



Misgendering and the health and wellbeing of nonbinary people in Canada

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ABSTRACT

Background: Misgendering—using the wrong name, pronoun, or gendered language to refer to someone—is known to have negative impacts on the mental health and well-being of trans individuals generally. However, little is known about the effects of misgendering on nonbinary people specifically.

Aims: As such, our research asked: 1) Among nonbinary people, what factors are associated with frequency of misgendering?; and 2) Do nonbinary people who experience misgendering less often have better health outcomes?

Methods and Results: We analyzed data from Trans PULSE Canada, a community-based survey of trans and nonbinary people living in Canada, using a subset ($n=1091$) who identified as nonbinary and completed questions on misgendering. Misgendering was a frequent and distressing experience for nonbinary participants, with 59% misgendered daily, 30% weekly or monthly, and only 11% yearly or less. Most (58%) reported being very or quite upset when misgendered. About one in eight (13%) corrected others most or all of the times they were misgendered. Daily misgendering was more common among nonbinary people who were younger than 25 years old (64%, $p < .0001$), visibly disabled (74%, $p = .003$), assigned female at birth (61%, $p < .0001$) or racialized as a person of color and assigned male at birth (65%, $p < .0001$) compared with their counterparts. In multivariable regression analyses, less frequent misgendering (weekly/monthly vs. daily) was associated with a lower OASIS anxiety score ($\beta = -0.555$, 95% CI = -1.062 , -0.048).

Discussion: Our research highlights the complexity of outness, passing, concealment, and affirmation for nonbinary people living at the intersections of marginalizations. Future research could build stronger causal analyses of the impacts of misgendering, how nonbinary people cope with misgendering, and policy and interventions to decrease misgendering.

KEYWORDS

Canada; mental health; misgendering; nonbinary; transgender

Introduction

In contemporary use, nonbinary is both a specific gender identity as well as an umbrella term for a variety of gender identities and expressions that fall outside of the man/woman binary (Vincent & Barker, 2021). While widespread use of the term in English-speaking trans communities is relatively recent, genders outside of the binary have existed in many cultures in times and places around the world (Vincent & Barker,

2021). Although trans research has historically focused on binary-aligned identities, the 8th edition of the World Professional Association for Transgender Health Standards of Care includes a new chapter focused specifically on nonbinary people (Coleman et al., 2022). Recent research suggests nonbinary people make up a significant portion of the trans community, with estimates ranging from 25% to over 50% (Coleman et al., 2022).

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While awareness of nonbinary people is increasing, nonbinary genders have not yet gained widespread societal acceptance, and as a result, nonbinary people frequently experience identity invalidation. One prominent form of invalidation for nonbinary people is misgendering, which is the misclassification of one's gender. Misgendering can include intentional or unintentional acts of using the wrong name, pronoun, or gendered language to refer to someone, which can have harmful impacts on trans people's mental health. Misgendering and other forms of invalidation and non-affirmation can trigger dysphoria, rumination, anxiety, post-traumatic stress, and body dissatisfaction (Barr et al., 2022; Galupo et al., 2020; Goldberg et al., 2019; McLemore, 2018; Mitchell et al., 2021; Puckett et al., 2023; Rostosky et al., 2022; Sarno et al., 2020). The impact of these experiences can lead to depression, hypervigilance, impaired social functioning, suicidality, and disordered eating (Barr et al., 2022; Cardona et al., 2022; McLemore, 2018; Mitchell et al., 2021; Puckett et al., 2023; Rostosky et al., 2022; Sarno et al., 2020). The gender minority stress model explains how stress, stigma, and discrimination can become internalized by trans people and lead to negative mental health outcomes (Hendricks & Testa, 2012; Tan et al., 2020; Testa et al., 2015). Recent research has identified misgendering as a prominent minority stressor for nonbinary people (Galupo et al., 2020; Lindley & Galupo, 2020; Matsuno et al., 2022).

Most existing research on misgendering focuses on trans people broadly and does not provide data on nonbinary people specifically.¹ Of the studies cited above, only one (Mitchell et al., 2021) presented a sub-analysis on nonbinary people and was limited by sample size. Among the other studies, the proportion of nonbinary participants varied widely, from 0% to 75% (Barr et al., 2022; Galupo et al., 2020; Goldberg et al., 2019; McLemore, 2018; Mitchell et al., 2021; Puckett et al., 2023; Rostosky et al., 2022; Sarno et al., 2020). In some cases, nonbinary people were grouped with binary-aligned trans people, while in others they were absent altogether. While nonbinary people can and should be included in research about trans communities generally, sub-analyses that look specifically at nonbinary participants are also needed to understand their unique experiences. The lack of

population-specific data on misgendering among nonbinary people makes it challenging to extrapolate studies' findings to nonbinary people or to understand how their experiences may differ from binary-aligned trans people.

