


Inequities in Conversion Practice Exposure at the Intersection of Ethnoracial and Gender Identities

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Objectives. To examine inequities in conversion practice exposure across intersections of ethnoracial groups and gender identity in the United States.

Methods. Data were obtained from The Population Research in Identity and Disparities for Equality Study of sexual and gender minority people from 2019 to 2021 (n = 9274). We considered 3 outcomes: lifetime exposure, age of first exposure, and period between first and last exposure among those exposed to conversion practices. We used log-binomial, Cox proportional hazards, and negative binomial models to examine inequities by ethnoracial groups and gender identity adjusting for confounders. We considered additive interaction.

Results. Conversion practice prevalence was highest among minoritized ethnoracial transgender and nonbinary participants (TNB; 8.6%). Compared with White cisgender participants, minoritized ethnoracial TNB participants had twice the prevalence (prevalence ratio = 2.16; 95% confidence interval [CI] = 1.62, 2.86) and risk (hazard ratio = 2.04; 95% CI = 1.51, 2.69) of conversion practice exposure. Furthermore, there was evidence of a positive additive interaction for age of first exposure.

Conclusions. Minoritized ethnoracial TNB participants were most likely to recall experiencing conversion practices.

Public Health Implications. Policies banning conversion practices may reduce the disproportionate burden experienced by minoritized ethnoracial TNB participants. (*Am J Public Health.* 2024;114(4): 424–434. <https://doi.org/10.2105/AJPH.2024.307580>)

Conversion practices, also known as part of a broader set of efforts to change sexual orientation and gender identity, refer to organized attempts that seek to suppress or redirect noncisgender gender identity and expression and nonheterosexual sexual attraction.^{1,2} These harmful practices—which include religious rituals, speech-based therapy, physical deprivation, aversion therapy, electroconvulsive therapy, and medication-induced emetic responses³—are often aimed at sexual and gender minority (SGM)

individuals and have been associated with negative mental health outcomes such as distress, depression, and suicidal ideation and attempt.^{4–8} While several professional bodies have denounced conversion practices given the evidence of harm,⁹ only 22 states and the District of Columbia currently have laws banning conversion practices for minors, and 3 have federal injunctions preventing bans as of October 2023.¹⁰

Studies suggest that approximately 13% of SGM individuals in the United

States have overall experienced conversion practices^{4,5,8,11,12} with higher prevalence reported among transgender and nonbinary (TNB) people (4% to 31%) compared to cisgender people (2% to 21%).^{5,6,13} Conceptually, conversion practices can be viewed as a manifestation of multiple forms of discrimination—including homophobia, systemic racism, and cissexism—used to uphold cisheteronormativity and White supremacy, socio-structural systems wherein cisgender heterosexual identities and Whiteness are

normalized and privileged; this erases and marginalizes SGM individuals and minoritized ethn racial groups.^{1,14–16} However, previous research on conversion practices and their negative outcomes has only considered a single axis of identity, such as gender (e.g., cisgender or TNB people),^{4–6} sexual orientation (e.g., sexual minority men),^{8,17} or minoritized ethn racial identity (e.g., Black, Indigenous, Asian, Pacific Islander, Hispanic, or Latina/e/o/x).^{4–6} This approach obscures how interlocking systems of oppression and discrimination impact conversion practice exposure for SGM people who live their lives at the intersection of multiple minoritized identities.¹⁸ Therefore, we applied intersectionality^{19–21} to inform our research question, study design, and interpretation. We posit that the inequities to conversion practice exposure, timing, and duration experienced by TNB people from minoritized ethn racial backgrounds will be greater than the reference intersection.

Intersectionality, a Black feminist theoretical framework rooted in social justice movements of the early 19th century and codified in a legal context in the 1980s and 1990s, posits that the experiences of individuals with multiple marginalized identities are differentially shaped by socio-structural systems that interact to provide unearned privilege for some while oppressing others of different social positions.^{19–21} In this study, we were interested in 2 such systems, systemic racism and cissexism, that are proxied by self-reported ethn racial and gender identity in The Population Research in Identity and Disparities for Equality (PRIDE) Study. By accounting for the impact of multiple forms of systemic oppression in this study,¹⁴ we sought to better understand the inequities faced by SGM

individuals with multiply marginalized identities, particularly TNB individuals from minoritized ethn racial backgrounds.

METHODS

We used data from 3 waves of The PRIDE Study, a longitudinal cohort of SGM adults recruited from 2019 to 2021 in the United States. Previous work has described the methods of (prospective) participant engagement, enrollment, retention, and data acquisition as well as the novel Web-based platform that The PRIDE Study uses.^{22,23} The eligibility criteria for The PRIDE Study included being aged 18 years or older, being a resident of the United States or its territories, identifying as a gender or sexual minority person, and being comfortable with reading in English. Eligible participants provided electronic informed consent through an online participant portal. Upon enrollment, participants were invited to complete the lifetime and current annual health and experiences questionnaire, with future invitations to complete any subsequent annual questionnaires. Our analysis was restricted to participants who completed the lifetime and at least 1 annual questionnaire during the study period.

