprehensible that some of these clinicians would not have been brought before their state licensing boards for such egregiously unethical child abuse. Strikingly, however, Drescher et al. (2016) noted, "To our knowledge, there have been no formal actions by a regulatory body against a provider for engaging in conversion therapy." I am aware of no such documented regulatory action up to the present day, despite the passage of therapy bans in several states. The most probable means of understanding this disconnect between the Williams Institute's numbers and the lack of any therapist having lost a license for unethical SOCE-related conduct is that licensed practitioners of change-allowing therapies (whatever their number) are

conducting themselves in an ethical and professional manner.

Questionable Deductions and Original Sins

The Williams Institute's process for deriving their prevalence statistics for SOCE and GICE is a sequence of laborious deductions. Funded primarily by a $3.4 million federal grant from the National Institute of Child Health and Human Development, Gallup recruited LGB-identified participants for the Generations Study between March 28, 2016 and March 30, 2017. Gallup screened 366,644 individuals for inclusion in the Generations Study. Of these, 3.5% (n=12,832) identified as LGBT. Eligibility criteria for inclusion in the study as LGB were (1) identification as LGB, queer, or same-gender loving; (2) age 18–59; (3) Black, Latino, or White; (4) 6th grade education or higher; and (5) sufficient English speaker. Of the LGBT-identified persons, 27.5% (n=3529) met the eligibility criteria, 80% (n=2823) of these agreed to participate in the Generations Survey, and 48% (n=1345) of these actually completed the survey.

What jumps out from these statistics and appears to go unexplained is the fact that the final survey respondents represent *just 10.4%* of the originally identified potential LGBT participants. No explanation is given for why 72.5% of the LGBT participants originally identified were deemed ineligible for inclusion in the survey. It is simply not reasonable for such a high level of participant exclusion to have occurred solely on the basis of the inclusion criteria described. Moreover, having nearly half of the eligible participants not finish the survey raises serious questions about the possibility of non-random, systematic differences between completer and non-completers that might affect the results and seriously limit the researchers' ability to generalize their findings. As the APA Report (2009) noted, "Put simply, dropout may undermine the comparability of groups in ways that can bias study outcomes" (p. 29). There is no indication from the executive summary that these important questions were ever discussed and explored to determine how these groups (e.g., original LGBT identified versus survey eligible LGB identified; survey non-completers versus completers) may have differed from one another. These are critical analyses that needed to be done but appear not to have been conducted for unknown reasons.

While these issues of eligibility and dropout rates are highly concerning, there is also the matter of how the Williams Institute arrived at its LGB prevalence statistics for SOCE. The Generations Study data found 6.7% of LGB adults ages 15–59 reported having received treatment to change their sexual orientation. This proportion was then multiplied by the proportion of adults (5.3%) ages 18–59 who identified as LGBT in the 2015–2017 Gallup daily tracking survey. This number was then multiplied by the proportion of cisgender LGBT individuals (87.7%) ages 18–59 as determined by the 2014–2015 Behavioral Risk Factor Surveillance System survey conducted by the Centers for Disease Control. Finally, this proportion was applied to the number of adults ages 18–59 according to 2016 population estimates from the 2010 U.S. Census. In addition, 49.9% of LGB adults in the Generations Survey reported having received SOCE as minors. Some estimates suggest the 5.3% prevalence number for LGBT adults may be a high figure (cf. a 4.5% figure reported by Newport, 2018). However, there is a much larger concern.

A close examination of the item utilized to identify SOCE participation in the survey raises concern that vague and limited item language may be the "original sin" in the William Institute's prevalence statistics.

Specifically, item 133 states, "*Did you ever receive treatment from someone who tried to change your sexual orientation (such as try to make you straight/heterosexual)?*" Respondents are then given three options: (1) "*No*"; (2) "*Yes, from a healthcare professional (such as a psychologist or counselor who was not religious-focused)*"; or (3) "*Yes, from a religious leader (such as a pastor, religious counselor, priest)*." Either "*Yes*" response led to follow-up question #134, "*About how old were you the last time you received treatment to change your sexual orientation?*" Not only is the retrospective self-report nature of the survey problematic given the likely need for participants to recall events from decades earlier, but "treatment," "tried to change," and "try to make" are left undefined and are so nebulous one can gain no idea about the frequency or seriousness of the interventions participants have in mind. Does the respondent have in mind electroshock treatment? Generic prayers for healing? A counselor's expressed caution about the respondent pursuing sexual activity as an adolescent? A felt sense the therapist preferred heterosexuality or was a Christian? What are the specific prevalence rates for such wildly divergent "treatments" in the Generations Study? The Williams Institute has no way of knowing.