Despite this lack of quantitative research, theoretical and qualitative scholarship has identified that many nonbinary people experience frequent erasure of their gender identity. Matsuno et al. conceptualize this as binary normativity, defined as "structures and systems that promote the notion that only two genders exist, often resulting in invisibility, exclusion, and discrimination of nonbinary people" (2022, p. 5). They identify this as a minority stressor unique to nonbinary people. Binary normativity is related to transnormativity, which is defined as the "normalization of trans bodies and identities through the adoption of cisgender institutions" (Vipond, 2015, p. 24), which often involves assessing whether a trans person 'passes' as a cisgender person of the same gender. Exemplified by the "born in the wrong body" model of trans identity, transnormativity is structured by a "hierarchy of legitimacy that is dependent upon a binary medical model" (Johnson, 2016, p. 466). Trans people are held accountable to this model through both explicit forms of power, such as medical gatekeeping, as well as more insidiously by constraining the linguistic and rhetorical resources available to trans people to articulate their genders (Bradford & Syed, 2019; Nordmarken, 2022; Shuster, 2017). Although all trans people are impacted by transnormativity, these impacts are not the same for everyone. While some limited social acceptance is granted to trans people who conform to a specific narrative of transnormativity, nonbinary peoples very existence is frequently denied. Transnormativity is also dependent on white, Western, colonial understandings of binary genders (Snorton & Haritaworn, 2013), and therefore impacts racialized and white trans people differently. As such, we can expect that nonbinary people will have both shared experiences of binary normativity and transnormativity that are unique to nonbinary people, as well as differing experiences depending on their other identities and social locations.

Binary normativity is pervasive, and nonbinary people may be misgendered more often than binary-aligned trans people because the mere

existence of nonbinary genders challenges many people's assumptions about gender. Medical and social transition enables some binary-aligned trans people to be correctly recognized as their gender identity by other people without being told at least some of the time, but, given the limited public understanding of nonbinary identities, many people will not correctly gender a nonbinary person unless they have been explicitly told about the nonbinary person's identity and pronouns. As such, nonbinary people are forced to repeatedly choose whether and how to express, disclose, or conceal their gender identity in different contexts (Barbee & Schrock, 2019; Flynn & Smith, 2021; Goldberg et al., 2019; Lykens et al., 2018; Osborn, 2022). Osborn (2022) notes that concealment of gender identity may vary across contexts and situations, as nonbinary people may alter their gender expression to protect themselves in some situations, while safer spaces provide an opportunity to present more authentically as nonbinary. As Flynn and Smith explain, "not concealing may put non-binary people at higher risk for victimization, but blending into the binary-gendered environment may increase distress through identity erasure" (2021, p. 1). Overall, nonbinary people must make difficult compromises in balancing safety and authenticity.

Of course, binary-aligned trans people share similar concerns regarding concealment and disclosure, but these concerns are heightened for nonbinary people because of the lack of public recognition of nonbinary identities. Previous research has found that many nonbinary people do not believe it is possible to be correctly categorized and perceived as nonbinary by strangers, and instead make strategic compromises in their transition and gender expression (Barbee & Schrock, 2019; Fiani & Han, 2019; Galupo et al., 2021). For example, a nonbinary person assigned female at birth may choose to take testosterone or dress in masculine clothing with the goal of being misrecognized as male rather than misrecognized as female, because being gendered as male results in less distress than being recognized for their sex assigned at birth. This example illustrates the complexities of disclosure, visibility, passing, and concealment for nonbinary people.

These unique experiences of nonbinary individuals highlight the importance of heterogeneity and

not treating trans people as one monolithic community. While some research has compared nonbinary people's experiences with other trans populations (e.g. Mitchell et al., 2021; Poquiz et al., 2021), there is very little research that looks at the intra-categorical complexity and experiences among nonbinary people as a standalone population. Several scholars have called for more research on the relationship between misgendering and mental health among trans and nonbinary people (McLemore, 2018; Mitchell et al., 2021; Nordmarken, 2022). Our analysis sought to fill this gap. That is, rather than comparing nonbinary with binary-aligned trans people, we are interested in understanding how nonbinary people's experiences differ depending on their gender expression, racialization, age, sex assigned at birth, medical transition status, disability, and other intersecting identities and experience factors.

Our study addresses two research questions: 1) Among nonbinary people, what factors are associated with frequency of misgendering? 2) Do nonbinary people who are misgendered less frequently have reduced anxiety and depression and greater psychological well-being compared with nonbinary people who experience misgendering more often?

Methods

Data source and participants

Trans PULSE Canada was a national, community-based research study on the health and wellbeing of trans and nonbinary adolescents and adults in Canada. In 2019, the Trans PULSE Canada team surveyed 2873 trans and nonbinary people who were 14 years of age or older, living in Canada, and had a gender identity that differed from their sex assigned at birth. Recruitment messaging emphasized that participants did not have to identify as trans or have transitioned, so long as they identified as a gender other than the one they were assigned at birth. The survey was available in English or French via phone, online, on paper, or through peer researchers. In order to collect as much detailed data as possible while minimizing the burden of lengthy surveys on participants, a 10-minute short-form or a 60-minute full-length version of the survey was

available. Recruitment was conducted online, in-person at Pride festivals and other community events, and through outreach by peer research associates in major cities. For further details on study methodology, see Scheim et al. (2021). The full survey can be viewed at: <https://transpulsecanada.ca>. Trans PULSE Canada received ethics approval from the human research ethics boards of Western University (#116072), Drexel University (#200500780), Wilfrid Laurier University (#6557) and the University of Victoria (#19-0404).

