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Decomposing Gender Identity Differences in Subjective Well-Being Using Two Colombian Surveys

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Abstract
The aim of this study is to understand mental well-being differences among cisgender, transgender, and nonbinary people in Colombia. On the one hand, the authors quantify the importance of economic and social resources in explaining such differences. On the other hand, they document the role played by experiences of discrimination. The authors use two different datasets to achieve these goals. First, they use nonprobabilistic data from the Williams Institute, which surveyed a large number of transgender and nonbinary people. The authors compare these individuals' well-being with that of cisgender nonheterosexual people. Second, the authors use probabilistic data from the Colombian Drug Use Survey to replicate the main results and to compare with cisgender heterosexual individuals. The authors find that social and economic resources have limited power explaining well-being differences among cisgender, transgender, and nonbinary people in both samples. Instead, experiences of discrimination and violence mediate a large part of the association between gender identity and well-being among the LGBTQ sample.

Keywords
transgender, nonbinary, mental well-being, discrimination, socioeconomic resources, family composition

People identifying as transgender and nonbinary (TNB) experience a wide range of disadvantages in society, including, discrimination, violence, stigma, and minority stress (Granberg, Andersson, and Ahmed 2020; Lombardi 2009). Several studies have shown that individuals with gender identities that challenge the gender assigned at birth have worse health outcomes, such as mental well-being and physical health (Kasprowski et al. 2021; Lagos 2018; Meyer et al. 2017; Scandurra et al. 2017; Stacey, Reczek, and Spiker 2022).

There are multiple pathways through which these outcome differences come about. First, discrimination and stigma affect the accumulation of resources that help people attain good health such as education, employment, income, social networks, and support by family or friends (Meyer 1995; Scandurra et al. 2017). Moreover, previous research has shown how gender identity relates to loneliness, as well as employment and occupational outcomes (Carpenter, Eppink, and Gonzales 2020; Granberg et al. 2020; Kasprowski et al. 2021).

Second, discrimination and stigma have direct effects on health through the experience of minority stress, limited health care access, while resisting the pressures of cis-normativity.

Cis-normativity is a societal norm that shapes and organizes many aspects of life, including health care systems, around the assumptions that all people identify as the gender they were assigned at birth, that there are only two genders and, furthermore, that everyone falls within only one of those two categories (Dahlhamer et al. 2016; Meyer 1995; shuster 2021). If there is widespread discrimination in workplaces, neighborhoods and families, these processes might override any benefits related to education, income, and social capital.

Even though evidence of both differences in resources and discrimination exists, few studies have attempted to quantify the importance of both types of processes in explaining well-being differences empirically. In this article, we aim to fill this gap by studying differences in subjective mental well-being among cisgender, transgender, and nonbinary

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Colombians. Colombia is a country characterized by a high level of hostility toward LGBTQ individuals, while at the same time being at the vanguard of inclusive policies (Choi et al. 2020; Nieves 2018). Thus, in addition to diving into the mechanisms that create well-being differences according to gender identity, we extend research on this topic to a new geographical context, given that most research on the TNB population is limited to high-income countries (Kasprowski et al. 2021; Scandurra et al. 2017), in particular the United States (Lagos 2018; Meyer et al. 2017; Stacey et al. 2022).

We ask the following research questions: Are there differences in subjective mental well-being among cisgender, transgender, and nonbinary individuals in Colombia? Can these differences be explained by differences in social and economic resources? Can these differences be explained by experiences of discrimination and violence? Do some well-understood social and economic resources help improve mental well-being among the TNB population?

To answer our research questions, we use empirical data from two different sources. First, we use a survey collected by the Williams Institute (Choi et al. 2020) that is specifically aimed at the LGBTQ population (the Williams Institute Survey, WIS). This survey contains a large number of TNB people ($n = 351$) and allows us to look at the role of experiences specific to the TNB population, such as self-reports on discrimination experiences and minority stressors, information not captured by more traditional household surveys. Second, we use a probabilistic sample from the Colombian Drug Use Survey (DUS) that contains a small number of TNB people ($n = 41$) but allows us to see whether our results also hold in a larger, probabilistic survey and to compare TNB people with cisgender heterosexual people. Together, these two surveys help us understand how social and economic resources, alongside experiences of discrimination and violence, contribute to well-being differences between TNB and cisgender people.

Theoretical Framework and Previous Research on Gender Diversity and Well-Being

Research on well-being differences between cisgender and transgender and/or nonbinary people has shown that TNB individuals have lower levels of self-rated general health (Lagos 2018), physical health (Meyer et al. 2017), and mental health (Källström et al. 2022; Meyer et al. 2017) than the cisgender population. Although most of this research is based on data from the United States, health disparities have also been found in other high-income countries, such as Australia (Bretherton et al. 2021), Finland (Källström et al. 2022),

Germany (Kasprowski et al. 2021), and Italy (Scandurra et al. 2017).

The relative importance of different mechanisms underlying these health disparities are still poorly understood. In this article, we make the theoretical distinction between two types of factors that could explain health disparities: socioeconomic resources and factors specific to TNB individuals.

Social stratification research has often focused on socioeconomic status (SES) and resources to explain inequalities between social groups (Duncan and Magnuson 2005; Leicht 2008). From this perspective, the social position of people determines their access to resources such as education, income, and wealth, which, in turn, affect disparities in outcomes such as mental health (Muntaner et al. 2013). A focus on SES and resources would suggest that health disparities between TNB and cisgender people can be explained by socioeconomic differences and that equalizing access to social positions is an important pathway through which inequalities could be reduced.

Quantitative research on TNB well-being has paid relatively little attention to the role of socioeconomic resources. A study on the United States by Stacey et al. (2022) revealed that employment status, income, education, union status, and residential parent status did little to explain gender differences in other aspects of well-being, such as life purpose, residential community belonging, physical and mental health, financial well-being, and social connectedness. Given that differences in economic resources do exist across gender categories (Bretherton et al. 2021; Carpenter et al. 2020) it is possible that socioeconomic resources are relatively ineffective in avoiding the impact of stigma and discrimination.

However, some studies do show that there are differences in well-being among the TNB population on the basis of social location (Lombardi 2009; Schilt and Lagos 2017), suggesting that economic resources could compensate to some extent for the disadvantages experienced by the TNB population. In addition to the general effects of these resources on well-being through reduced financial insecurity, education might enable transgender persons to avoid more stigmatizing environments. Examples of ways in which economic resources could improve well-being among LGBTQ individuals involve the potential for reducing the costs to overcome challenges within the health system, as well as the ability to choose more freely environments with lower levels of stigma and discrimination. For example, through neighborhood choice or the possibility to decline job offers from employers that encourage a transphobic work environment or culture.