Ethn racial Identity

The PRIDE Study participants were able to self-identify their ethn racial identity by selecting any (or multiple) of the following options: American Indian or Alaska Native; Asian; Black, African American, or African; Hispanic, Latino, or Spanish; Middle Eastern or North African; Native Hawaiian or other Pacific Islander; White; and None of these fully describe me (with a free response

option). For participants who completed the free response option, we recoded them as White if they did not endorse any other ethn racial identity and self-identified as White or of Western European descent (e.g., Irish). Because of the limited sample size within some ethn racial groups, we collapsed ethn racial identities into a binary variable that included White and minoritized ethn racial groups. We use the term “minoritized ethn racial” to highlight the context in which individuals are made to be minorities in institutions that are structured to uphold White supremacy.^{14,16} Therefore, minoritized ethn racial individuals in this analysis include participants in these ethn racial groups: American Indian or Alaska Native; Asian; Black, African American, or African; Hispanic, Latino, or Spanish; Middle Eastern or North African; or Native Hawaiian or Pacific Islander, as they are all harmed by systemic racism in the United States.

Gender Identity and Sex Assigned at Birth

Participants were asked to report their current gender identity with the option to select multiple responses (agender, cisgender man, cisgender woman, genderqueer, man, nonbinary, questioning, transgender man, transgender woman, Two-Spirit, woman, and another gender identity) and sex assigned at birth (female or male). To align with an Indigenous conceptualization of Two-Spirit,²⁴ participants who exclusively self-identified as White were not included as Two-Spirit for current gender identity in the analysis. However, it is possible that these participants may still originate from Indigenous communities; thus, we presented our results that included all participants that self-identified as

Two-Spirit in Appendix Tables A and B (available as supplements to the online version of this article at <https://ajph.org>).

We then used a 2-step procedure for coding items on gender identity and sex assigned at birth.^{25,26} Cisgender participants were those whose gender identity was concordant with the gender commonly associated with their sex assigned at birth, or if sex assigned at birth was missing, reported their current gender identity as cisgender man or cisgender woman. TNB participants included those whose gender identity was not concordant with the gender commonly associated with their sex assigned at birth or who endorsed any of the following for their current gender identities: agender, genderqueer, non-binary, questioning, transgender man, transgender woman, Two-Spirit, and another gender identity.

Outcomes

We assessed lifetime exposure to conversion practices with 2 separate questions: “Have you EVER been in therapy or been part of a program or group intended to change your gender or gender identity to be consistent with the sex assigned to you at birth?” and “Have you EVER been in therapy or been part of a program or group intended to change your sexual orientation to heterosexual/straight?” Participants who answered “yes” to either question received 2 follow-up questions assessing the age of first and last exposure. For this analysis, we created a singular indicator (yes/no) for any lifetime exposure to conversion practices. To assess the age of first exposure, we used the youngest age reported by participants who experienced gender or sexual orientation conversion practice. Lastly, years between first and last

exposure were quantified by calculating the difference between the latest age of last exposure and the earliest age of first exposure for gender or sexual orientation conversion practices.

Covariates

Given that our analysis draws from intersectionality as a conceptual framework, which situates individuals within overlapping socio-structural systems that afford privilege to some people while oppressing others, we considered only the following covariates as potential confounders in our analysis: age (continuous), annual survey completion year (2019, 2020, and 2021), US Census division of residence (East North Central, East South Central, Mid-Atlantic, Mountain, New England, Pacific, South Atlantic, West North Central, West South Central, and unknown), and religious upbringing (yes/no). We did not adjust for socioeconomic position (i.e., education level and individual annual income) because these measures are potentially mediators or descendants of recall history of conversion practices. However, education level and annual income, along with ethn racial groups, gender identity, and sexual orientation, are included in Table 1 for the purpose of describing the sample. Similar to current gender, participants who exclusively self-reported White were excluded as Two-Spirit for sexual orientation.

Statistical Analysis

Our analysis drew on McCall’s framework for intersectional complexity²⁷ and used a descriptive intercategorical intersectional approach to evaluate the association between the axes of cissexism and systemic racism (as proxied by gender and ethn racial identities) on

measures of conversion practices. We first defined 4 cross-stratified groups based on ethn racial identity and current gender identity: minoritized ethn racial cisgender sexual minority individuals, minoritized ethn racial TNB individuals of any sexual orientation, White cisgender sexual minority individuals, and White TNB individuals of any sexual orientation. We then summarized key sample characteristics and measures of conversion practices using descriptive statistics for the overall sample and by cross-stratified groups. While these categories were selected to encompass groups that are harmed by the interlocking impact of systemic racism and cissexism and are analogous to other intersectional analyses across ethn racial and gender groups,²⁸ we acknowledge that this approach may obscure meaningful within-group differences and conducted a secondary descriptive analysis that further disaggregated the sample by ethn racial identities for cisgender and TNB participants.

We used log-binomial models to estimate prevalence ratios (PRs) of lifetime exposure recall, Cox proportional hazards models to estimate hazard ratios (HRs) for age of first exposure, and negative binomial models to estimate count ratios for period from first to last exposure among participants who reported conversion practice exposure. All models adjusted for age, survey year, division of residence, and religious upbringing. For each model, we selected White cisgender participants as the reference group to reflect our theoretical understanding of how White supremacy and cissexism confer certain social advantages that may reduce exposure to conversion practices.