The study was designed with nine priority populations, one of which was nonbinary people, and each priority population had an advisory group of community members with lived experience. The nonbinary community advisors provided feedback on the survey to ensure appropriateness and inclusivity for nonbinary people, including adding questions and responses specific to nonbinary people's experiences. The analysis topic for this article was chosen based on priority themes identified by the nonbinary community advisory group, and some advisory group members also coauthored this article.

Recognizing the complexities of gender, we first asked survey participants "What term(s) do you use to describe your gender?" with an open-text response box. We then asked, "If you had to select ONE response that best describes your current gender identity for the purposes of a survey, what would it be?" with response options: Man or boy; Woman or girl; Indigenous or other cultural gender identity (e.g. two-spirit); Non-binary, genderqueer, agender, or a similar identity. We analyzed the subgroup of participants ($n=1327$, 48%) who indicated their current gender identity was "nonbinary, genderqueer, agender, or a similar identity."² After removing 236 nonbinary participants who did not answer the survey question on frequency of misgendering, we had a final analytic sample of 1091 participants. For one additional analysis, we compared the frequency of misgendering between nonbinary participants and binary-aligned participants (those who indicated their current gender identity was "man or boy" or "woman or girl"). Participants who indicated their current gender identity was "Indigenous or other cultural gender

identity (e.g. two-spirit)" were excluded from this specific analysis. Two-Spirit and other Indigenous cultural gender identities cannot be understood in reference to the Western gender binary (Pruden & Salway, 2020) so we excluded participants who selected this option from this particular analysis rather than categorize them as either binary-aligned or nonbinary. For all other analyses, we included the 1091 nonbinary participants.

Measures

Misgendering

Our key exposure variable, frequency of misgendering, was measured as "In general, how often do people misgender you by using incorrect names, pronouns, or gendered language?" Five response categories were provided, which were re-coded into three categories for analysis: misgendered daily, misgendered weekly or monthly, and misgendered yearly or never.

We also asked participants who reported being misgendered at least yearly to report "In general, when people misgender you, do you feel..." with response options very upset, quite upset, neutral, not that upset, and not upset at all. We also asked these participants how often they correct people when they misgender them, with response options all of the time, most of the time, half of the time, less than half the time, and never. These variables were not used in any of the bivariate or multivariate analyses, but the results are reported in-text to contextualize our findings.

Demographics

We first assessed the frequency of misgendering across demographic variables of interest. Age was measured continuously in regression models and in four categories for frequency tables: under 25 years old, between 25 and 34 years old, between 35 and 49 years old, and 50 years of age or older. We operationalized sex assigned at birth dichotomously, as assigned male at birth (AMAB) and assigned female at birth (AFAB). Our racialization variable categorized participants as a person of color if they indicated they identified or were perceived or treated as a person of color in Canada, and white if not. We also cross-coded

sex assigned at birth and racialization into four categories: racialized AMAB, white AMAB, racialized AFAB and white AFAB. We dichotomized location of residence as non-urban area versus major urban center (community with a population of at least 1,500,000) derived using participants' first three postal code digits and Statistics Canada's Postal Code Conversion File Plus (Statistics Canada, 2017). We assessed disability identity and visibility through a four-category variable: disability that is visible/apparent all of the time; visible/apparent some of the time; never visible or apparent; or does not have a disability. Gender-affirming care status was measured using a five-category self-report variable: 1) had all gender-affirming care treatment desired; 2) in the process of completing gender-affirming care; 3) planning to receive gender-affirming care, but not yet begun; 4) not sure whether going to seek gender-affirming care; and 5) not planning to receive gender-affirming care. We categorized poverty into living in a low-income household or not, derived using participant's household income and size and Statistics Canada's low-income measure (Statistics Canada, 2022a).

Gender expression and experiences

We asked participants whether they had asked people to use a different name or pronouns for them (as two separate variables, both with four response options: yes, everyone; yes, some people; no, don't need to change pronouns; no, haven't asked). Among participants who had changed their pronouns, we asked what pronouns they asked people to use in their day-to-day life. Participant responses were grouped into four categories: she/her only; he/him only; they/them only; and multiple pronouns or other pronouns. We also assessed the visibility of participant's transness by asking "How often do cisgender (non-trans) people you encounter know you are trans or nonbinary without being told?" with response options: all of the time; most of the time; half of the time; less than half of the time; and never. We also asked participants "Depending on where I am or who I'm with, I need to... Use a different name or pronoun; Make my clothing or gender expression more conventional" with

response options never; sometimes; most of the time; and always for both variables.

We included four continuous variables in our descriptive statistics. These included gender positivity and gender distress, measured using scales from Trans Youth CAN! (Bauer et al., 2021a, 2021b; Saewyc et al., 2022). Gender positivity describes positive emotions and experiences related to gender, such as gender euphoria (Bauer et al., 2021b), while gender distress describes negative and distressing emotions and experiences, such as gender dysphoria (Bauer et al., 2021a). We also included two measures of discordance between self- and others' perception of gender expression. Gender expression discordance was measured using a variable derived from participants' responses to Magliozzi et al. (2016) scales of personal perception and others' perception of their femininity and masculinity. For each of these four items, participants provided a response from 1 (not at all) to 5 (very). We then compared the gap between participant's own with others' perception of their gender expression by subtracting their rating of others' perceptions of them from their own perception for each of femininity and masculinity. This resulted in two variables, one for each of femininity and masculinity, with values ranging from 0 to 4; higher scores indicate greater self-reported discordance between self and others' perceptions of participant's gender expression.