An alternative perspective to explain well-being disparities between social groups is to focus on the specific experiences and position of marginalized groups in society, as has

been proposed by critical race theory for the case of inequalities across racialized groups (Brown 2003). In public health, two major concepts have been proposed to understand the specific experiences of marginalized groups. First, experiences that are specific to having a transgender and/or nonbinary identity can be labeled as minority stressors (Meyer 1995) and include the experience and fear of hate crimes, misgendering, microaggressions, and, in the case of nonbinary people, exclusion from both cisgender and transgender communities (Darwin 2020). A second concept has been structural stigma: factors at the societal level that affect the well-being of groups, even if they are not directly affected by them (Duncan and Hatzenbuehler 2014). The clearest example of structural stigma is institutional discrimination. Depending on the specific contexts, official institutions can generate stress by enacting obstacles toward accessing health care, lacking safeguards and legal protection for the TNB population, and restricting possibilities to change gender identities registered with authorities (Holzer 2020; shuster 2021). Because minority stress and institutional discrimination are related to TNB status, differential access to socioeconomic positions might not be sufficient to explain well-being gaps between TNB and cisgender people, and such gaps might primarily depend on the experience and exposure to minority stressors and structural stigma instead.

Beyond these two major perspectives on what causes well-being differences between social groups, several studies have identified specific protective factors for TNB people's well-being, such as individual and community support (Fredriksen-Goldsen et al. 2014). Discrimination had a smaller impact on the mental health of Italian TNB individuals who reported higher levels of family support (Scandurra et al. 2017). Similarly, qualitative evidence showed how social support helped dealing with the high levels of housing insecurity transgender people experience (Glick et al. 2020). Feelings of belongingness to the transgender community were an important predictor of well-being among TNB individuals in the United States (Barr, Budge, and Adelson 2016). Finally, a U.S. study on transgender women found that medical, psychological and social gender affirmation can all improve mental well-being (Glynn et al. 2016).

There are further differences observed within the TNB population, for instance, according to ethnicity and sexual identity (Lombardi 2009; Stacey and Wislar 2023). Importantly, there is variation according to the specific gender identity of TNB people. Nonbinary people (who might or might not identify as transgender; Darwin 2020) are found to have lower levels of well-being than binary transgender people in some studies (Lagos 2018; Stacey et al. 2022; but see Scandurra et al. 2019 for an exception to this).

Finally, nonbinary people can experience exclusion from both trans- and cisgender communities as they further challenge binary norms regarding gender (Darwin 2020).

The Context for LGBTQ People in Colombia

A recent overview of the Colombian literature on the transgender population suggests they experience various forms of exclusion from the broader society and even their own family members (Vales-Hidalgo et al. 2017). Among LGBTQ people, most of whom have daily experiences of discrimination (Nieves-Lugo et al. 2020), transgender women in particular face the highest levels of bigotry, hatred, injustice, intolerance, and prejudice.

Despite advances in legal protections for LGBTQ communities in the country (e.g., facilitating gender and name change in official documents, the recognition of same-gender partners, and the possibility to adopt a child among same-gender couples), LGBTQ Colombians continue to be persecuted and discriminated against, and reports of hate crimes and murders occur frequently (Nieves 2018; Nieves-Lugo et al. 2020). Moreover, the Colombian armed conflict and widespread violence have contributed in specific ways to experiences of internal displacement of gay, bisexual, and transgender people (Zea et al. 2013). The LGBTQ population endured specific forms of violence during the prolonged armed conflict affecting various regions of the country (Comisión de la Verdad 2022) and have historically been one of the targets among so-called moral cleansing violent campaigns aimed at their extermination (Acevedo Tarazona, Correa Lugos, and Mejía Jerez 2022). In fact, various initiatives exist in the country to document the specific cases of transgender women being murdered in the country, many of whom lived in large urban areas after being internally displaced following direct experiences of violence or threats against their safety (Avella and Mutiz 2020). Such initiatives were established as a reaction to the lack of awareness of government bodies, particularly the police, in systematically documenting these deaths. On top of these experiences, transgender people were for a long time excluded from public health services, leading many to dangerous solutions such as using injections with unsafe materials to make body adjustments themselves, often with fatal consequences or long-lasting health issues (Herrera Valbuena 2024).[1] From a

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[1] https://www.elespectador.com/judicial/los-biopolimeros-en-el-cuerpo-de-diez-mujeres-trans-problema-de-salud-publica/ (accessed 19/11/2024).

perspective of structural stigma, which argues that experiences of violence and exclusion have an impact on all members of an affected group (Duncan and Hatzenbuehler 2014), these processes are likely to have lasting consequences for the mental well-being of the whole population of TNB individuals in Colombia, and especially among those who have not publicly come out.

Research on Colombia's TNB Population

Transgender individuals in Colombia, as found elsewhere, experience lower levels of well-being. For example, one crucial indicator of this are the higher prevalence of suicidal ideation, suicide planning, and suicide attempt which were found among a sample of Colombian individuals declaring to have made efforts to change their gender identity (del Río-González et al. 2021). Studies have shown an increasing trend in the prevalence of human immunodeficiency virus (HIV) infection among a community sample of urban Colombian transgender women (Useche and Sierra-Alarcón 2016), which further contributes to the negative stigma associated with their gender identity and sexuality.

Few studies have systematically compared the socioeconomic resources of the Colombian transgender population to those of the cisgender population or compared them with the living conditions of gay, lesbian, and bisexual people in Colombia (Vales-Hidalgo et al. 2017). The few studies that do exist are mostly of a qualitative nature, employing interviews and narrative life history approaches (Rivera-Osorio and Arias-Gómez 2020). In terms of education, one main finding is that bullying is widespread in school settings, which negatively affects school performance, absenteeism, school dropout, levels of self-esteem, and suicide attempts among LGBTQ students (Rivera-Osorio and Arias-Gómez 2020). In terms of employment and income, studies have pointed at the substantial occupational segregation of some TNB individuals, for example, transgender women are often employed as sex workers or hairdressers because of the lack of other opportunities (Posso and La Furcia 2016). Other studies highlight that among transgender women of color, for example, the lack of job opportunities outside those occupations are a clear consequence of specific forms of discrimination affecting those individuals (García Becerra 2015; Urrea Giraldo and La Furcia 2014). Moreover, the high prevalence of HIV infection among a sample of transgender women further complicates their socioeconomic situation, especially for those who are found to be HIV positive and had at some point in their lives exchanged sex for money (Useche and Sierra-Alarcón 2016).