In our survival analysis, we used age (in years) as the time scale.

TABLE 1— Participant Sociodemographic Characteristics, Religious Upbringing, and Experiences With Conversion Practices: United States, 2019 to 2021

	Total (n = 9274), No. (%), or Mean, Median ± SD	Minoritized Ethnoracial Transgender and Nonbinary (n = 888), No. (%) or Mean, Median ± SD	Minoritized Ethnoracial Cisgender (n = 970), No. (%) or Mean, Median ± SD	White Transgender and Nonbinary (n = 3280), No. (%) or Mean, Median ± SD	White Cisgender (n = 4136), No. (%) or Mean, Median ± SD
Age	35.5, 31.0 ± 14.1	29.9, 26.3 ± 11.4	35.8, 31.2 ± 13.8	32.1, 28.6 ± 12.0	39.4, 35.0 ± 15.2
Ethnoracial identity^a					
American Indian or Alaska Native	312 (3.4)	184 (20.7)	128 (13.2)	0 (0.0)	0 (0.0)
Asian	484 (5.2)	228 (25.7)	256 (26.4)	0 (0.0)	0 (0.0)
Black, African American, or African	400 (4.3)	178 (20.0)	222 (22.9)	0 (0.0)	0 (0.0)
Hispanic, Latino, or Spanish	689 (7.4)	312 (35.1)	377 (38.9)	0 (0.0)	0 (0.0)
Middle Eastern or North African	137 (1.5)	78 (8.8)	59 (6.1)	0 (0.0)	0 (0.0)
Native Hawaiian or Pacific Islander	27 (0.3)	14 (1.6)	13 (1.3)	0 (0.0)	0 (0.0)
White	8333 (89.9)	498 (56.1)	427 (44.0)	3274 (99.8)	4134 (100.0)
Another ethnoracial identity	134 (1.4)	47 (5.3)	31 (3.2)	37 (1.1)	19 (0.5)
Gender identity^a					
Agender	455 (4.9)	95 (10.7)	0 (0.0)	360 (11.0)	0 (0.0)
Cisgender man	1217 (13.1)	17 (1.9)	255 (26.3)	48 (1.5)	897 (21.7)
Cisgender woman	2271 (24.5)	40 (4.5)	384 (39.6)	168 (5.1)	1679 (40.6)
Genderqueer	1259 (13.6)	228 (25.7)	0 (0.0)	1031 (31.4)	0 (0.0)
Man	2037 (22.0)	139 (15.7)	267 (27.5)	453 (13.8)	1178 (28.5)
Nonbinary	2054 (22.1)	462 (52.0)	0 (0.0)	1592 (48.5)	0 (0.0)
Questioning	442 (4.8)	111 (12.5)	0 (0.0)	331 (10.1)	0 (0.0)
Transgender man	1183 (12.8)	237 (26.7)	0 (0.0)	946 (28.8)	0 (0.0)
Transgender woman	523 (5.6)	96 (10.8)	0 (0.0)	427 (13.0)	0 (0.0)
Two-Spirit	49 (0.5)	49 (5.5)	0 (0.0)	0 (0.0)	0 (0.0)
Woman	2231 (24.1)	148 (16.7)	271 (27.9)	559 (17.0)	1253 (30.3)
Another gender identity	556 (6.0)	142 (16.0)	0 (0.0)	414 (12.6)	0 (0.0)
Sexual orientation^a					
Asexual	955 (10.3)	151 (17.0)	59 (6.1)	547 (16.7)	198 (4.8)
Bisexual	2826 (30.5)	304 (34.2)	294 (30.3)	1127 (34.4)	1101 (26.6)
Gay	2985 (32.2)	162 (18.2)	419 (43.2)	552 (16.8)	1852 (44.8)
Lesbian	2139 (23.1)	146 (16.4)	215 (22.2)	618 (18.8)	1160 (28.0)
Pansexual	1514 (16.3)	220 (24.8)	101 (10.4)	770 (23.5)	423 (10.2)
Queer	3682 (39.7)	452 (50.9)	248 (25.6)	1821 (55.5)	1161 (28.1)
Questioning	273 (2.9)	55 (6.2)	14 (1.4)	148 (4.5)	56 (1.4)
Same-gender loving	479 (5.2)	75 (8.4)	53 (5.5)	193 (5.9)	158 (3.8)
Straight/heterosexual	176 (1.9)	42 (4.7)	2 (0.2)	114 (3.5)	18 (0.4)
Two-Spirit	24 (0.3)	23 (2.6)	1 (0.1)	0 (0.0)	0 (0.0)
Another sexual orientation	354 (3.8)	56 (6.3)	20 (2.1)	204 (6.2)	74 (1.8)
Education level					
High school or less	509 (5.5)	84 (9.5)	37 (3.8)	241 (7.3)	147 (3.6)
Some college	2089 (22.5)	278 (31.3)	190 (19.6)	926 (28.2)	695 (16.8)
4-y college graduate	2850 (30.7)	269 (30.3)	290 (29.9)	1040 (31.7)	1251 (30.2)