Social support and belonging

Social isolation/support was measured using the eight-item modified Medical Outcomes Study Social Support Survey (mMOS-SS) (Moser et al., 2012). Participants indicated to what extent they had various kinds of tangible and emotional support on a scale from 1 (none of the time) to 5 (all of the time). The final score was the mean of items answered ranging from 1 to 5, where high scores indicate more social support. The scale showed good reliability with our sample, with a Cronbach's alpha of 0.90.

Sense of belonging in nonbinary spaces was measured by asking participants how they would describe their sense of belonging for in-person and online nonbinary spaces, with the following

response options for each question: very strong; somewhat strong; somewhat weak; very weak; don't have access to these spaces; and not interested in accessing these spaces.

Mental health and wellbeing outcomes

Anxiety was measured using the five-item Overall Anxiety Severity and Impairment Scale (OASIS), a widely used, validated, and reliable scale (Norman et al., 2006). Participants selected one of five different response options for each item, which were then coded 0–4. For participants who answered at least 80% of items, scores were summed to obtain a total possible score ranging from 0 to 20, where higher scores indicate greater severity and impairment. The scale showed good reliability with our sample, with a Cronbach's alpha of 0.85.

Depression was measured using the Center for Epidemiologic Studies Depression Scale Revised (CESD-10), a widely used, validated, and reliable scale (Andresen et al., 1994). Items were summed for participants who answered at least 80% of items, weighted to be out of the full scale. CESD-10 scores can range from 0 to 30, where higher scores indicate greater depressive symptoms. The scale showed good reliability with our sample, with a Cronbach's alpha of 0.86.

Psychological wellbeing was measured using the Brief Inventory of Thriving (BIT) (Su et al., 2014). Participants rated their agreement with ten statements (e.g. “My life has a clear sense of purpose”) using a Likert-type rating scale from 1–5. The final score was the mean of items answered, where higher scores indicate greater psychological wellbeing. The scale showed good reliability with our sample, with a Cronbach's alpha of 0.91.

Analyses

We first compared the frequency of misgendering between nonbinary participants and binary-aligned participants (those who indicated their current gender identity was “man or boy” or “woman or girl”). We then restricted the sample to only nonbinary participants for all future analyses. We cross-tabulated the categorical independent variables listed above and our exposure variable, frequency of misgendering, including Rao-Scott

chi-square tests (Rao & Scott, 1987). For continuous independent variables (gender positivity, gender distress, distress, and gap between self- and other- perceived femininity and masculinity), we used ANOVA tests.

Next, we conducted multiple linear regression analyses between the frequency of misgendering (primary explanatory variable) and our three mental health outcomes: anxiety score (OASIS), depression score (CESD-10), and psychological well-being (BIT). We estimated crude associations as well as associations that were adjusted for a sufficient set of confounders, as identified through a directed acyclic graph (DAG). The DAG was co-developed based on existing literature and the lived experience of nonbinary team members. Based on the DAG, we included the following variables as confounders in regression models in order to control for their effects: age, gender-affirming care status, low-income household, racialization, sex assigned at birth, visibility of transness, and disability identity and visibility, social support, and sense of belonging in nonbinary spaces online and in-person. The DAG is available in the [supplemental materials](#) for this article.

To avoid bias from complete-case analysis, we used multiple imputation (fully conditional specification method) regression analyses. We imputed 25 data sets, using a number greater than the fraction of incomplete cases (White et al., 2011) and then obtained pooled estimates.

As misgendering frequency was not included in the short-form survey, both the crosstabulations and regression models were weighted to adjust the full-length survey data to align with the demographic characteristics of all participants. All analyses were conducted using SAS software, version 9.4 (SAS Institute Inc., Cary, NC, USA).

Results

Overall demographics for the weighted analytic sample are available in [Table 1](#).

More than half (59%) of nonbinary participants reported being misgendered daily, with 30% misgendered weekly or monthly, and 11% misgendered yearly or less. In contrast, only one-quarter (25%) of participants who identified with a binary gender were misgendered daily,

Table 1. Demographics and frequency of misgendering among nonbinary participants in Trans PULSE Canada 2019.