It is impossible in a single item to obtain information about a complex issue of sufficient detail to know precisely what treatments are being envisioned and responsibly advocate for legal prohibitions. Without identification of the specific treatments experienced by respondents, the linkage of the prevalence statistics to the summary report's definition of SOCE is highly tenuous. Moreover, the single item cannot provide information on whether and to what degree respondents experienced harm or benefit from their treatment, and prior research suggests that some individuals do report positive aspects to their professional SOCE experience (Dehlin et al., 2015).

To obtain prevalence statistics for the adult transgender population who have received "conversion therapy" (in the form of gender identity change efforts or GICE), the Williams Institute started with the proportion of trans adults (13%) who reported GICE from professionals in the USTS (again, more about this survey shortly), multiplied this by the proportion of adults 18 and older who are estimated to be transgender (.6%), and this was applied to the number of adults ages 18–59 in the U.S. Census. The prevalence rate for GICE among trans youth was derived by multiplying the proportion of transgender adults who reported professional attempts to make them identify only with their birth sex or stop them from being transgender (9%) by the proportion for whom this had happened at or before age 18 (51%) according to the U.S. Transgender Survey (USTS) findings. This proportion (4.6%) of respondents who received GICE before age 18 was multiplied by the proportion of youths ages 13–17 who are estimated to be transgender (.73%) and then applied to the number of youth ages 13–17 in the U.S.

It is beyond the scope of this article to deeply examine the adult transgender prevalence rates, but it is worth observing that the .6% figure is a large jump from the prevalence rates for adult natal males (.005% to .014%) and adult natal females (.002% to .003%) provided in the Diagnostic and Statistical Manual of Mental Disorders (5th Edition) (American Psychiatric Association, 2013, p. 454). The .6% transgender population size estimate was also higher than the .39% estimated by Meerwijk and Sevelius (2017) in their meta-regression of 12 population-based probability samples. Such rapid increases in transgender prevalence are underscored by the thirty-fold increase (from 77 in 2008 to 2590 in 2018) of children being treated for gender dysphoria at London's

Gender Identity Development Service (GIDS) at the Tavistock and Portman NHS Foundation Trust (Donnelly, 2019). Contrary to claims by Meerwijk and Sevelius (2017), who speculate that such increases are solely the result of people feeling freer to report that they are or identify as transgender, such rapid increases are difficult to explain as simply a reduction in stigma leading to more openness to treatment and are likely to suggest some element of social contagion (Zucker, 2019).

2015 U.S. Transgender Survey

The other survey gaining rapid traction in political and academic circles is the 2015 U.S. Transgender Survey (James, Herman, Rankin, Keisling, Mottet, & Anafi, 2016). Data from this survey was not only used by the Williams Institute in deriving their GICE prevalence statistics but is currently being utilized to assert harms from change-allowing talk therapies are widespread and sufficient for professional and religious engagement in such efforts to be deemed a serious health hazard (Turban, King, Reimer, & Keuroghlian, 2019). The USTS is described as a cross-sectional survey conducted by the National Center for Transgender Equality (NCTE) between August 19 and September 21, 2015. It is the largest existing survey of transgender adults, comprised of 27,715 transgender adults living in all regions of the United States. Overall, 13.5% of the sample reported that one or more professionals, such as a psychologist, counselor, or religious advisor, tried to stop them from being transgender. Mental health distress was significant for this population. For example, 40% of survey respondents reported having attempted suicide in their lifetime, compared to 4.6% of the general population. The report included a section entitled, "Conversion therapy and other pressures to de-transition," which noted in addition to GICE prevalence that

> participants who had a professional try to stop them from being transgender were . . . far more likely to currently be experiencing serious psychological distress (47%) than those who did not have the experience (34%) . . . more likely to have attempted suicide (58%) than those who did not have the experience (39%) . . . nearly three times as likely to have run away from home (22%) than those who did not have the experience (8%) . . . more likely to have ever experienced homelessness (46%) than those who did not have the experience (29%) . . . more likely to have ever done sex work (18%) than those who did not have the experience (11%). (James et al., 2016, p. 110)

Attempts to link GICE and such psychological distress are now unsurprisingly appearing in professional journals (e.g., Turban, Beckwith, Reisner, & Keuroghlian, 2020). Following an in-depth examination of the survey with particular reference to its limitations, I will attend to concerns with how it is being promoted in the scientific literature.

Examining Methods and Limitations

Cross Sectional Design

An obvious limitation of the USTS is its cross sectional nature, meaning data are collected from respondents only once at only one point in time. Consequently, cross sectional studies rely on differences that exist in the sample rather than differences that follow intervention and select groups for comparison based on differences rather than random sampling. This contrasts with longitudinal datasets, where respondents are administered a survey on repeated occasions

over an extended period of time. Longitudinal data are necessary for making any definitive statements regarding cause and effect. Hence, from the outset, the survey findings cannot responsibly make the case for GICE *causing* psychological distress. There are many other reasons for avoiding such conclusions, yet none of these reasons seems sufficient for advocates to critically reflect on causal assertions and ethical condemnations (e.g., Turban et al., 2019).