In contrast with the available studies on transgender women, for other groups, such as transgender men or nonbinary/queer Colombians (García 2015), there are no specific quantitative studies examining their living conditions (Lasso Báez 2014). Other dimensions of socioeconomic disadvantages or well-being, such as housing, lack of access to retirement and pension, disability, and family life courses (e.g., partnering, parenting, etc.) have not been studied among the TNB population at all.

Data and Methods

As suggested above, studying TNB populations quantitatively is a complicated task given the lack of large-scale representative datasets containing sufficiently large numbers of respondents from minoritized gender groups for statistical inference. In this study, we tackle this issue by employing two different data sources that complement each other in terms of strengths and weaknesses.

Our first dataset comes from the Williams Institute (Choi et al. 2020), which was aimed particularly at the LGBTQ population. These data were collected through an online self-administered survey in 2019. Respondents were selected using a nonprobabilistic sampling method, namely, through social media and in-person recruitments at universities, LGBTQ venues and events. Respondents were eligible if they lived in Colombia and had at least completed fourth grade to ensure they had the required capabilities to complete the questionnaire. The strength of this dataset is that it contains 351 respondents who self-identified as TNB, 63 men and women who did not identify as TNB but had a different sex registered at birth, and 3,187 cisgender persons who identified as gay, lesbian, or bisexual.

This provides a unique opportunity to look at differences in well-being outcomes among the TNB population. For instance, we can compare well-being between TNB individuals and estimate the effects of socioeconomic and family characteristics on well-being among the TNB population, for which most samples of TNB individuals are too limited. In addition, the dataset contains information on discrimination and other experiences of the LGBTQ population. By comparing with the cisgender LGB part of the sample, we can compare the relative importance of protective and negative factors for the well-being of TNB individuals. However, the nonprobabilistic nature of the WIS makes it less appropriate for studying compositional differences between the transgender population and the cisgender population. In addition, whereas our comparisons to the cisgender LGB population reveal important differences, the comparison group is also a marginalized group within society.

Our second dataset aims to overcome some of the limitations of our first dataset. The DUS collected in Colombia in 2019 is a large probability-based sample. Although this survey is not aimed at gender minority issues, it contains a gender identity and sexuality module, with additional questions on well-being. Among its further advantages is its probabilistic sampling design, which was aimed at individuals aged 12 to 65 living in Colombian municipalities with more than 30,000 inhabitants. These features allow us to compare the well-being of TNB individuals with that of cisgender LGB people using a probabilistic sample. In addition, we are able to compare TNB individuals with cisgender heterosexual people, which enables us to reflect on the extent to which using the cisgender LGB population as a comparison group underestimates the disadvantages experienced by the TNB population.

One disadvantage, however, is that the dataset contains few persons who identify as transgender or another gender minority. The overall size of the DUS is large (*n* - 49,756) but less than 0.1 percent of the respondents self-identified as transgender or reported another minoritized gender identity (41 persons in total). Despite this small group size, we are able to show important compositional differences between cisgender LGB and transgender/other identifying respondents. For our analysis, we select all respondents who participated in the survey and exclude those with missing information on their gender identity (this question was only asked to individuals aged 18 years or older, excluding 7.3 percent of the original sample) and other covariates (an additional 1.8 percent). We present results including sample weights in the Appendix.

Measures

Our outcome of interest is mental well-being, which is captured by distinct measures across datasets. For the Williams Institute data, we use the Kessler Screening Scale for Psychological Distress, based on six questions regarding psychological distress during the past 30 days. This scale is composed of multiple items (i.e., feeling nervous, hopeless, restless, depressed, everything taking too much effort, nothing is worthwhile), and takes values between 0 and 24, with higher values denoting more psychological distress. In our analyses, we standardized this scale so that we can interpret effects as a one-unit change indicating 1 standard deviation on the Kessler Screening Scale for Psychological Distress. For the DUS, in turn, we use two different questions that approximate a measure of subjective mental well-being. A first question which asks respondents whether they felt down, depressed or with little hope, and another one asking whether respondents felt little interest or pleasure when "doing things they normally do" within the past 30 days. Both of these questions are of a dichotomous type, with possible answers being yes or no. We created a dummy variable whether respondents answered yes to at least one of these questions to facilitate interpretation.

Respondents' gender identity, the main independent variable of interest for this study, was measured in slightly different ways in our two studies. In Online Appendix A1, we show the exact wording in the original Spanish used in the questionnaires. In the Williams Institute data, we use the question "Which of the following terms best describes your current gender identity?" ("¿Cuál de los siguientes términos describe mejor tu actual identidad de género?"), with options "woman" ("mujer"), "man" ("hombre"), "transgender woman" ("mujer trans [de hombre-a-mujer]"), "transgender man" ("hombre trans [de mujer-a-hombre]"), and "nonbinary/genderqueer" ("no binario [ni hombre/ni mujer, genderqueer]"). In our analyses, we look at all these categories separately and also collapse the former two (woman and man) and latter three (transgender women and men together with nonbinary and genderqueer) into one category for a specific part of our analysis.

One issue with these answer options is that transgender is not primarily a gender identity (Ansara and Hegarty 2014; Lindqvist, Sendén, and Renström 2021) but often refers to an experienced trajectory that results from the way society matches sex assigned at birth to given gender identities. Hence, respondents might answer "man" or "woman" to the gender identity question but have another sex assigned at birth. We created an additional category for these respondents using the question "What sex were you assigned at birth, on your original birth certificate?" ("¿Qué sexo te fue asignado al nacer en tu certificado original de nacimiento?"), with the sole answer options being "female" ("femenino") and "male" ("masculino"). We combine the information from these two questions and create a category for respondents who indicated "male" in the sex question but responded that they were "woman" for the gender identity question and likewise for respondents who were assigned "female" at birth but identified as a "man". Because these respondents did not identify as transgender or nonbinary, we do not label them as such and treat them as a separate category labeled "other gender identity ≠ sex assigned at birth" (Ansara and Hegarty 2014).

In the DUS, two distinct questions were aimed at capturing sex and gender, without much clarification of what the intended meaning of the question was. The gender question was "Regarding the way you feel about your gender, do you identify as" ("En cuanto a la manera como usted se siente

respecto a su género, ¿usted se identifica como…?"), with answer options "masculine" ("masculino"), "feminine" ("femenino"), "transgender" ("transgénero [trans masculino y femenino]"), and "other" with space to specify which ("Otro, ¿cuál?"). We created a transgender/other dummy indicator to classify respondents who selected one of the latter two options. Furthermore, the questionnaire also included information about the "sex" ("sexo") of the respondents in the household roster of the survey, with the only options being "man" ("hombre") and "woman" ("mujer"). As we did for the Williams Institute data, we further created a separate category for individuals who have a "masculine" gender identity but were recorded as "woman" on the sex question in the household roster, as well as individuals who have a "feminine" gender identity and were recorded as "man" on the sex question. Although identification through these types of survey questions is limiting (Magliozzi, Saperstein, and Westbrook 2016), we believe it allows us to understand important differences among populations so defined.