By misgendering frequency									
Total (n = 1091)	Overall		Daily		Weekly or monthly		Yearly or less		p ²
Variable	n	Weighted ¹ %	n	Weighted %	n	Weighted %	n	Weighted %	
Categorical Variables									
Overall			642	58.7%	331	30.4%	118	10.8%	0.0001
Age group									
14–24 years	406	37.3%	261	64.3%	109	26.8%	36	8.9%	
25–34 years	448	41.0%	256	56.9%	148	33.3%	44	9.8%	
35–49 years	194	17.7%	110	56.8%	59	30.4%	25	12.9%	
50+ years	43	3.9%	15	34.4%	15	35.4%	13	30.2%	
Sex assigned at birth, by racialization									<.0001
Racialized AMAB ³	25	2.4%	16	64.9%	3	11.8%	6	23.2%	
White AMAB	164	15.3%	76	45.7%	51	31.9%	37	22.4%	
Racialized AFAB	130	12.4%	83	63.8%	35	27.2%	12	9.0%	
White AFAB	764	69.8%	460	60.2%	241	31.5%	63	8.3%	
Location of residence									0.6807
Non-urban	710	64.7%	417	58.5%	212	30.0%	81	11.4%	
Major urban center	381	35.3%	225	59.1%	119	31.1%	37	9.7%	
Visibility of disability									0.003
Visible/apparent all of the time	32	3.0%	23	72.7%	7	20.9%	2	6.4%	
Visible/apparent some of the time	273	25.2%	153	55.8%	94	34.9%	26	9.3%	
Never visible or apparent	618	56.7%	383	62.0%	174	28.1%	61	9.9%	
Does not have disability	159	15.1%	77	48.3%	53	33.4%	29	18.3%	
Gender-affirming care status									<.0001
Had all gender-affirming care treatment desired	173	16.9%	68	39.6%	73	42.0%	32	18.3%	
In the process of completing gender-affirming care	209	20.6%	115	55.0%	81	38.9%	13	6.1%	
Planning to receive gender-affirming care, but not yet begun	150	14.4%	109	72.2%	35	23.7%	6	4.1%	
Not sure whether going to seek gender-affirming care	198	19.3%	105	52.8%	55	27.9%	38	19.3%	
Not planning to receive gender-affirming care	299	28.9%	213	71.3%	68	22.6%	18	6.1%	
Poverty									0.7822
Not low-income household	531	52.5%	310	58.4%	162	30.4%	59	11.2%	
Low-income household	464	47.5%	264	56.9%	150	32.4%	50	10.7%	
Asked people to use different pronouns									<.0001
Yes, everyone	305	28.1%	141	45.5%	132	44.1%	32	10.4%	
Yes, some people	626	57.2%	450	72.2%	150	23.7%	26	4.1%	
No, don't need to change pronoun	62	5.7%	8	13.0%	20	32.1%	34	54.9%	
No, haven't asked	98	9.0%	43	43.7%	29	29.3%	26	27.0%	
Day-to-day pronouns ⁴									<.0001
She/her only	19	2.1%	7	38.4%	7	35.7%	5	25.8%	
He/him only	50	5.5%	7	14.2%	29	57.3%	14	28.5%	
They/them only	519	57.0%	393	75.7%	118	22.8%	8	1.5%	
Multiple pronouns or other pronouns	320	35.4%	170	53.1%	120	37.7%	30	9.2%	
Asked people to use different name									<.0001
Yes, everyone	413	38.0%	196	47.2%	177	43.2%	40	9.6%	
Yes, some people	269	24.6%	188	70.2%	69	25.4%	12	4.5%	
No, don't need to change name	262	24.1%	167	63.6%	56	21.4%	39	15.0%	
No, haven't asked	146	13.4%	90	61.6%	29	19.9%	27	18.5%	
Visibility of transness (How often do cisgender people know you are trans?)									<.0001
All of the time	18	1.7%	8	45.4%	7	37.7%	3	16.9%	
Most of the time	62	5.8%	25	40.3%	32	51.7%	5	8.0%	
Half of the time	121	11.2%	60	49.0%	53	44.7%	8	6.4%	
Less than half of the time	412	37.8%	232	56.0%	145	35.5%	35	8.5%	
Never	473	43.6%	316	67.0%	90	18.7%	67	14.2%	
Depending on where I am or who I'm with, I need to... Use a different name or pronoun									<.0001
Never	163	15.1%	40	23.9%	67	41.5%	56	34.6%	
Sometimes	457	41.8%	234	51.1%	181	39.7%	42	9.2%	
Most of the time	349	32.2%	267	76.5%	65	18.8%	17	4.7%	
Always	119	10.9%	99	83.5%	17	14.0%	3	2.5%	
Depending on where I am or who I'm with, I need to... Make my clothing or gender expression more conventional									0.0019
Never	157	14.3%	81	51.5%	57	36.0%	19	12.6%	
Sometimes	555	51.1%	309	55.5%	190	34.6%	56	10.0%	
Most of the time	268	24.5%	177	66.3%	62	22.9%	29	10.8%	
Always	110	10.2%	74	67.1%	22	20.1%	14	12.8%	

(Continued)

Table 1. Continued.