Community-Based Sampling

The survey was distributed through community-based outreach to transgender adults in the United States, with representation from all 50 states. Over 300 transgender, LGBT, and allied organizations promoted and distributed the survey to their members. According to Appendix C ("Detailed Methodology") of the Report, the sample was ". . . created using direct outreach, modified venue-based sampling, and 'snowball' sampling" (p. 295). This leads to an important acknowledgment:

> As a non-probability sample, generalization is limited, meaning it is unclear whether the findings present in this report would hold true for the transgender population of the U.S. as a whole. (p. 295)

Meltzoff (1998), writing in an APA publication, further describes the concerns with this recruitment strategy:

> [Some studies] . . . begin with a few people and ask them to refer friends and acquaintances. Participants who are recruited in this way are asked to refer others. Networks of people . . . are used to generate a sample of the desired size. Such samples can suffer from the narrowness of inbreeding—the sample might be more homogeneous than one would like. The sample is also vulnerable to contamination of the results as a consequence of participants talking with each other about the research experiences. (p. 53)

Although this survey did employ a multitude of people in their outreach and snowball procedures, this likely does not mitigate Meltzoff's concerns but rather implies that the limitations of such an approach to sampling have been committed repeatedly. One probable example of the "narrowness of inbreeding" concerns the exclusion of formerly transgender persons who no longer identified as transgender and may no longer inhabit LGBT venues, which quite conceivably distorts the survey's statistics and conclusions, for example, on the prevalence and rationales of those who de-transition.

The survey sample is thus seriously limited by its reliance on respondents who identified as transgender, rather than all persons with a history of gender dysphoria. The number of individuals who have suffered gender dysphoria at one time but no longer do so is much greater than those who experience persistent and consistent gender dysphoria and come to identify as transgender. Most children (upwards of 85%) with gender dysphoria will eventually identify with their biological sex if allowed to develop naturally (Ristori & Steensma, 2016; Wallien & Cohen-Kettenis, 2008). Furthermore, as noted astutely by Cantor (2019):

> . . . in the context of GD [gender dysphoric] children, it simply makes no sense to refer to externally induced "conversion": The majority of children "convert" to cisgender or "desist" from transgender *regardless* of any attempt to change them. (pp. 2–3; emphasis added)

These developmental realities make it very probable the survey failed to capture individuals who felt gender dysphoric but subsequently adopted a gender identity consistent with their natal sex, which further brings into question the surveys statistics on de-transition rates. Nor would such a sample capture people whose gender dysphoria had been alleviated or improved through standard talk therapies that did not foreclose on the possibility of change and fluidity in gender identity.

The Report does acknowledge the possibility of demographic bias in the survey sample:

> Based on the existing research about the transgender population, there is not adequate information available to attempt to correct for bias in the sample based on age, educational attainment, or income. However, there is sufficient evidence to indicate that the race and ethnicity of the USTS sample does not reflect the racial and ethnic makeup of the U.S. transgender population as a whole. (p. 295)

The researchers do apply a statistical procedure referred to as "weighting" in an attempt to make the racial and ethnic demographics of the sample more representative of what is known regarding transgender individuals in the U.S. as a population. However, this attempt is problematic from its conception. Regnerus (2019) has cogently observed,

> . . . the notion of weighting such data makes little sense, since you cannot "generalize" an opt-in sample no matter what you do to it. The [*JAMA Psychiatry*] study treats the survey in the way its designers appear to desire—as if it were a population-based, representative sample of transgender Americans. But it isn't.

If fact, Appendix A of the report (p. 247) indicates 84% of the sample has at least some college education, a level of educational attainment that seems unlikely to be representative. Regnerus compared the sample demographics with demographic characteristics of transgender adults derived from the CDC's 2017 Behavioral Risk Factor Surveillance System (BRFSS), which provides a truly population-based sample. The comparative data he discovered suggests just how unrepresentative the USTS may actually be.

1. Unemployment: 15% in the USTS vs. 8% in the BRFSS.
2. Sexual orientation: 47% of male-to-female identify as LGB in the USTS vs. 15% in the BRFSS; 24% of female-to-male identify as LGB in the USTS vs. 10% in the BRFSS.
3. Currently married: 18% in the USTS vs. 50% in the BRFSS.
4. Child in the household under 18: 14% in the USTS vs. 32% in the BRFSS.
5. General health rated as fair or poor: 22% in the USTS vs. 26% in the BRFSS.

Such noteworthy differences should give objective researchers second and third thoughts about cavalierly generalizing survey findings for the purposes of justifying public policy (particularly those that impinge on free speech rights), but such warnings appear to be going largely unheeded in academic, legislative, and judicial arenas (more on this later).