Continued

TABLE 1— Continued

	Total (n = 9274), No. (%), or Mean, Median ± SD	Minoritized Ethnoracial Transgender and Nonbinary (n = 888), No. (%) or Mean, Median ± SD	Minoritized Ethnoracial Cisgender (n = 970), No. (%) or Mean, Median ± SD	White Transgender and Nonbinary (n = 3280), No. (%) or Mean, Median ± SD	White Cisgender (n = 4136), No. (%) or Mean, Median ± SD
Advanced degree	2958 (31.9)	150 (16.9)	353 (36.4)	793 (24.2)	1662 (40.2)
Missing	868 (9.4)	107 (12.0)	100 (10.3)	280 (8.5)	381 (9.2)
Individual income, \$					
0–20 000	3129 (33.7)	440 (49.5)	289 (29.8)	1426 (43.5)	974 (23.5)
20 001–50 000	2411 (26.0)	209 (23.5)	247 (25.5)	853 (26.0)	1102 (26.6)
50 001–100 000	1871 (20.2)	99 (11.1)	216 (22.3)	511 (15.6)	1045 (25.3)
> 100 000	950 (10.2)	25 (2.8)	112 (11.5)	199 (6.1)	614 (14.8)
Missing	913 (9.8)	115 (13.0)	106 (10.9)	291 (8.9)	401 (9.7)
Survey year					
2019	5341 (57.6)	419 (47.2)	530 (54.6)	1801 (54.9)	2591 (62.6)
2020	2553 (27.5)	327 (36.8)	298 (30.7)	939 (28.6)	989 (23.9)
2021	1380 (14.9)	142 (16.0)	142 (14.6)	540 (16.5)	556 (13.4)
US Census division of residence					
East North Central	742 (8.0)	72 (8.1)	66 (6.8)	297 (9.1)	307 (7.4)
East South Central	1106 (11.9)	102 (11.5)	123 (12.7)	399 (12.2)	482 (11.7)
Mid-Atlantic	1199 (12.9)	114 (12.8)	83 (8.6)	450 (13.7)	552 (13.3)
Mountain	642 (6.9)	37 (4.2)	35 (3.6)	258 (7.9)	312 (7.5)
New England	1460 (15.7)	125 (14.1)	156 (16.1)	478 (14.6)	701 (16.9)
Pacific	302 (3.3)	22 (2.5)	14 (1.4)	126 (3.8)	140 (3.4)
South Atlantic	657 (7.1)	79 (8.9)	84 (8.7)	212 (6.5)	282 (6.8)
West North Central	639 (6.9)	46 (5.2)	61 (6.3)	232 (7.1)	300 (7.3)
West South Central	2194 (23.7)	241 (27.1)	310 (32.0)	703 (21.4)	940 (22.7)
Missing	333 (3.6)	50 (5.6)	38 (3.9)	125 (3.8)	120 (2.9)
Religious upbringing	7169 (77.3)	678 (76.4)	759 (78.2)	2429 (74.1)	3303 (79.9)
Lifetime exposure	533 (5.7)	76 (8.6)	44 (4.5)	207 (6.3)	206 (5.0)
Age of first exposure ^b	18.4, 16.0 ± 8.2	16.8, 16.0 ± 8.2	18.3, 16.0 ± 6.4	18.5, 16.0 ± 10.0	18.9, 17.5 ± 6.4
Age of last exposure ^b	21.4, 18.0 ± 9.6	20.5, 18.0 ± 9.7	22.6, 18.0 ± 10.9	21.8, 18.0 ± 10.8	21.2, 19.0 ± 8.0
Years between first and last exposure ^b	3.1, 1.0 ± 6.1	3.7, 2.0 ± 6.9	4.3, 1.0 ± 8.8	3.3, 1.0 ± 6.2	2.4, 1.0 ± 4.7

^aParticipants may select multiple options; thus, the sum of percentages will be greater than 100%.

^bAmong participants who reported lifetime exposure to conversion practices (n = 533).

Cohort entry was defined based on participants' date of birth, while cohort exit was based on the age of the first event (conversion practice) or the age when participants completed their first annual questionnaire (end of observation period). Since the use of age as the time scale adjusts for age, we did not

include age as a covariate in the Cox proportional hazard model. Furthermore, the assessment of the proportional hazard assumptions indicated that religious upbringing was not consistent over age (Appendix Table C); therefore, we conducted time-dependent Cox models to account for the dependencies between

age and religious upbringing. Specifically, we allowed for the baseline hazard function to differ between 2 age groups (< 24 and ≥ 24 years); this was defined based on an exploratory assessment of Schoenfeld residuals (Appendix Figure A). Additional information regarding model specification is presented in

the “Model Specifications” section of the Appendix.