Table 1. Continued.									
Total (n = 1091)	Overall		By misgendering frequency						p ²
			Daily		Weekly or monthly		Yearly or less		
Variable	n	Weighted ¹ %	n	Weighted %	n	Weighted %	n	Weighted %	
Sense of belonging in non-binary spaces									
in-person									<.0001
Very strong	259	23.9%	157	60.1%	86	33.7%	16	6.2%	
Somewhat strong	249	23.1%	139	56.0%	85	33.9%	25	10.1%	
Somewhat weak	176	16.1%	97	54.6%	50	28.7%	29	16.7%	
Very weak	99	9.1%	57	57.4%	23	23.7%	19	18.9%	
Don't have access	277	25.2%	183	66.4%	73	26.0%	21	7.6%	
Not interested	27	2.5%	8	30.4%	11	41.0%	8	28.5%	
Sense of belonging in non-binary spaces online									
Very strong	312	28.9%	200	64.0%	85	27.3%	27	8.6%	0.0091
Somewhat strong	327	29.9%	194	59.1%	106	32.6%	27	8.3%	
Somewhat weak	193	17.7%	112	57.8%	55	28.5%	26	13.6%	
Very weak	99	9.2%	54	54.7%	29	29.4%	16	16.0%	
Don't have access	71	6.5%	45	63.0%	21	29.7%	5	7.3%	
Not interested	85	7.8%	35	41.8%	33	38.6%	17	19.6%	
Continuous Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD	p ²
Social support (mMOS-SS)	3.47	0.94	3.45	0.95	3.49	0.92	3.56	0.91	0.5697
Gender distress score	3.23	0.70	3.62	0.65	3.35	0.67	2.84	0.81	<.0001
Gender positivity score	3.45	0.72	3.09	0.68	3.42	0.67	3.42	0.78	<.0001
Gap between self-perceived and other-perceived femininity	1.23	0.83	1.34	0.86	1.13	0.76	0.94	0.69	<.0001
Gap between self-perceived and other-perceived masculinity	1.07	0.81	1.18	0.81	0.92	0.77	0.92	0.79	<.0001
Anxiety (OASIS)	10.69	3.74	11.10	3.60	10.30	3.77	9.44	4.05	<.0001
Depression (CESD-10)	15.21	6.64	15.59	6.52	15.14	6.69	13.21	6.93	<.0001
Psychological well-being (BIT)	2.34	0.80	2.29	0.79	2.38	0.79	2.47	0.87	<.0001

¹Percentages presented here are weighted to align with the demographic characteristics of all participants, as misgendering frequency was included only in the full-length survey and not in the short-form survey.

²p values for categorical variables are from Rao-Scott Chi-Square test. p values for continuous variables are from one-way ANOVA tests.

³AMAB is assigned male at birth. AFAB is assigned female at birth. SD is standard deviation.

⁴Among participants who had asked others to use a different pronoun for them (n = 950).

with 43% misgendered weekly or monthly and 31% misgendered yearly or less. This difference was statistically significant ($p < .0001$).

Most (87%) nonbinary participants reported correcting others when they were misgendered only half of the time or less, while 13% corrected others most or all of the time. Most (58%) were very or quite upset when they were misgendered, 25% felt neutral, and 17% felt not that upset or not upset at all.

The mean anxiety (OASIS) score of the analytic sample was 10.69, with a standard deviation of 3.74. The mean depression (CESD-10) score of the sample was 15.21, with a standard deviation of 6.64. The mean psychological wellbeing (BIT) score of the sample was 2.34, with a standard deviation of 0.80.

Variables associated with misgendering frequency

Table 1 presents weighted descriptive statistics by misgendering frequency. Various demographic variables were associated with misgendering

frequency. For example, younger participants (age 14-24) were misgendered daily more frequently than older participants (64% versus 57%, 57%, 34%, $p < .0001$). Racialized AMAB participants (65%) and both white and racialized AFAB participants (60% and 64%, respectively) were misgendered daily more frequently than white AMAB participants (46%, $p < .0001$). Additionally, participants who had a disability that was always visible reported being misgendered daily more frequently than those with no disabilities or less visible disabilities (74% versus 56%, 63%, 48%, $p = .003$).

Misgendering frequency was also associated with gender-affirming care status, with participants who were not sure if they were going to seek gender-affirming care, or who were planning but had not yet begun to receive care reporting being misgendered most frequently. While participants who had had all the gender-affirming care interventions they desired were misgendered the least frequently, 39% were still misgendered daily.

Misgendering frequency was also associated with multiple measures of social transition status.

Participants who had asked some (but not all) people in their life to use a different name or pronoun that better reflected their gender were misgendered more frequently. Among participants who had asked others to use a different pronoun for them, participants who used only they/them pronouns were misgendered most frequently, while participants who used only he/him pronouns were misgendered much less frequently.

Participants who reported concealing their gender identity in some contexts—specifically those who used different names or pronouns or sometimes made their gender expression more conventional—were misgendered more frequently. As well, more frequent misgendering was also reported by participants who indicated that cisgender people never knew they were trans without being told, those who reported greater discrepancies between their own and other's perception of their femininity and masculinity, and those with greater gender distress scores and lower gender positivity scores.

Finally, participants who were not interested in accessing nonbinary spaces either online or in-person reported being misgendered daily less frequently than other participants.

Correlates of mental health outcomes

Table 2 presents regression results. After adjusting for confounders, participants misgendered weekly or monthly had lower anxiety scores ($\beta = -0.555$, 95% CI = -1.062 , -0.048 , where the scale ranges from 0 to 20) compared with those misgendered daily. In unadjusted models, participants who were misgendered yearly or less had lower anxiety and depression scores and greater psychological well-being scores, but these associations were no longer statistically significant after adjusting for confounders.

Discussion

In this community-based sample of nonbinary people in Canada, most participants were misgendered daily and reported significant distress when misgendered. Misgendering was more frequent among participants who had visible disabilities, were younger, and were AFAB or were racialized

and AMAB. These results highlight how different social locations influence perceptions of one's gender expression, with gender expressions defying cisnormative understandings of gender being invalidated more frequently. Notably, however, these bivariate analyses were not adjusted for confounding variables, such as age differences between AFAB and AMAB participants.