Definition of Transgender

Despite the Report referring to the USTS as the largest survey of transgender adults, it is apparent that the sample may not be as homogeneous with regard to transgenderism as it is touted to be, with yet further ramifications for generalizability. Again from Appendix A one finds that 12% (n=3,270) of the sample respondents do not think of themselves as transgender. A full 48% (n=13,353) of respondents identify as more than one gender or as no gender and 40% (n=11,353) do not currently live full-time in a gender that is different from the gender associated with their biological sex. When this 40% was asked if they planned to live full-time in a gender that is different from the one associated with their biological sex, 7% (n=770) of respondents answered "no" and another 35% (n=3,862) responded they were "not sure." Nine percent (n=2,490) of the sample identified as being cross-dressers and 36% (n=9,769) considered themselves to be "non-binary people" as opposed to transgender men and women. Finally, 14% (n=3,946) of respondents were somewhat to very uncomfortable with being described as transgender.

These numbers raise serious questions about how transgender this transgender survey really is. They suggest that the term transgender in this context is functioning as an umbrella term inclusive of cross-dressers, the non-binary, and even respondents who do not really want to be identified as transgender. No statistical comparisons appear to have been conducted to discern the similarity or dissimilarity of these subgroups. Hence, it is difficult to determine the appropriateness of generalizing from totals obtained by summing across these respondent subgroups to the transgender population as a whole. To do so without such knowledge is a dubious practice at best.

Retrospective Recall

The USTS Report provides statistics indicating the age respondents were when they experienced GICE: "More than three-quarters (78%) of respondents were under the age of 25 when they had this experience, 51% were 18 or younger, and 28% were 15 or younger" (p. 109). While information on age of respondents was not presented in the Report, Turban, Beckwith, et al. (2020) reported the mean age of survey participants was 31.2 years. Using this average as a rough estimate of those who recalled their experience of professional GICE, it appears these respondents are likely recalling events that occurred 6 to 16 years earlier, and in some instances a much lengthier time delay than that. The issue of retrospective recall is problematic and should be noted in all communications about these statistics. As observed by the APA (2009) Task Force, "People find it difficult to recall and report accurately on feelings, behaviors, and occurrences from long ago and, with the passage of time, will often distort the frequency, intensity, and salience of things they are asked to recall" (p. 29).

Lack of Specific Details of GICE

In a manner similar to the Generations Study, the USTS utilizes a single item to identify experiences of GICE (p. 109): "*Did any professional (such as a psychologist, counselor, religious advisor) try to make you identify only with your sex assigned at birth (in other words, try to stop you being trans)?*" Subsequent questions inquire about the age of respondents when experiencing GICE and whether the provider was a religious or spiritual counselor/advisor. Similar to the Generations Study item on SOCE, the USTS item on GICE employs non-specific language ("*make you identify*," "*try to stop you*") regarding practices that makes it is impossible to determine what sort of experience or intervention respondents may

have had in mind. It is highly plausible that respondents included in this vague language professionals who adopted the "watchful waiting" approach to care, the worldwide professional standard wherein transitioning is not encouraged for children and adolescents under the age of 16, in order to allow natural developmental changes and fluidity in gender identity to occur, possibly resulting in the remission of dysphoria and avoiding irreversible medical interventions (Cantor, 2019; de Vries & Cohen-Kettnis, 2012; Zucker, 2019; Zucker et al., 2012). Respondents might also interpret as GICE insistence by the clinician that they address serious co-occurring psychological disorders before pursuing transition, which are common in this population (Heylens et al., 2014; Kaltiala-Heino et al., 2015; Zucker, 2016). Likewise, a detailed discussion of the significant risks associated with hormonal and surgical intervention could be perceived by respondents as an attempt by the therapist to dissuade them from transitioning.

Regnerus (2019) again states these concerns cogently:

> Given the hundreds of questions and items the United States Transgender Survey, or USTS, posed to its respondents, that it lumps any scenario that does not involve unqualified affirmation (including "watchful waiting" for minors) into one imprecise, binary measure is, I hold, psychometrically irresponsible . . . in the USTS survey lingo, an ethical discussion of risk could be interpreted by the patient as "trying to stop you being trans." In other words, obtaining informed consent may constitute GICE.

Knowing nothing about the precise clinical context, therapeutic modalities, or specific interventions involved in respondents' perceptions of GICE makes it likely the prevalence statistics are inflated by the inclusion of responsible, ethical practice alongside potentially ill-advised and/or ethical dubious interventions (e.g., enforcing rigid gender role attire and behavior). The situation is thus one in which an ambiguously defined survey item is being utilized as justification for similarly imprecise legal bans of change-allowing professional care for gender dysphoric individuals. This is simply irresponsible advocacy and activism that has done away with necessary scientific circumspection.