We look at a variety of demographic and socioeconomic characteristics to understand differences in levels of resources and their returns. In both the DUS and the WIS, these are age, number of living children, whether the respondent lives with a partner, being currently employed, living in a large city (as we only have numerical municipality identifiers, we measured this as having more than 1,000 respondents from a given municipality in the DUS sample), education level (primary or less, secondary, postsecondary or vocational, or tertiary) and, finally, as a measure of SES, the municipal stratum for home utilities such as electricity, gas, and water, which is a widely used indicator of the SES of a given neighborhood in Colombia as it correlates with measures of income, educational levels, and wealth (Departamento Administrativo Nacional de Estadística n.d.)[2]. We recoded levels 1 and 2 as low SES, level 3 as middle SES, and levels 4 to 6 as high SES.

We were able to code these variables identically across datasets with the exception of the urban indicator, which was not available in the WIS, and for educational level. In the latter case, the primary and secondary education categories are collapsed for the WIS, given that having at least secondary education was a prerequisite to participate in that survey. Finally, the number of children is a dummy variable of having any children at all in the Williams Institute data.

An additional strength of the Williams Institute data is that it collects information that can be particularly relevant for understanding the well-being of the LGBTQ population

in Colombia. First, a scale that captures the experience of daily discrimination using nine questions about whether respondents experience in their daily lives: less courtesy than other people, less respect, worse service, being treated as less intelligent, being treated as inducing fear, being treated as dishonest, being treated as inferior, insults, threats or abuse. The second scale captures having ever been the target of violence. This scale consists of seven questions about whether respondents, since 18 years of age, have been hit or assaulted, have been sexually harassed or abused, were robbed or their belongings were vandalized, experienced an attempt of robbery, assault or vandalization, experienced threats of violence, experienced insults or verbal harassment, or someone threw an object at them. Both scales are standardized in our analyses with a mean of zero and a standard deviation of one.

Methods

Our analysis consists of various stages. First, we document differences in well-being across various TNB groups and compare these with the well-being of cisgender LGB individuals using the WIS data. In a second stage, we aim to explain well-being differences between groups. We look at whether socioeconomic characteristics, living situation and experiences of discrimination and violence can explain well-being differences across groups. Third, we use a decomposition approach to provide an overall statistical test of the role of compositional differences, as well as the role of differences in the well-being returns from these compositional characteristics. For this final part, we use a Blinder-Oaxaca decomposition model (Jann 2008). Note that a similar method was developed before by Kitagawa (1955).

The Blinder-Oaxaca statistical decomposition model is suited for studying differences in composition and differences in coefficients between groups within a unified framework. In this model, one aims to decompose the absolute difference (D) in an outcome (Y) between two groups (h and l) into three components:

$$D = (D_h - D_l) = \text{Int} + \text{Comp} + \text{Coef.} \quad (1)$$

The first component, Int, is an intercept effect, indicating the unexplained differences between both groups:

$$\text{Int} = (A_h - A_l). \quad (2)$$

The second component, Comp, quantifies the contribution of compositional differences between both groups. In our case, differences between both groups in the distribution of socioeconomic and family-related variables $\bar{X}$:

$$\text{Comp} = (\bar{X}_h - \bar{X}_l)[(\beta_h + \beta_l)/2]. \qquad (3)$$

The third component, Coef, quantifies the contribution of differences in coefficients β related to the covariates $\bar{X}$ considered:

$$\text{Coef} = (\beta_h - \beta_l) [(\bar{X}_l + \bar{X}_h)/2]. \qquad (4)$$

These coefficients are taken from two separate ordinary least squares regression models explaining outcome Y (subjective well-being) run for each group (i.e., for transgender and cisgender individuals separately). We normalize all covariates (i.e., center continuous variables at zero and effect coding for categorical variables) to avoid the choice of reference categories from affecting our estimates (Jann 2008).

As a last step, we replicate these results using the DUS survey, in which we compare TNB people with cisgender LGB people and provide additional results in which we also compare TNB people with cisgender heterosexual people.

Results

We begin by describing differences across the various samples used in the analysis. Table 1 describes the Williams Institute sample, which consists only of LGBTQ people. The sample is first divided into people who either indicated to have a transgender identity (first column) or who did not directly report a transgender identity but whose gender identity differs from their sex assigned at birth (second column). The rest of the sample consists of cisgender individuals, but identify as LGB (third column) and hence form a relatively disadvantaged comparison group for the TNB sample.

A first observation that stands out is the high levels of psychological distress of individuals identifying as transgender or nonbinary/genderqueer (we break this down further later). We also observe that this group of individuals experiences high levels of discrimination and violence and attains relatively lower socioeconomic outcomes in terms of employment and education.

The group of individuals who did not explicitly identify as transgender or nonbinary, but whose gender identity differed from their sex assigned at birth, has relatively low levels of psychological distress which is similar to that of cisgender LGB people. At the same time, these individuals do report higher levels of discrimination and violence, which are similar to that of the group of TNB people. They are also relatively old, often employed, but are less likely to live in high social stratum neighborhoods and have lower levels of education.

We further disaggregate the descriptive statistics for the TNB population in Table 2. The first column encompasses all individuals who identified as transgender or nonbinary.

The second to fourth columns break this group down into three groups: transgender men, transgender women, and nonbinary/genderqueer people. The last column in this table consists of the people who do not identify as transgender or nonbinary but who do have a gender identity that differs from their sex assigned at birth (i.e., there is no overlap with the previous categories).

The numbers show high levels of psychological distress for all groups, even though it is slightly lower for transgender women. There are very few differences in terms of experienced discrimination and violence. Nonbinary/genderqueer people are younger and relatively advantaged in terms of social stratum and education compared with transgender men and women.

Mediators of Mental Well-Being Differences

We proceed by using the WIS data to look at possible mediators of the relationship between gender and psychological distress. Table 3 shows how the psychological distress of transgender men, transgender women, and nonbinary is higher than that of cisgender LGB men in a statistically significant manner (model 1), and this conclusion remains largely unchanged after adjusting for multiple socioeconomic factors (model 2). Figure 1 shows the extent to which differences in psychological distress between transgender/nonbinary and cisgender people are mediated by the experience of discrimination and violence using the Karlson-Holm-Breen method (Kohler, Karlson, and Holm 2011). Figure B1 in the Supplementary Material displays results from a mediation analysis from a structural equation model; results are practically identical.