We evaluated additive interaction for each outcome by using the estimated coefficients to calculate the relative excess risk due to interaction (RERI) that tested whether minoritized ethnora- cial TNB experienced a disproportionate in- crease in risk of conversion practices (i.e., “excess risk”).²⁹ RERI values range from negative to positive infinity, and estimates greater than 0 indicate the presence of a positive additive interac- tion. We obtained confidence intervals (CIs) for all estimates by bootstrapping more than 1000 resamples. We con- ducted all analyses in R version 4.2.2,³⁰ and we fitted the models by using the *stat, survival*,³¹ and *MASS*³² packages.

RESULTS

In this study, we analyzed data from 9310 participants who completed life- time and annual questionnaires be- tween 2019 and 2021. Participants with missing data on age ($n = 2$), conversion practice recall ($n = 22$), gender identity ($n = 1$), and religious upbringing ($n = 4$) were excluded. Additionally, 7 partici- pants were excluded who exclusively identified as White and Two-Spirit. This resulted in a final sample of 9274 partici- pants (Table 1). Among the sample, 10.5% ($n = 970$) were minoritized eth- noracial cisgender, 9.6% ($n = 888$) were minoritized ethnora- cial TNB, 44.5% ($n = 4136$) were White cisgender, and 35.4% ($n = 3280$) were White TNB.

Overall, 5.7% ($n = 533$) of participants recalled lifetime exposure to conversion practices, and 77.3% ($n = 7169$) reported a religious upbringing. Conversion practices prevalence was highest among minoritized ethnora- cial TNB partici- pants (8.6%; $n = 76$), followed by White TNB (6.3%; $n = 207$), White cisgender

(5.0%; $n = 206$), and minoritized ethnora- cial cisgender (4.5%; $n = 44$). The mean age of first exposure to conversion prac- tices was 18.4 years ($SD = 8.2$), and the mean time from first to last episode was 3.1 years ($SD = 6.1$). Minoritized ethno- racial TNB participants experienced conversion practices at the youngest age (mean = 16.8 years; $SD = 8.2$), while minoritized ethnora- cial cisgender partici- pants experienced conversion practices for the longest period between the first and last exposure (mean = 4.3 years; $SD = 8.8$).

Among minoritized ethnora- cial groups, lifetime recall to conversion practices ranged from 0% to 6.7% for cisgender participants and 5.4% to 19.0% for TNB participants (Table 2). The highest prevalence was among Ameri- can Indian or Alaska Native TNB partici- pants (19.0%). Multiracial cisgender and Middle Eastern or North African TNB participants were exposed to conversion practices at the youngest age, whereas American Indian or Alaska Native TNB participants had the longest period be- tween their first and last exposure.

Adjusted log-binomial models indicat- ed that minoritized ethnora- cial TNB ($PR = 2.16$; 95% CI = 1.62, 2.86) and White TNB ($PR = 1.57$; 95% CI = 1.30, 1.92) participants had a higher conver- sion practice prevalence compared with White cisgender participants (Table 3). However, there was no significant differ- ence between White cisgender and minoritized ethnora- cial cisgender partici- pants. Within the gender identity strata, minoritized ethnora- cial participants had a higher conversion practice preva- lence compared with White participants ($PR = 1.38$; 95% CI = 1.04, 1.75). Similar- ly, within the ethnora- cial strata, TNB participants had a higher conversion practice prevalence compared with cisgender participants ($PR = 2.14$;

95% CI = 1.51, 3.19). There was also a positive additive interaction ($RERI = 0.58$; 95% CI = -0.04 , 1.20), in- dicating that the joint effect of gender and ethnora- cial identity is greater than the sum of their individual effects.

Kaplan-Meier curves are depicted in Figure 1, illustrating the unadjusted probability of not recalling exposure to conversion practices across each inter- sectional group. By age 18 years, the estimated probability was highest for minoritized ethnora- cial cisgender (97.2%) and White cisgender (97.1%) individuals, followed by White TNB (95.6%) and minoritized ethnora- cial TNB (93.5%) participants (log-rank $P < .001$). Adjusted Cox proportional hazard models indicated significant dif- ferences in the age to first exposure to conversion practices across intersec- tional groups. Both minoritized ethno- racial ($HR = 2.04$; 95% CI = 1.51, 2.69) and White ($HR = 1.48$; 95% CI = 1.20, 1.82) TNB participants had increased risk of conversion practices compared with White cisgender participants. There was no significant difference be- tween White cisgender and minoritized ethnora- cial cisgender participants. Fur- thermore, within the gender identity strata, minoritized ethnora- cial partici- pants had increased risk of conversion practices compared with White partici- pants ($HR = 1.38$; 95% CI = 1.04, 1.78). Within the ethnora- cial strata, TNB partici- pants had increased risk of conver- sion practices compared with cisgender participants ($HR = 2.13$; 95% CI = 1.47, 3.21). Minoritized ethnora- cial TNB partici- pants experienced an “excess” in- crease in risk of conversion practices attributable to the intersection of gender and ethnora- cial identity ($RERI = 0.60$; 95% CI = 0.02, 1.21).