Policy Priorities of Transgender People

One final aspect of the USTS data is important to discuss in light of efforts to legally prohibit change-allowing therapies. As part of the survey, respondents were asked about their priorities for public policy. Although 90% of participants indicated that "conversion therapy" was an important priority to them (but placing it only 14th out of the 17 issue options), only 1% identified it as their top policy priority. The leading policy priority among respondents was addressing violence against transgender people, which received the top ranking among 25% of the sample. Obtaining insurance coverage for transgender-related health care came in second among respondents' top policy priorities with 15% support. Addressing racism came in third with 11% endorsement.

What these statistics suggest is that for all the bad publicity surrounding GICE, transgender people are actually much more concerned about their physical safety and access to health insurance. If these numbers are to be believed, it would seem that most respondents do not perceive GICE to be physically harmful (contra the common linking of GICE and SOCE with outdated aversive practices such as electro shock therapy), at least in terms of making it a

policy priority. One is left to wonder whether the push to ban whatever is construed to be GICE is more reflective of the priorities of activists than those of the actual transgender community. Consequently, it is an open question as to whether the transgender community's safety and well-being would be better served by shifting all the time, money, and energy currently being spent to promote therapy bans into supporting public policy efforts and legislation to protect them from physical violence. Such efforts would rightly have received bipartisan support and promoted cooperative action among interest groups that are now divided over therapy bans.

In spite of all the aforementioned concerns, which are by no means exhaustive, the uncritical use of the USTS data on GICE has begun to show up in the academic literature. I turn to two examples of this practice now.

Recent Research Employing the USTS Data on GICE

Recently, and in conjunction with the growing social profile of transgender issues, the USTS findings are being used to document the alleged harms from GICE, providing an empirical basis for legal prohibitions. At the forefront of these efforts is Jack L. Turban, M.D., currently a resident physician in psychiatry, at the Massachusetts General Hospital, Division of Child and Adolescent Psychiatry. He led two research teams publishing articles on this topic that can serve as exemplars of what is concerning about this use of the USTS data relevant to GICE (Turban, Beckwith et al., 2020; Turban, King et al., 2019).

Turban, King et al. (2019)

In this study, the researchers examined "psychological attempts to change a person's gender identity from transgender to cisgender (PACGI)" (p. 1452—it is admittedly difficult to keep up with the explosion of acronyms in this literature; I will continue to use GICE here for the reader's ease of comprehension). Using USTS data, the authors note that GICE has occurred in every state in the U.S. and conclude, "Despite major medical organizations identifying PACGI as ineffective and unethical, 13.5% of transgender people in the United States reported lifetime exposure to this practice" (p. 1452).

Since this study is essentially intended to create a reference for the USTS GICE prevalence statistics in the scholarly literature, I have previously noted most of the problems in such an effort in my examination of the survey. GICE prevalence in the USTS is likely to be inflated due in part to methodological constraints, the most important being the use of an under defined and therefore likely over inclusive single item to refer to GICE. To their credit, the authors acknowledge the problems with self-report and the fact they really do not know critical details about what constitutes GICE for survey respondents.

> Given that participants self-reported exposure to PACGI, however, there is potential for recall bias, particularly regarding the age at which PACGI were experienced. We also lack data regarding specific characteristics of respondents' experiences with PACGI (e.g., modalities used, frequency, duration, forcefulness). Study generalizability is limited because of the use of a non-probability sample. (p. 1454)

They additionally and accurately comment, "The estimates from this study must be interpreted with caution . . ." (p. 1454). Yet it is unclear how much caution they intend to

exercise. Their restraint is brought into question especially in light of their conclusion that the frequency of GICE "warrants public health attention" (p. 1454) given associations with adverse mental health outcomes. So, despite likely inflated prevalence statistics and without knowing any details about what occurred in respondents' experience of GICE, the authors believe this is sufficient empirical justification for banning whatever might be being construed to be professional GICE. As Pruden (2019) has observed, "Of course we should all be interested in eliminating specific abusive practices where they exist, but the solutions currently being considered are the equivalent of solving the problem of drunk driving by outlawing automobiles." Although Turban, King et al. do not provide a basis for adverse mental health outcomes among transgender persons exposed to GICE, they allude to other research they published (Turban, Beckwith, Reisner, & Keuroghlian, 2018), which appears to be an earlier version of their 2020 study. This study is far from impervious to serious critique, as I will detail below.