The first bar in Figure 1 decomposes the association between subjective well-being and having a transgender or nonbinary identity (compared with a cisgender identity) into a part mediated by the experience of everyday discrimination, a part mediated by the experience of violence, and an unexplained part. Everyday discrimination explains 63 percent of the difference in psychological distress between groups (statistically significant), whereas violence explains a smaller (11 percent) and statistically insignificant part.

The other bars in Figure 1 depict this analysis separately for each subgroup and compare psychological well-being with that of cisgender LGB men. With the exception of LGB women, we observe similar absolute contributions of discrimination for all groups (all statistically significant), this includes transgender men, transgender women, nonbinary people and people who do not identify as transgender/nonbinary but who report a gender identity that is different from their sex assigned at birth. Other results are also similar, even though a large unexplained part remains for transgender men.

Table 1. Descriptive Statistics: Williams Institute Data.

	Williams Institute Data		
	Transgender/Nonbinary	Other Gender Identity ≠ Sex Assigned at Birth	Cisgender LGB
	Average or Share	Average or Share	Average or Share
Outcomes			
Psychological distress (0–24)	11.0	8.5**	8.6***
Stressors/resources			
Bullying before age 18 (1–4)	3	2.9	2.5***
Everyday discrimination (1–4)	2.4	2.4	1.9***
Violence scale (0–7)	3.1	3.0	2.2***
Identity visibility (1–5)	3.5	3.6	2.7***
Community connectedness (1–4)	3.4	3.5	3.2***
Age (years)	25.9	35.4***	26.8
Has children (dummy)	.03	.05	.05
Lives with a partner	.13	.11	.17*
Lives in large city			
Employed	.47	.68**	.54*
Residential stratum			
Low (1 or 2)	.46	.57	.37**
Middle (3)	.32	.29	.38**
High (4–6)	.21	.14	.25**
Education			
Primary or less	.00	.00	.00
Secondary	.32	.33	.20***
Postsecondary vocational	.28	.41	.23***
Tertiary	.39	.25	.57***
n	351	63	3,187

Note: Last two columns: statistical significance of difference with transgender/nonbinary taken from linear regression models or order logit models (education and stratum) with gender identity as sole independent variable. Transgender/nonbinary includes only those who directly report a transgender/nonbinary identity but excludes those who did not pick one of those options and who reported "man" or "woman" as gender identity and had a different sex assigned at birth (this group is labeled "other gender identity ≠ sex assigned at birth").
$*p < .05.$ $**p < .01.$ $***p < .001.$

In summary, differences in levels of family composition and socioeconomic resources cannot explain psychological distress differences between distinct gender categories. Instead, the experience of violence and everyday discrimination do explain the differences between the TNB and the cisgender LGB population. Does this mean that resources are not important for the well-being of the TNB population? We turn to this question in the next paragraphs.

The Effects of Family Composition and Socioeconomic Resources on the Well-Being of TNB People

Table 4 shows how the association of our selected covariates with psychological distress differs between cisgender LGB and TNB people. The table also shows how these covariates are associated with experiences of discrimination and violence among both samples.

A first observation that can be made is that employment is associated with lower levels of psychological distress for both groups significantly, but residential stratum appears more important for the TNB sample than for the cisgender LGB sample. Education is significantly negatively associated with psychological distress for cisgender LGB people, but this is not observed for TNB people, even though the coefficient for tertiary education is similar. A striking difference is observed for living with a partner, which is associated with reductions in psychological distress for cisgender LGB people but with higher levels of distress for the TNB population (although not significantly). Hence, although resources

Table 2. Descriptive Statistics: Williams Institute Data by Gender Identity.

	Williams Institute Data				
	Transgender/ Nonbinary	Transgender/Nonbinary Subgroups			Other Gender Identity ≠ Sex Assigned at Birth
		Transgender Men	Transgender Women	Nonbinary/ Genderqueer	
	Average or Share	Average or Share	Average or Share	Average or Share	Average or Share
Outcomes					
Psychological distress (0–24)	11.0	12.1	9.9	11.1	8.5
Stressors/resources					
Bullying before age 18 (1–4)	3	2.8	2.9	3.1	2.9
Everyday discrimination (1–4)	2.4	2.4	2.3	2.4	2.4
Violence scale (0–7)	3.1	3.0	2.8	3.2	3.0
Identity visibility (1–5)	3.5	3.5	3.4	3.5	3.6
Community connectedness (1–4)	3.4	3.4	3.4	3.4	3.5
Age (years)	25.9	29.3	30.1	23.7	35.4
Has children (dummy)	.03	.04	.07	.01	.05
Lives with a partner	.13	.19	.12	.11	.11
Lives in large city					
Employed	.47	.50	.58	.43	.68
Residential stratum					
Low (1 or 2)	.46	.56	.60	.39	.57
Middle (3)	.32	.29	.25	.35	.29
High (4–6)	.21	.15	.15	.25	.14
Education					
Primary or less	.00		.02		.00
Secondary	.32	.33	.41	.29	.33
Postsecondary vocational	.28	.38	.29	.26	.41
Tertiary	.39	.29	.29	.45	.25
n	351	52	73	226	63

Note: Transgender/nonbinary includes only those who directly report a transgender/nonbinary identity but excludes those who did not pick one of those options and who reported "man" or "woman" as gender identity and had a different sex assigned at birth (this group is labeled "other gender identity ≠ sex assigned at birth").

matter for TNB people, the set of resources that matter seem to be different than for cisgender LGB people.

The results for discrimination and violence give some hints as to why this is the case. Having a partner is associated with having been exposed to both of these experiences for TNB people, whereas this is not observed for cisgender LGB people. Similarly, education is associated with a reduced exposure to discrimination for cisgender LGB people but this does not seem to be the case for TNB people. Residential stratum appears to be negatively associated with experiences of discrimination, and possibly violence in both groups.

Figure 2 aids in understanding whether these different returns from resources could explain well-being gaps. The figure shows the result of a Blinder-Oaxaca decomposition in which we decompose the difference in psychological distress between cisgender LGB and TNB people into the share explained by composition effects (i.e., levels of resources) and the share explained by differences in effects (i.e., returns of resources). Detailed results are available in the Supplementary Material (Tables D1–D3). As observed before, we see that compositional differences do little to explain psychological distress differences, except for a small

Table 3. Regression Models Explaining Psychological Distress: Williams Institute Data.