While misgendering frequency was associated with measures of anxiety, depression, and psychological well-being in unadjusted regression models, after adjusting for confounders, we observed a small but statistically significant effect on anxiety, and no significant effect on depression or psychological well-being. Given our sample's general perception of misgendering as a highly distressing experience, this finding is surprising. Potentially, individuals may experience intense distress immediately after being misgendered, but this impact dissipates over time. Further, our sample reported high rates of depression overall with limited variation, with a mean CESD-10 score of 15.2—well above the commonly used screening threshold of 10 (Andresen et al., 1994). As such, misgendering may not be a strong predictor of variability in depression symptoms. Alternatively, the negative effect of misgendering may be mitigated by social support and community belongingness, which we adjusted for in multivariate models. Future research could consider testing social support and community belongingness as moderators. It is also possible but unlikely that misgendering is wholly unrelated to depression and psychological well-being. Instead, we suggest it is more likely that other factors—such as the confounding variables we control for—reduce the impact of misgendering on depression and psychological wellbeing, but not anxiety. Given that other research has documented the mental health impacts of invalidation and non-affirmation more broadly, future research using the minority stress framework is needed to better understand the mental health impacts of misgendering for nonbinary people. Specifically, research could explore how sources of resilience and coping strategies may relate to the impact of misgendering on nonbinary people's mental health.

Very little quantitative research on nonbinary experiences with misgendering exists, making comparisons with our findings a challenge.

Table 2. Linear regressions of association between misgendering frequency and mental health outcomes among nonbinary participants in Trans PULSE Canada 2019.

Misgendering frequency	Anxiety (OASIS)				Depression (CESD10)				Psychological well-being (Brief Inventory of Thriving)			
	Unadjusted		Adjusted ¹		Unadjusted		Adjusted ¹		Unadjusted		Adjusted ¹	
	β	95% CI	β	95% CI	β	95% CI	β	95% CI	β	95% CI	β	95% CI
Misgendered daily	Ref		Ref		Ref		Ref		Ref		Ref	
Misgendered weekly/monthly	-0.795	(-1.305, -0.285)	-0.555	(-1.062, -0.048)	-0.450	(-1.364, 0.463)	0.015	(-0.893, 0.923)	0.085	(-0.028, 0.198)	0.016	(-0.090, 0.121)
Misgendered yearly or less	-1.661	(-2.436, -0.886)	-0.725	(-1.580, 0.130)	-2.379	(-3.765, -0.993)	-0.424	(-1.953, 1.107)	0.180	(0.008, 0.352)	0.029	(-0.148, 0.207)

Bold numbers indicate that the 95% CI is statistically significant.

¹Adjusted for age, gender-affirming care status, low-income household, racialization, sex assigned at birth, visibility of transness, and disability identity and visibility, social support, and sense of belonging in nonbinary spaces online and in-person.

However, our findings confirm previous research that documents higher frequency of misgendering and non-affirmation among nonbinary people compared with trans men or trans women (Goldberg et al., 2019; McLemore, 2015; Poquiz et al., 2021). Our findings are also consistent with qualitative and quantitative research on the positive mental health impacts of chosen name and pronoun usage, and the negative impacts of misgendering and non-affirmation for trans and nonbinary people (Barr et al., 2022; Cardona et al., 2022; Galupo et al., 2020; Goldberg et al., 2019; McLemore, 2015, 2018; Mitchell et al., 2021; Parr & Howe, 2019; Puckett et al., 2023; Rostosky et al., 2022; Russell et al., 2018). One study that examined the impact of misgendering on mental health outcomes among mostly binary-aligned trans people found that more frequent misgendering was associated with greater depression and stress, but not anxiety (McLemore, 2018). As McLemore (2018) did not control for confounding variables, our crude associations differ from McLemore's in that both anxiety and depression were associated with misgendering.

Our research also draws attention to the role of concealment and the complexity of outness for nonbinary people. Participants who needed to alter their gender expression depending on the setting and context or used a different name and pronouns with different people reported being misgendered more frequently. This supports Osborn's (2022) finding that nonbinary people must consider the safety and risks of their environment when choosing how to express their gender and respond accordingly, such as by

“emphasizing or highlighting their nonbinary identities in situations that were seen as comfortable or welcoming, but concealing or downplaying those same features in situations where gender was strictly policed or where it might be dangerous to present outside of a binary” (p. 66). This may simultaneously serve as an adaptive strategy for self-preservation and safety, as well as potentially increase the nonbinary individual's exposure to misgendering. Flynn and Smith have argued that this places nonbinary people in a “double bind,” where being out and expressing nonbinary gender identity can increase feelings of gender congruence and affirmation, but also lead to exposure to negative comments from other people or exhaustion from educating others about one's gender identity (2021, p. 9). Flynn and Smith conclude that nonbinary people may experience harm and distress regardless of their gender expression choices. Similarly, our findings suggest that nonbinary people may choose to strategically disclose or conceal their identity in response to misgendering. Future research could examine how nonbinary people negotiate identity disclosure and strategic gender expression, and whether use of these strategies may mediate or moderate the relationship between misgendering and mental health outcomes. Notably, Lindley and Budge's (2022) Trans and Nonbinary Coping Measure includes subscales for both strategic gender expression and identity nondisclosure and could be used for future research.