Turban, Beckwith et al. (2020)

For this analysis, Turban and colleagues examined USTS data to identify recalled lifetime exposure to professional GICE, finding 19.6% of respondents reported such experience. Furthermore, they report any lifetime exposure to GICE as well as lifetime exposure to GICE before age 10 were associated with severe psychological distress during the previous month compared to non-GICE therapy, particularly higher odds of lifetime suicide attempts. They conclude with the recommendation that, "Results from this study support past positions taken by leading professional organizations that GICE should be avoided with children and adults." This conclusion seems rather muted when compared to Turban's statements in mainstream media (Gander, 2019): "We hope that this research will help state legislators understand the magnitude of this problem and the need to pass bans on gender identity conversion efforts."

What state legislators (and others who will be offered these statistics as justification for change-allowing therapy bans) are unlikely to understand is the magnitude of the overreach in Turban's desired aims given the significant limitations of his usage and interpretation of the USTS data. In addition to the limitations of the USTS as previously mentioned, Turban, Beckwith et al. (2020) commit additional and highly disconcerting methodological and interpretive maneuvers, the most noteworthy of which are described below.

Causal Directionality Is Assumed

Because the USTS data are cross-sectional, they cannot determine whether professional GICE caused the mental health distress or whether distressed transgender individuals sought out therapy. Turban and colleagues interpret their findings through the lens of minority stress theory, whose advocates typically presume a causal pathway from experiences of stigma and prejudice (in this instance GICE-related) to adverse health outcomes as the only putative explanation worthy of mention. In conclusions imbued with causal assumptions, the researchers assert, ". . . elevated stigma-related stress from exposure to GICE *may increase* general emotion dysregulation, interpersonal dysfunction, and maladaptive cognitions" and ". . . exposure to GICE *may have been so damaging* that they were impaired in educational, professional, and economic advancement" (pp. e6–7; emphasis added). Seemingly unaware of having already committed such interpretive overreach, Turban, Beckwith et al. (2020) add, "The cross-sectional nature of this study

limits further interpretation" (e7). In point of fact, however, the study design should limit *all* of their interpretations, including a subsequent statement that ". . . rejection of gender identity may have more profound consequences at earlier stages of development" (p. e7). In their strict adherence to the minority stress model, they seem to have missed another (equally—if not more—valid) explanation; namely, transgender persons with greater pre-existing psychological distress and emotional disturbance may have been more likely to present for therapy in general and be more interested in pursuing congruence between their biological sex and their gender (GICE?) in particular or may be more likely to be brought to such therapy by their parents.

In this regard, Regerus (2019) expresses similar concerns:

> [T]he authors seem largely uninterested in putting their implied causation—that past conversion attempts affect present mood and suicidality—to the test. Instead, a subtext of injustices committed against the respondents infuses the study, suggesting a decidedly external locus of control in the lives of transgender Americans. This narrative is only interrupted once, when to their credit the authors admit that it "is possible that those with worse mental health or internalized transphobia may have been more likely to seek out conversion therapy rather than non-GICE therapy, suggesting that conversion efforts themselves were not causative of these poor mental health outcomes." I think the average reader would believe this is probable, not just possible.

In addition, individuals pursuing therapy might also tend to be more highly rejection sensitive and at risk for perceiving even ethically conducted therapy to be GICE when, for example, the therapist is not prepared to proceed with facilitating gender transition at the client's desired level of haste.

Absence of a No-Therapy Comparison Group

Turban, Beckwith et al. (2020) compared respondents reportedly exposed to professional GICE with a group exposed to no-GICE therapy. Unfortunately, they determined, "Participants were excluded from analyses if they did not report ever discussing their gender identity with a professional" (p. e4). This exclusion limited comparisons and may have obscured important context regarding the extent of disturbance within the sample. Had the researchers included a comparison group of respondents who reported no exposure to therapy, it would have provided insight into the comparison they did make between respondents reporting GICE versus no-GICE therapy. For example, it would be very helpful to know what the prevalence of lifetime suicidal attempts were among respondents who had no therapy, and to compare this with the prevalence in both GICE and no-GICE participants (as well as general population rates). Were the prevalence of lifetime suicide attempts substantially lower among no-therapy respondents, this might indicate that rates among those exposed to any therapy (GICE or non-GICE) are closer to one another, supporting the distressed-seek-therapy hypothesis and thus placing their difference in important context. Alternatively, if the prevalence rate of lifetime suicide attempts among the no-therapy respondents was in fact quite elevated and close to or equivalent to the no-GICE respondents, this could also suggest that reported GICE exposure provided little explanatory information on

why respondents across the sample attempted suicide. Without such context, the comparisons concerning mental health outcomes between GICE and no-GICE therapy experiences have to be interpreted with much more circumspection than Turban and colleagues have displayed.