	LGBTQ Sample		
	Model 1	Model 2	Model 3
Dependent Variable: Kessler Scale	Coefficient (*SE*)	Coefficient (*SE*)	Coefficient (*SE*)
Gender identity (reference: cis-LGB men)			
Cisgender LGB women	.30 (.19)	.33 (.19)	.69*** (.18)
Transgender women	1.99** (.65)	1.66* (.65)	.57 (.60)
Transgender men	3.88*** (.77)	3.60*** (.76)	2.34** (.71)
Nonbinary/genderqueer	2.32*** (.39)	2.19*** (.38)	.83* (.35)
Other gender identity ≠ sex assigned at birth	1.24 (.70)	.87 (.70)	−.48 (.65)
Age	−.14*** (.01)	−.08*** (.01)	−.07*** (.01)
Has children		−.01 (.44)	−.08 (.40)
Lives with a partner		−.85*** (.25)	−1.01*** (.23)
Employed		−1.76*** (.20)	−1.69*** (.19)
Residential stratum			
Low (1 or 2) (reference)			
Middle (3)		−.19 (.21)	.08 (.20)
High (4–6)		−.36 (.25)	−.03 (.23)
Education			
Secondary or less (reference)		.	
Postsecondary vocational		−.53 (.27)	−.53* (.25)
Tertiary		−.56* (.24)	−.31 (.22)
Everyday discrimination (standardized)			1.81*** (.10)
Exposure to violence (standardized)			.55*** (.10)
Constant	12.05 (.29)	12.35 (.34)	11.65 (.31)
n	3,570	3,570	3,570

Note: Linear regressions explaining psychological distress scale ranging from low (0) to high (24) distress. The LGBTQ sample includes individuals identifying as LGB and/or transgender/nonbinary.
*$p < .05$. **$p < .01$. ***$p < .001$.

association with employment. We also see that a small share of the differences in well-being can be explained by the lack of returns from having a partner among the TNB population (blue part), although this contribution is not statistically significant (see the Supplementary Material).

Results Based on a Probabilistic Sample: The DUS

So far, we have shown that TNB people experience worse mental well-being than cisgender LGB people and that this cannot be explained by different levels of socioeconomic resources but rather by everyday experiences of discrimination and different returns from partnering. We can replicate three of these four conclusions using a probabilistic sample. First, we replicate the same descriptive statistics for the DUS in Table 5. We can see that differences between individuals identifying as transgender/other and cisgender LGB people

are very similar to those observed in the Williams Institute data: lower levels of mental well-being, social stratum, and education. At the same time, transgender/other individuals appear relatively older and more often employed in the data from the DUS.

Another observation made from the DUS is that the characteristics of people whose gender identity differed from that of their sex assigned at birth, but who do not explicitly identify as transgender, are very similar to that of the cisgender heterosexual population. The size of this group is 10 times larger than the group explicitly identifying as transgender or other, whereas this group was relatively much smaller in size in the Williams Institute data. One possibility is that the latter dataset did not capture this particular part of the LGBTQ population. Another possibility is that this group is the result of miscoding, similar to what has been observed in studies on same-sex couples where information on sex/gender is combined with information on relationships between household
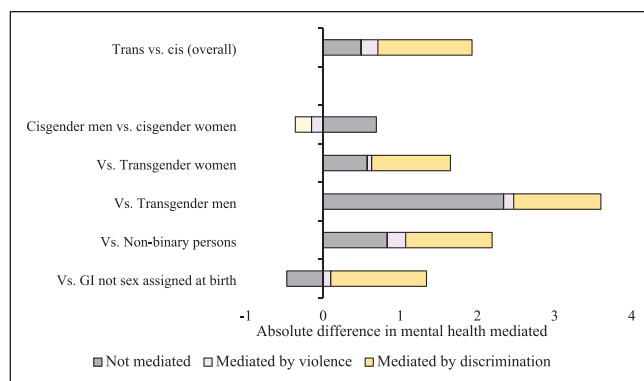
Figure 1. Decomposition of psychological distress differences using the Karlson-Holm-Breen method.
Note: Result of Karlson-Holm-Breen decomposition of differences in psychological distress (Table 5, model 2 vs. model 3). "Trans vs. cis (overall)" includes transmen and transwomen plus nonbinary versus cisgender LGB men and women. Others are comparisons with cisgender LGB men. "Vs. GI not sex assigned at birth": men and women who have different sex assigned at birth and do not identify as transgender or nonbinary. All mediation effects are statistically significant for discrimination, whereas none of the other effects are significant. Coefficients indicate units on psychological distress scale. Controls are included for age, education, residential stratum, employment status, having children and having a partner.

members (Cortina and Festy 2014). We return to this issue in the discussion.

The DUS also allows us to compare transgender/other individuals to cisgender heterosexual individuals, and Table 5 shows that differences in mental well-being are even greater in this comparison. Interestingly, these mental health penalties are observed despite the observation that the socioeconomic profile of the transgender/other sample is slightly advantaged in the DUS (but not statistically significantly so) compared with cisgender heterosexual people. We also observe that transgender/other people are considerably less likely to have children or a partner than cisgender heterosexual people, a characteristic they share with the cisgender LGB sample.

We also replicate the Blinder-Oaxaca decomposition using the DUS to see if resources also have different returns for TNB people in this sample. The first bar of Figure 3 decomposes the mental distress differences between transgender/other people and cisgender LGB individuals. We see that most covariates cannot explain the mental well-being differences between groups, or even make the unexplained effect bigger (i.e., part of the bars left of the line). The exception here is again the association with having a partner, which can explain part of why the TNB population has lower mental

well-being compared with the cisgender LGB population. This contribution is statistically significant and driven also here by a positive association with having a partner on mental distress among the TNB population, whereas the opposite is the case for cisgender LGB people (see Tables D2 and D3 in the Supplementary Material).

The second bar in Figure 3 provides additional results in which TNB people are compared with cisgender heterosexual people. These results show a similar pattern where most differences remain unexplained, but where the detrimental impact of having a partner on mental well-being among TNB individuals does mediate an important part.

Discussion

According to existing research, TNB persons experience higher mental distress than cisgender persons. Our findings on Colombia, confirmed in both nonprobabilistic and probabilistic samples, coincide in this regard with previous literature on the topic (Källström et al. 2022; Meyer et al. 2017; Timmins, Rimes, and Rahman 2017). In addition, we were able to consider two major alternative explanations for well-being disparities: access to socioeconomic resources and factors that are specific to TNB people, including experiences of discrimination.

Although differences in the socioeconomic characteristics of our groups were observed these differences do not explain much of the observed mental health gap. We found that some characteristics had different returns for TNB individuals compared with other individuals. For example, having a partner has different associations with mental well-being of different groups, being negative among the TNB population and positive among the cisgender LGB and heterosexual groups. These different returns could explain a small part of the mental health gap between TNB people on one hand and between cisgender LGB and cisgender heterosexual people on the other hand. However, the most salient mechanism that explains differences in mental health are the high levels of everyday discrimination observed among the transgender sample (compared with cisgender LGB people and presumably far larger compared with the cisgender heterosexual individuals, though we do not have data to test this hypothesis directly). There are several consequences related to these observations.