The important role of identity concealment and strategic gender expression may also help explain the relationship we found between

misgendering and anxiety. Being misgendered may increase social anxiety, trigger self-conscious and self-critical awareness of an individual's gender expression, and lead to rumination and hypervigilance about being misgendered in future social situations. Frequent repeated misgendering may therefore increase an individual's overall anxiety levels. Indeed, previous research has documented how experiences of non-affirmation and invalidation can lead to anxiety, distress, bodily vigilance, emotional dysregulation, and rumination for sexual and gender minority individuals (Cardona et al., 2022; Hatzenbuehler, 2009; Puckett et al., 2023, 2022). Coping strategies like identity concealment and strategic gender expression may help protect an individual from future misgendering but may simultaneously increase anxiety (Lindley & Budge, 2022). Future research could consider measuring more specific forms of anxiety, such as social anxiety (Ho & Mussap, 2020), rumination (Bauerband & Galupo, 2014; Puckett et al., 2022; Sarno et al., 2020), hypervigilance (Rostosky et al., 2022) or body image worries (Brewster et al., 2019; Dharma et al., 2019).

Even among nonbinary participants who had completed all the gender-affirming medical interventions they desired, and had changed their name and pronouns, many were still misgendered daily. As such, misgendering may be a chronic and regular experience for most nonbinary people, regardless of transition status. As discussed by Galupo et al. (2021), nonbinary people may approach transition and gender expression choices strategically and in a fluid manner, depending on social context, gender dysphoria or lack thereof, and desire to avoid misrecognition and misgendering. Future research could explore how nonbinary people approach making decisions about transition and gender-affirming medical care, and how healthcare providers and support people can best support these decision-making processes.

Our research has several key limitations. Firstly, our research was limited by our sample size, particularly the relatively small number of nonbinary participants who were misgendered yearly or less ($n=118$, 11%). Further, our sample was predominantly white, with only 13% people of color. While our results found that racialized AFAB and AMAB participants were misgendered daily more

frequently than white AMAB participants, the racial homogeneity of our sample prevented us from running more detailed analyses related to racialization. We also did not ask about any visual signifiers used by participants to express their gender, such as pronoun pins, which may have impacted participants responses regarding the visibility of their gender.

Additionally, the differing temporality of measures used in the survey may have impacted our analysis. Specifically, misgendering frequency was asked about in general while the scales used for mental health outcomes relate to symptoms over the past one or two weeks. As such, the mental health outcome measures may have failed to capture the impact of misgendering for participants who were misgendered less frequently than weekly. Alternative methodologies that incorporate a temporal analysis, such as daily diary studies and event-level analyses may help illuminate the relationship between misgendering and mental health symptoms. Finally, our use of cross-sectional data limits our ability to draw causal conclusions. However, our use of a directed acyclic graph that was guided by both existing literature and the lived experience of the nonbinary team members helped to reduce bias from confounding.

Our findings should also be considered in the context of our intentionally broad definition of misgendering. Misgendering was defined in the Trans PULSE Canada survey as “using incorrect names, pronouns, or gendered language,” but the impact of using an incorrect name may differ from an incorrect pronoun. Further, participants may have had differing understandings of misgendering. For example, a person assigned male at birth who uses they/them pronouns may consider being misgendered with he/him pronouns different from being misgendered with she/her pronouns, as he/him identifies their assigned gender while she/her may reflect being misrecognized as a trans woman. The impact of misgendering on a person's mental health may also depend on the setting and interpersonal context. For example, being misgendered by a family member or employer may have a different impact than being misgendered by a stranger. Moreover, being repeatedly or deliberately misgendered by a

person may differ from occasional or accidental misgendering. Our analysis did not consider the intent or cause of misgendering; instead, we focused on the impact of misgendering on non-binary people, regardless of the other person's intent. Future qualitative research would help illuminate the impacts of misgendering in different contexts.

Our findings suggest that misgendering should be considered a social determinant of health for nonbinary people. Further, health care providers and policy-makers should note that misgendering in health care contexts may have significant negative consequences on nonbinary people's willingness to seek health care services in the future, as well as their mental health generally (Baldwin et al., 2018; Goldberg et al., 2019; Lykens et al., 2018).

Our study is one of the first to specifically focus on the underexamined topic of misgendering of nonbinary people. Our findings highlight the pervasive nature of misgendering for nonbinary people, as well as provide preliminary evidence regarding associations with mental health outcomes. Our findings point to promising directions for future research into nonbinary people's experiences of misgendering.

Notes

1. While many nonbinary people identify as trans, not all do, and nonbinary people may have experiences that differ from trans people who identify with a binary gender (Darwin, 2020). Throughout this article, we use "trans" to refer to the broad community of people who do not identify with their gender assigned at birth (including nonbinary people), "binary-aligned" to refer to people who identify as either a man/boy or a woman/girl, and "nonbinary" to refer to people who do not identify as either a man/boy or a woman/girl. We recognize that not everyone's gender can be understood as either non-binary or binary-aligned and use these terms as broad general terms rather than mutually exclusive categories.
2. The proportion of our sample that identified as non-binary is generally consistent with the results of the 2021 Canadian Census, which found that 41% of Canadians who identified with a gender other than the one they were assigned at birth identified as non-binary or a similar gender identity (Statistics Canada, 2022b).

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