In the adjusted negative binomial model among participants exposed to

TABLE 2— Conversion Practice Prevalence, Age of First and Last Exposure, and Time Between First and Last Exposure Among Cisgender and Transgender or Nonbinary Participants From Minoritized Ethnoracial Backgrounds: United States, 2019 to 2021

	No.	Lifetime Exposure, No. (%)	Age of First Exposure, Mean, Median \pm SD ^a	Age of Last Exposure, Mean, Median \pm SD ^a	Years Between First and Last Exposure, Mean, Median \pm SD ^a
Cisgender					
American Indian or Alaska Native	9	0 (0.0)	NA	NA	NA
Asian, Native Hawaiian, or Pacific Islander	166	3 (1.8)	20.3, 22.0 \pm 5.7	21.3, 22.0 \pm 4.0	1.0, 0 \pm 1.7
Black, African American, or African	142	9 (6.3)	19.6, 18.0 \pm 9.5	23.2, 21.0 \pm 10.2	3.7, 2.0 \pm 3.9
Hispanic, Latino, or Spanish	377	19 (5.0)	19.5, 17.5 \pm 6.2	22.4, 19.0 \pm 7.7	2.8, 1.0 \pm 4.9
Middle Eastern or North African	15	1 (6.7)	NA	NA	NA
Multiracial	261	12 (4.6)	15.3, 15.0 \pm 2.7	19.5, 16.0 \pm 9.5	4.2, 1.0 \pm 7.6
Transgender and nonbinary					
American Indian or Alaska Native	21	4 (19.0)	18.8, 13.5 \pm 14.5	28.8, 24.5 \pm 20.6	10.0, 9.0 \pm 10.7
Asian, Native Hawaiian, or Pacific Islander	112	6 (5.4)	16.4, 16.0 \pm 4.6	18.0, 16.0 \pm 6.3	1.6, 0 \pm 2.2
Black, African American, or African	82	7 (8.5)	18.3, 14.0 \pm 9.2	20.7, 16.0 \pm 8.4	2.4, 0 \pm 4.4
Hispanic, Latino, or Spanish	312	25 (8.0)	15.9, 16.0 \pm 7.3	18.6, 17.0 \pm 6.1	2.7, 1.5 \pm 3.6
Middle Eastern or North African	16	3 (18.8)	15.5, 15.5 \pm 2.1	17.5, 17.5 \pm 5.0	2.0, 2.0 \pm 2.8
Multiracial	345	31 (9.0)	16.7, 16.0 \pm 8.9	21.0, 18.0 \pm 11.3	3.9, 2.0 \pm 8.1

Notes. NA = not applicable.

^aAmong participants who reported lifetime exposure to conversion practices (n = 533).

conversion practices, both minoritized ethnoracial TNB (count ratio = 1.92; 95% CI = 1.14, 3.00) and White TNB (count ratio = 1.80; 95% CI = 1.28, 2.46) participants experienced significantly longer periods between first and last exposure to conversion practices. We detected no significant differences between White cisgender and minoritized ethnoracial cisgender participants or within the gender identity or ethnoracial strata. Additionally, there was no evidence of an interaction on the additive scale.

DISCUSSION

In this analysis of PRIDE participants, we found that minoritized ethnoracial TNB participants, particularly among American Indian or Alaska Native and Middle Eastern or North African

participants, reported a disproportionate burden of conversion practice exposure. Specifically, living under systemic racism and cissexism, minoritized ethnoracial TNB participants had the highest conversion practice prevalence, were more likely exposed to conversion practices at a younger age, and experienced conversion practices for longer periods compared with cisgender participants and TNB participants of higher social privilege after adjusting for age, survey year, US Census division of residence, and religious upbringing. In addition, we observed heterogeneity among minoritized ethnoracial groups regarding the age of first exposure and period between first and last exposure, suggesting that gender and ethnoracial identity alone were insufficient to explain the joint disparity in conversion practices.^{18,33}

Limited studies have evaluated conversion practice exposure across cross-stratified ethnoracial and gender groups; most have reported conversion practices among ethnoracial groups and gender identity separately.^{4-6,8,11} For example, in the Generations study, investigators reported that the prevalence of sexual orientation change efforts among sexual minority participants was about 7% overall, which was 5.8% among White and 8.1% among Black, Latinx, and other ethnoracial groups.⁴ In the US Transgender Survey, about 14% of transgender respondents reported being exposed to gender identity change efforts.⁶ In our study, we found that 5.7% of PRIDE participants recalled ever experiencing conversion practices. Across cross-stratified ethnoracial and gender groups, we found that conversion

TABLE 3— Estimated Differences in Lifetime Exposure, Age of First Exposure, and Period of Exposure for Conversion Practices by Ethnoracial Groups and Gender Identity: United States, 2019 to 2021