First of all, theoretically this implies that studying well-being disparities according to gender identity require frameworks and explanations that are specific to the TNB population, similar to what critical race theory (Brown 2003) has argued is needed to study disparities across racialized groups. In this regard, the concepts of structural stigma and

Table 4. Linear Regression Models Explaining Mental Distress, Discrimination, and Violence.

	Transgender/Nonbinary sample			Cisgender LGB		
	Mental Distress	Discrimination	Violence	Mental Distress	Discrimination	Violence
	Coefficient (*SE*)	Coefficient (*SE*)	Coefficient (*SE*)	Coefficient (*SE*)	Coefficient (*SE*)	Coefficient (*SE*)
Age	−.11** (.04)	−.01 (.00)	−.00 (.01)	−.08 (.02)***	−.01** (.00)	.00* (.00)
Has children	.03 (1.98)	−.38 (.37)	.10 (.35)	−.13 (.45)	−.05 (.08)	.09 (.08)
Lives with a partner	.42 (1.00)	.26 (.19)	.36* (.18)	−.89 (.26)**	.04 (.05)	.03 (.05)
Employed	−1.88* (.73)	−.12 (.14)	.10 (.13)	−1.76 (.21)***	−.03 (.04)	.03 (.04)
Residential stratum						
Low (1 or 2) (reference)						
Middle (3)	−1.62* (.75)	−.37** (.13)	−.15 (.13)	−.04 (.22)	−.11*** (.04)	.08† (.04)
High (4–6)	−1.33 (.87)	−.25 (.16)	−.08 (.16)	−.26 (.26)	−.14*** (.05)	−.12* (.05)
Education						
Secondary or less (reference)						
Postsecondary vocational	.01 (.82)	.00 (.15)	.09 (.15)	−.57 (.30)	−.02 (.05)	.04 (.05)
Tertiary	−.46 (.79)	.20** (.15)	−.02 (.14)	−.58* (.26)	−.11* (.05)	−.06 (.05)
Constant	15.8 (1.04)	1.14 (.19)	.41 (.19)	12.4*** (.34)	.29 (.06)	−.11 (.07)
n	349	349	349	3,158	3,158	3,158

Note: Linear regression ran for each of the three outcomes and each of the two subsamples. Mental distress is scale of ranging from 0 (low) to 24 (high), discrimination is a scale indicating everyday experiences of discrimination ranging from 1 (low) to 4 (high) but standardized with average 0 and a standard deviation of 1 for these models, and violence is a scale of experiences of violence ranging from 0 (low) to 7 (high) but standardized with average 0 and standard deviation of 1 for these models.
†*p* < .10. **p* < .05. **p < .01. ***p < .001.
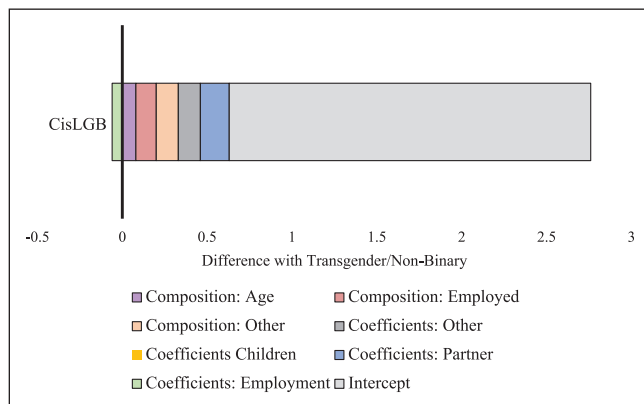
Figure 2. Detailed decomposition of absolute difference in psychological distress between transgender/nonbinary individuals and cisgender LGB people.
Source: Williams Institute data.
Note: Composition = difference due to compositional differences; coefficients = difference due to differences in coefficients; intercept = difference due to differences in constant (i.e., unexplained). Blinder-Oaxaca decomposition of absolute difference in psychological distress between cisgender LGB (CisLGB) and transgender/nonbinary respondents.

minority stress, which have often been used to study disparities across sexual identities (Duncan and Hatzenbuehler 2014) are a useful starting point to theorize about the specific experiences of the TNB population.

Second, if these results are confirmed in future research, policy interventions should be more broadly directed at society-wide processes too (e.g., reducing discrimination and stigma, raising awareness about transgender individuals, and educating the population about the negative impact of open acts of discrimination). Reducing differences in resources between groups are important goals to achieve, but "lack of resources," even though it might be the cumulative result of those experiences of discrimination over the course of years, is not the main explanation of current mental health gaps in Colombia. In short, experiences of discrimination and violence made are the primary determinants of the subjective well-being gaps between TNB people and the rest of the population, and should, hence, be the main target of public policy interventions.

The idea that equalizing socioeconomic resources is not sufficient is confirmed by the observation that TNB persons did not always receive the same returns from resources as the cisgender population. For instance, we observed across two very different datasets that having a partner is related to higher levels of distress among TNB people, whereas the opposite is observed for cisgender LGB people (as well as cisgender heterosexual people in the DUS). We also observed that (secondary) education does not improve mental well-being among TNB people. Having a partner and tertiary education are both related to more violence and experiences of discrimination among TNB people, respectively, whereas

Table 5. Descriptive Statistics: Drug Use Survey.

	Transgender/Other	Other Gender Identity ≠ Sex on Roster	Cisgender LGB	Cisgender Heterosexual
	Average or Share	Average or Share	Average or Share	Average or Share
Outcomes				
Mental distress (0–2)	.99	.42***	.52***	.36***
Disinterested or not energetic (dummy)	.55	.24***	.35**	.23***
Thought seriously about suicide	.18 (33)	.04 (320)***	.05 (368)***	.02 (25,715)***
Age	38.3	39.6	29.8***	38.9
Has children	.36	.70**	.17	.69**
Lives with a partner	.45	.66*	.52	.65*
Lives in large city	.62	.70	.71	.56
Employed	.68	.59	.56	.63
Residential strata				
Low (1–2)	.46	.52	.43	.60
Middle (3)	.40	.38	.37	.30
High (4–6)	.14	.10	.20	.10
Education				
Primary or less	.10	.14	.02	.13
Secondary	.34	.41	.32	.44
Postsecondary vocational (técnica)	.21	.21	.25	.18
Tertiary	.35	.24	.41	.24
n	41	552	480	44,726

Note: Sample weights included. Taken from linear regression models or order logit models (education and stratum) with gender identity as sole independent variable. Transgender/other includes only those who directly report a transgender/other identity but excludes those who did not pick one of those options but reported "man" or "woman" as gender identity and had a different sex assigned at birth (this group is labeled "other gender identity ≠ sex assigned at birth").
*p < .05. **p < .01. ***p < .001.

this is not the case for cisgender LGB people. Hence, discrimination and violence nullify the potential protective effects of having a partner or socioeconomic resources. As norms about gender and sexuality are particularly strong within the context of relationships, and because having a partner exposes one to the partners' social networks, having a partner could have detrimental effects for well-being in highly stigmatized contexts, which might depend on that partners' gender and sexuality.