No Accounting for Adverse Childhood Events (ACEs)

Although the USTS data provide a picture of the transgender population as suffering from serious childhood trauma (see also Baams, 2018; Giovanardi et al., 2018; Schneeberger et al., 2014), Turban, Beckwith et al. (2020) made no attempt to control for this background variable that plausibly might account for a large portion of the mental health outcome discrepancies between GICE and no-GICE therapy exposure. For example, the USTS Report noted:

> The majority of respondents who were out or perceived as transgender while in school (K–12) experienced some form of mistreatment, including being verbally harassed (54%), physically attacked (24%), and sexually assaulted (13%) because they were transgender. Further, 17% experienced such sever mistreatment that they left a school as a result. (p. 4)

The researchers report conducting bivariate analyses to identify and account for potential confounders in their subsequent regressions, but they do not indicate what, if any, possible confounding variables were discovered. However, it is clear that ACEs were inexplicably not a part of this attempt to identify potential existing and preexisting life experiences likely to be influential on mental health outcomes among transgender persons. Consider this quote from a respondent highlighted in the USTS:

> When I was 18, I had to leave where I grew up after threats of physical violence and conversion therapy from my family. My parents were abusive before they knew I was trans, but when they found out, they used that to hurt and control me more. (p. 110)

It is unfortunate that Turban and colleagues do not exhibit curiosity about the impact of childhood trauma with reference to alleged effects of GICE on mental health outcomes both before and after transgender identification. Regnerus (2019) makes a similar observation, commenting, "This lack of intellectual curiosity is unfortunate, the hallmark of an utterly politicized science whose bar for publishing studies on a topic now exploding in popularity is much too low." Again, such omissions in the researchers' analyses create a lack of critical context for interpretive accuracy and make definitive statements about alleged GICE harms quite questionable from a scientific standpoint.

Effects of Accounting for SOCE Exposure

The USTS also included a single question assessing exposure to SOCE, almost verbatim to the question on GICE (substituting the former acronym for the latter) and encumbered by the same severe non-specificity and hence interpretability concerns. For some reason not detailed by Turban and colleagues, these researchers decided to see what would happen to their GICE analyses when they controlled for exposure to SOCE. What they discovered was after this adjustment, all of their outcome measures expect lifetime suicide attempts were no longer associated with lifetime and childhood exposure to GICE therapy compared to no-GICE therapy. The outcome variables that washed out when controlling for SOCE exposure included suicidal

ideation (lifetime and in past 12 months), suicidal attempt in the past 12 months, suicide attempt requiring inpatient hospitalization in the past 12 months (for lifetime GICE exposure), severe psychological distress in the past 12 months, and lifetime cigarette and illicit drug use (for GICE exposure before age 10). Turban, Beckwith et al. (2020) do not really interpret these findings, and there is little if any literature to indicate that SOCE exposure is widely reported by transgender persons or GICE is frequently encountered by LGB individuals. It is conceivable that reports of exposure to GICE and SOCE may function primarily as proxies for severe and overlapping pre-existing psychological distress among these groups that is not attributable to therapy experiences. Consequently, accounting for distress associated with SOCE would largely account for the distress and outcomes associated with the GICE.

Turban and colleagues address the SOCE comparison only once in their discussion section:

> Based on the findings of the current study, it appears that transgender people are exposed to GICE at high rates, perhaps even higher than the percentage of cisgender non-heterosexual individuals who are exposed to sexual orientation conversion efforts, *although direct comparisons are not possible*. One potential explanation for this is that compared with persons in the sexual minority group, many persons in the gender minority group must interact with clinical professionals to be medically and surgically affirmed in their identities. This higher prevalence of interactions with clinical professionals among people in the gender minority group may lead to greater risk of experiencing conversion efforts. (p. e6; emphasis added)

Why these authors would acknowledge the data do not allow direct comparisons between GICE and SOCE prevalence but then offer *exactly* such comparisons before and after their caution is difficult to fathom. What appears to be more appropriately concluded from this paragraph is that the authors are intent on concluding the rate of GICE exposure among transgender people is greater than the rate of SOCE exposure among sexual minorities and offering favored speculation as to why this might be. The presence of these sorts of interpretive contradictions in this article does not speak well for *JAMA Psychiatry*'s peer review process.

Probable Conflation of Licensed Therapists with Religious Counselors

Turban, Beckwith and colleagues (2020) report, "There were no statistical differences in outcomes between those who were exposed to GICE enacted by religious advisors and those who were exposed to GICE enacted by secular professionals" (p. e6). This conclusion appears to be based on question 13.4 of the USTS, which asks respondents who reported exposure to GICE if the person who provided the care was a "religious or spiritual counselor/advisor." The problem with this line of questioning, of which Turban and colleagues seem unaware, is that many consumers of what is described as SOCE and GICE as well as their families are highly religious and are likely to have sought out both mental health care and spiritual counsel. The USTS questions do not account for this likelihood, and hence the forced binary provider option almost assuredly obscures potential discrepancies between licensed mental health clinicians and unregulated and untrained religious caregivers.