	Cisgender	Transgender and Nonbinary	Gender Identity Within Ethnoracial Strata	RERI (95% CI)
Lifetime Exposure,^{a,b} PR (95% CI)				
Minoritized ethnoracial	1.01 (0.70, 1.39)	2.16 (1.62, 2.86)	2.14 (1.51, 3.19)	0.58 (−0.04, 1.20)
White	1 (Ref)	1.57 (1.30, 1.92)	1.57 (1.30, 1.92)	
Ethnoracial groups within gender identity strata	1.01 (0.70, 1.39)	1.38 (1.04, 1.75)		
Age of First Exposure,^{b,c} HR (95% CI)				
Minoritized ethnoracial	0.96 (0.65, 1.34)	2.04 (1.51, 2.69)	2.13 (1.47, 3.21)	0.60 (0.02, 1.21)
White	1 (Ref)	1.48 (1.20, 1.82)	1.48 (1.20, 1.82)	
Ethnoracial groups within gender identity strata	0.96 (0.65, 1.34)	1.38 (1.04, 1.78)		
Years Between First and Last Exposure,^{a,d} CR (95% CI)				
Minoritized ethnoracial	1.60 (0.95, 2.57)	1.92 (1.14, 3.00)	1.20 (0.63, 2.19)	−0.48 (−1.84, 0.67)
White	1 (Ref)	1.80 (1.28, 2.46)	1.80 (1.28, 2.46)	
Ethnoracial groups within gender identity strata	1.60 (0.95, 2.57)	1.07 (0.64, 1.65)		

Note. CI = bootstrap confidence intervals using 1000 resamples; CR = count ratio; HR = hazard ratio; PR = prevalence ratio; RERI = relative excess risk due to interaction.

^aModels were adjusted for age (continuous), survey year, US Census division of residence, and religious upbringing.

^bAmong all participants (n = 9281).

^cA step function was used to divide the data into 2 epochs for <24 y and ≥24 y. Additional covariates adjusted in model included survey year, US Census division of residence, and religious upbringing.

^dAmong participants who reported lifetime exposure to conversion practices (n = 533).

practice prevalence ranged between 0% and 19.0%. While these estimates are somewhat comparable to those from a recent systematic review,¹² findings from this study extend the current literature by demonstrating how intersectionality can be used to evaluate the experiences with conversion practice of individuals at the intersection of multiple social identities, which was previously overlooked. These results also emphasize the need for greater attention in future research to how structural inequities such as racism and cissexism create adverse environments and contribute to the social patterning of conversion practice exposure and its harmful health consequences.^{4–6,8,11,34}

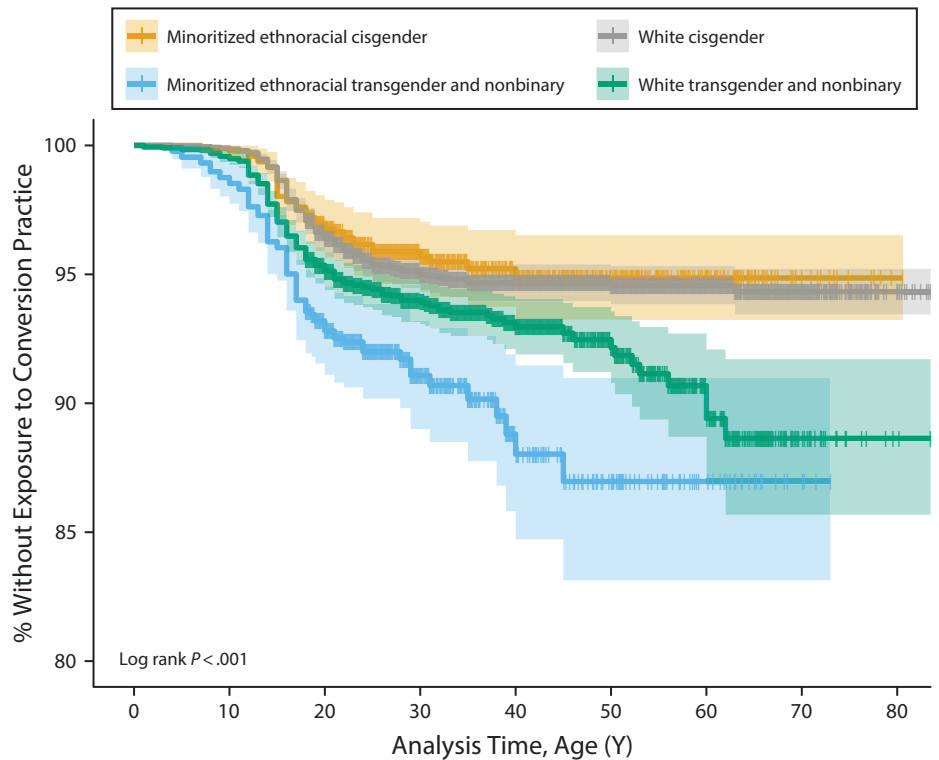
A key finding is that The PRIDE Study participants first recalled exposure to conversion practice at a mean age of 18 years, which is younger than

previously reported.³⁴ The results further highlighted that minoritized ethnoracial TNB participants also reported the earliest age of initial exposure to conversion practice, and that there was a significant excess risk because of the intersection of racialized and gendered experiences. Further disaggregation by ethnoracial identity among cisgender and TNB participants suggested that the mean age of first exposure was 15.3 and 15.5 for multiracial cisgender and Middle Eastern or North African TNB participants, respectively, while American Indian or Alaska Native TNB participants experienced the longest average period between the age of first and last exposure. The younger age of exposure and longer duration could negatively impact the mental health and well-being of SGM participants, as conversion practice has been associated with suicidality across different age

groups.^{4–8,11} In addition, these findings suggest that researchers should consider the contemporary and cumulative exposure to conversion practices to fully understand the life course and cumulative disadvantage associated with exposure to conversion practices.