An alternative interpretation, however, guards against considering having a partner as a potential enhancer of mental well-being among TNB individuals. Assuming that mental well-being is a function of having a partner does not entail that all individuals' well-being is equally affected by similar events (i.e., heterogenous effects). Another reason why TNB people may not "reap" the benefits of stable couples to the same extent as the cisgender population, might relate or be part of the "queer ethos" (Lamont 2017). Following the normative arrangement for relationships has an entirely different significance or meaning to queer people than to cisgender

heterosexual individuals (Pfeffer 2012). The data we use in this study do not allow us to examine whether alternative conceptions of couple and family life are present among the sample of TNB individuals, crucial information that might lead us to question whether normative conceptions of family and relationships are equally desirable by everyone and, in particular, by TNB individuals. Some research suggests this is, however, not the case (e.g., Lamont 2017; Lehmiller 2020), and, in the case of transgender or nonbinary individuals with cisgender partners, differences in partnership or family aspirations within couples might be particularly salient.

Regarding the transferability of our results across contexts and times, we consider that the Colombian context is highly specific. For example, the levels of violence against transgender women in Colombia are among the highest in the world and the Latin American region,[3] without

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[3]See the Transrespect versus Transphobia Worldwide research project at https://transrespect.org/en/map/trans-murder-monitoring/?submap=tmm_relative_numbers (accessed October 5, 2023).
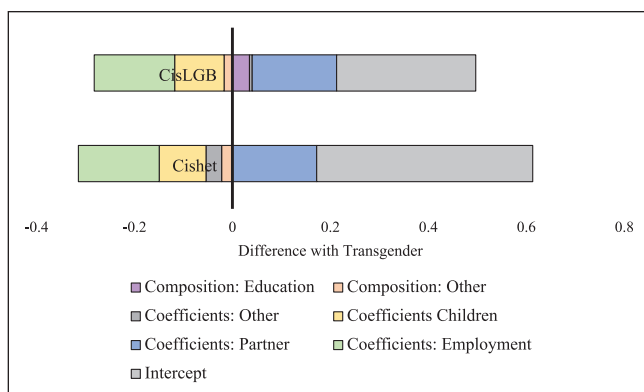
Figure 3. Detailed decomposition of absolute difference in mental health between transgender/other individuals and cisgender heterosexual people, as well as cisgender LGB people.
Source: Drug User Survey.
Note: Composition = difference due to compositional differences; coefficients = difference due to differences in coefficients; intercept = difference due to differences in constant (i.e., unexplained). Blinder-Oaxaca decomposition of absolute difference in psychological distress between cisgender heterosexual (Cishet) and transgender/other respondents as well as between cisgender LGB (CisLGB) and transgender/other respondents.

considering underreporting of such events. However, such a context serves to highlight the extent to which differences in well-being, and potentially other markers, are in large part a function of societal-level operating factors (e.g., discrimination and violence experiences), and not just differences in individual-level factors, supposedly more amenable to policy interventions, or the effect of antidiscriminatory legislation. Perhaps the type of interventions with potentially far larger effects are those aimed at the collective understanding or mental representations of transgender, nonbinary, and genderqueer individuals, and not just increases in visibility.

Future research could focus on collecting more information on dimensions that are relevant to assess impacts on the well-being of the LGBTQ population. Although we stress the importance of specific studies on the LGBTQ population, such as the WIS used in this study, it is fundamental to include within such studies a group of heterosexual individuals that can serve as a comparison or benchmark. The exclusion of this group from the WIS limited, to some extent, the types of results we could get from such rich data. However, the ability to further differentiate between identities (e.g., transwomen, transmen, nonbinary, genderqueer, and others) is fundamental to improve our understanding of gender identity and sexuality as further markers of social inequality. It remains a topic of further research whether our findings are generalizable across the different identities falling under the "TNB" umbrella term

or whether only some of these identities are affected. Here our theoretical expectation is that heterogeneous effects likely exist, in accordance with the different pathways followed by people's identity formation, and the different expectations society makes upon them (Darwin 2020).

In this regard, one open question remains how to measure and categorize gender identities (Lagos and Compton 2021), especially those that escape the binary. We noticed differences between people who identify as transgender and people who report "man" or "woman" as their gender identity (i.e., who did not identify as transgender) and have a different sex assigned at birth. In the WIS data, the latter group had higher mental well-being despite equally high levels of experienced discrimination and violence. Although this suggests that identity development can directly relate to mental well-being, a topic for future research, it also makes salient the need to focus on the ways in which TNB statuses are measured. It is an open question whether explicitly including transgender as a separate category of gender identity answer options is desirable, or whether including a separate question about transgender experiences or sex assigned at birth is preferable (Ansara and Hegarty 2014).

In contrast, in the DUS, we found a large number of cases within the group of people not identifying as transgender but reporting a gender identity that differed from the reported sex. This suggests that surveys can differ in the extent to which TNB individuals are captured. Given that the DUS was not aimed at the LGBTQ population, it is also possible that measurement error arises when combining information across questions (Cortina and Festy 2014), which is important for samples of TNB people in larger household surveys. This finding constitutes an important addition to the debate on how well a two-step question works where information on sex recorded at birth and gender identity are combined to identify transgender people (Lagos and Compton 2021).

Conclusion

Our results highlight that policy interventions aimed at increasing the resources of Colombian transgender women and men, as well as nonbinary and genderqueer people, are likely insufficient to reduce gaps in well-being. Although such strategies are desirable for many reasons, they are unlikely to narrow or ultimately close the mental or subjective well-being gaps between transgender and cisgender persons we have found in two studies. This we claim after empirically assessing that our selection of socioeconomic covariates did not explain the gaps in well-being. Instead, these gaps are explained far better by the context-related variables that capture experiences of discrimination and

violence. The results of this study therefore underline the importance of society-wide measures to reduce stigma, to increase awareness of issues related to gender identity, and to eradicate discrimination and violence.

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Supplemental Material

Supplemental material for this article is available online.

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