Fiduciary Conflict of Interest

A final point worth noting is that Turban, Beckwith et al. (2020) conclude their ". . . results support the policy positions of the American Academy of Child and Adolescent Psychiatry, . . . which state that gender identity conversion therapy should not be conducted for transgender patients at any age" (p. e8). Footnoted information about the article includes the acknowledgment that the study was partially funded by a Pilot Research Award to the principal author from the American Academy of Child and Adolescent Psychiatry (AACAP). Additionally, the data from the USTS were made available by the National Center for Transgender Equality (NCTE), whose advocacy against GICE is clear. An accompanying disclaimer disavows the funding organizations had any direct role in the study, but advice by Ferguson (2015) suggests problems with influence remain:

> I strongly suggest that psychological researchers should avoid accepting funding from advocacy groups advancing particular policy or social advocacy agendas, however well-meaning these may be. It is probably impossible to avoid any pressure to produce certain results whatever funding source may be available, even with government funding, but avoiding obviously biased sources would be helpful. (p. 533)

Any reasonable person will naturally assume Turban and colleagues understood implicitly that swift and draconian consequences would have followed for reporting and/or interpreting findings in a manner inconsistent with the AACAP GICE policy position or NCTE advocacy interests. These consequences would no doubt include professional ostracization and future inaccessibility to all funding streams and databases provided by organizations with vested policy interests in opposition to GICE. These are high stakes indeed for the authors, which surely would have intruded upon whatever scientific objectivity and circumspection they believed they were bringing to the subject matter. Disclaimers aside, the conclusions of this study were likely to have been known to the authors and tacitly expected by the funders before the first statistical analyses on the data were even conducted.

Summary and Conclusion

What can be inferred from the Generations Study, the USTS, as well as the LGBT literature in general is the overwhelming burden of trauma and adversity experienced by this population. People of good will on both sides of the debate over SOCE and GICE should experience deep compassion for the suffering experienced by so many sexual minorities. Compassion, however, cannot replace sober scientific analysis when research is purported to support if not compel legislation and public policy that impinges on unspecified aspects of professional practice and curtails the free speech rights of licensed mental health providers and ethical religious counselors. In this regard, the prevalence statistics and research derived from these surveys concerning exposure to SOCE and GICE must be viewed with great skepticism.

In the years ahead, politicians, judges, professional organizations, and the general public are going to be bombarded with claims that hundreds of thousands of minors and adults have been exposed to the torturous practices of SOCE and GICE, and tens of thousands more are in imminent danger of suffering that fate. Outlier occurrences of unethical or abusive practices in change-allowing professional talk therapies may happen on rare occasion, as is the case among

providers in all therapeutic endeavors, and these should be taken seriously and addressed by the appropriate regulatory bodies. However, these surveys have been utilized to create SOCE and GICE prevalence numbers that are undoubtedly inflated and distort the realities of this professional care, likely in an attempt to achieve favored political and social policy ambitions.

First and foremost, this inflation has occurred by the use of vague and over-inclusive single-item measures of SOCE and GICE. Second, the problem is intensified by the ill-advised incorporation of frequency rates derived from these items into multiplicative deductions that compound the "original sin" in an effort to generalize to the LGB and T national populations. Third, some of the numbers for the prevalence of persons identifying as LGBT may be at the higher end of the range for these statistics which, when combined with the over-inclusive prevalence figures for SOCE and GICE, produce exposure numbers that further the impression of a social crisis and urgent "health hazard."

The scholars and activists who purvey these prevalence statistics appear more than willing to create the impression that an astronomical level of LGBT exposure to the worst coercive and aversive behavioral interventions has occurred and is still taking place. Such claims are occurring four decades after such practices have ceased to be utilized by professionals to modify sexual orientation, even by therapists still willing to explore sexual attraction and gender identity fluidity with clients who request this. Tellingly, examples of specific therapeutic language that creates harm commensurate with the harms of the alleged aversive behavioral practices (and hence worthy of being banned) are never offered by these same scholars and activists. Furthermore, due to the imprecise measurement of SOCE and GICE, the prevalence figures derived from these surveys may well include a preponderance of ethical clinical and religious practices, such as emotional and medical cost/benefit discussions requisite for informed consent or exploratory psychosocial treatments, all administered through speech alone and perceived by respondents to be dissuasive and non-affirming.

Despite clear plausibility, it is of course not possible given the survey measurement limitations to be sure that such a low bar for what constituted SOCE or GICE was present in respondents' minds. Conversely, it is also not possible for the Williams Institute, the NCTE, or scholars such as Turban and his colleagues to be certain that such experiences *were not* construed by respondents as SOCE or GICE. Among all except committed activists, such and subsequent prevalence uncertainty can hardly be considered a scientifically responsible basis for legal prohibitions on client-centered, professional change-allowing and fluidity-exploring talk definitional therapies.

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