Study Limitations

The results should be interpreted with consideration of several limitations. First, self-reported ethnoracial and gender identity may not fully encompass the extent of systemic racism and cissexism experienced by minoritized ethnoracial TNB participants. Second, White cisgender participants were selected as the reference group to be consistent with the theory of intersectionality; however, alternative approaches such as intersectional multilevel analysis of individual



	No. at Risk for First Exposure								
Minoritized ethnoracial cisgender	970	969	886	503	271	157	74	15	1
Minoritizedx ethnoracial transgender and nonbinary	888	877	732	270	117	64	25	4	0
White cisgender	4136	4131	3851	2547	1548	1011	515	144	14
White transgender and nonbinary	3280	3266	2855	1355	553	292	137	25	2

FIGURE 1— Kaplan-Meier Curve of Age at First Exposure to Conversion Practices by Ethnoracial Groups and Gender Identity: United States, 2019 to 2021

heterogeneity have been shown to be statistically efficient with smaller samples and do not require the selection of a reference group.³⁵ Third, our outcomes were broadly defined and did not differentiate between the various forms of conversion practices, including the involvement of mental health professionals and religious leaders. Relatedly, questions on frequency of conversion practice exposure were not available; thus, we could not evaluate the actual duration of conversion practices over the observation period. Fourth, the lifetime survey did not capture the age at which participants first

disclosed their gender identity or sexual orientation. Younger disclosure ages may increase the duration that participants are vulnerable to experiencing conversion efforts. Fifth, we lacked additional information regarding social and cultural context of participants who identified exclusively as White and Two-Spirit; thus, we presented both sets of results. Furthermore, our analysis primarily focuses on Two-Spirit as a gender identity, which may not accurately reflect the multidimensionality and spiritual traditions of Two-Spirit identity. Last, The PRIDE Study is a convenience sample of predominately

White participants that relies on self-reported data and, therefore, may be subject to sampling, recall, and social desirability bias.

Public Health Implications

The United States has witnessed a rise in proposed and enacted antitransgender and anti-SGM legislation. This includes federal injunctions that prevent enforcement of conversion therapy bans and the absence of laws prohibiting conversion practices in 22 states.¹⁰ Against this socio-political backdrop, our findings suggest that

TNB individuals, especially those from minoritized ethn racial backgrounds, are more likely to experience prolonged exposure to conversion practices that occur at younger ages. This can exacerbate health disparities for individuals who face multiple forms of marginalization. Therefore, clinicians, researchers, and advocates should consider how conversion practice exposure and age of first exposure relates directly to health outcomes and differences in associations within and between intersectional groups. Finally, given the harmful effects and unethical premise of conversion practices, federal and local policies banning these practices can contribute to reducing the negative consequences of conversion practices in an equitable manner. *AJPH*

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PUBLICATION INFORMATION

Full Citation: Tran NK, Lett E, Flentje A, et al. Inequities in conversion practice exposure at the intersection of ethn racial and gender identities. *Am J Public Health*. 2024;114(4):424–434.

Acceptance Date: January 3, 2024.

DOI: <https://doi.org/10.2105/AJPH.2024.307580>

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CONTRIBUTORS

N. K. Tran and E. Lett designed the study and analytic strategy. N. K. Tran completed the statistical analyses and wrote the initial draft of the article.

A. Flentje, J. Obedin-Maliver, and M. R. Lunn obtained funding. S. Ingram provided community-based perspectives. M. E. Lubensky, and Z. Dastur were responsible for study operation, including participant experience and participant questions. All authors helped to interpret the findings, provided critical revisions and edits to the article, and read and approved the final version of the article.

ACKNOWLEDGMENTS

This study was partially supported by the Gill Foundation.

The Population Research in Identity and Disparities for Equality (PRIDE) Study is a community-engaged research project that serves and is made possible by lesbian, gay, bisexual, transgender, queer, intersex, aromantic, asexual, and other sexual or gender minority community involvement at multiple points in the research process, including the dissemination of findings. We acknowledge the courage and dedication of The PRIDE Study participants for sharing their stories, the careful attention of the PRIDEnet Participant Advisory Committee members for reviewing and improving every study application, and the enthusiastic engagement of the PRIDEnet Ambassadors and Community Partners for bringing thoughtful perspectives and promoting enrollment and disseminating findings. For more information, visit <https://pridestudy.org/pridenet>.

Note. The funders had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the article; and decision to submit the article for publication.

CONFLICTS OF INTEREST

J. Obedin-Maliver has consulted for Hims Inc (2019–present), Folx Inc (2020–present), and Ibis Reproductive Health (2017–present). M. R. Lunn has consulted for Hims Inc (2019–present), Folx Inc (2020), and Otsuka Pharmaceutical Development and Commercialization Inc (2023).

HUMAN PARTICIPANT PROTECTION

The study was approved by the University of California San Francisco, Stanford University, and WIRB-Copernicus Group institutional review board, and now the WIRB-Copernicus Group institutional review board for ongoing analyses.

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