

Camouflaged prejudice and the affirmation of skin colour differences: assessment of racism among Brazilian undergraduate dental students

Renata Lamenha-Lins¹ , Saul M Paiva¹ , Flavio F Mattos² , Ivana M Prado¹ , João L Bastos³ , Junia M Serra-Negra¹ 

1. Universidade Federal de Minas Gerais, Faculdade de Odontologia, Departamento de Odontopediatria, Belo Horizonte, Brasil.
2. Universidade Federal de Minas Gerais, Faculdade de Odontologia, Departamento de Saúde Pública, Belo Horizonte, Brasil.
3. Simon Fraser University, Faculty of Health Sciences, Burnaby, Canada.

ABSTRACT

The negative oral health outcomes of disadvantaged racial groups have been well-documented, as racial disparity in oral health persists over time and in different locations¹. However, it is important to note that skin colour has no biological meaning, and the observed differences can be physiological expressions of social injustice such as racism. **Aim:** The aim of this study was to analyse the association between levels of modern racism (camouflaged prejudice and affirmation of differences) and sociodemographic characteristics of Brazilian dental students. **Material and Method:** An epidemiological cross-sectional online survey was conducted on 441 Brazilian undergraduate dental students using Google Forms. Participants were recruited via emails and social media, using the snowball technique. The Checklist for Reporting of Survey Studies (CROSS) was followed. The survey used sociodemographic variables, and the Brazilian version of the Modern Racism Scale (B-MRS), which measures the cognitive component of subtle racial attitudes. The scale assesses the central notion of disguised prejudice and has two domains: 'denial of prejudice' and 'affirmation of differences'. Participants' self-declared skin colour was categorized as "white" and "non-white" (black, brown, indigenous, yellow). Univariate analysis and Poisson regression with robust variance were applied. **Results:** Participants' mean age was 24.1 years (± 5.4). Most participants were self-declared as white (54%) and 46% as non-white skin colour. Higher B-MRS overall-scores were observed in male ($p=0.008$) and non-white ($p=0.002$) students. B-MRS scores for the domain 'affirmation of differences' (representation of those who believe that whites and non-whites are truly different) were higher among male dental students (PR=1.138; CI 95%: 1.019–1.271) and those from low-income families (PR=1.306; CI 95%: 1.089–1.565). Scores for the domain 'denial of prejudice' (the idea that non-whites use their race to receive legal benefits) were higher among male dental students (PR=1.328; CI 95%: 1.129–1.562). **Conclusions:** In general, male non-white students had higher modern racism indicators. Male students from low-income families believed that whites and non-whites are truly different, accounting for the affirmation of difference in this sample.

Keywords: racism - inequity - health education - discrimination - prejudice - dentistry.

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Corresponding Author:

Junia M Serra-Negra
juniasserranegra@hotmail.com

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Preconceito camuflado e afirmação das diferenças de cor da pele: avaliação do racismo entre estudantes brasileiros de odontologia.

RESUMO

Os impactos negativos da saúde oral dos grupos raciais desfavorecidos têm sido bem documentados, uma vez que a disparidade racial na saúde oral persiste ao longo do tempo e em diferentes locais. No entanto, é importante notar que a cor da pele não tem significado biológico e as diferenças observadas podem ser expressões fisiológicas de injustiça social, como o racismo. **Objetivo:** A teoria do racismo moderno afirma que as atitudes se expressam em formas preconceituosamente camufladas. Associou-se níveis de racismo moderno (afirmação de diferenças) com características sociodemográficas de universitários brasileiros. **Material e Método:** Uma pesquisa epidemiológica transversal on-line foi realizada com 441 estudantes brasileiros de graduação em odontologia por meio do Google Forms. Os participantes foram recrutados via e-mail e redes sociais, utilizando a técnica bola de neve. Seguiu-se a Lista de Verificação para Relatórios de Estudos de Pesquisa (CROSS). Variáveis sociodemográficas, bem como a versão brasileira da Escala de Racismo Moderno (B-MRS) que mede o componente cognitivo de atitudes raciais sutis foram utilizadas. A escala acessa o preconceito disfarçado, possuindo dois domínios: 'negação do preconceito' e 'afirmação das diferenças'. A cor da pele autodeclarada dos participantes foi categorizada em "branca" e "não-branca" (preta, parda, indígena, amarela). Foram realizadas análises univariadas e regressão de Poisson. **Resultados:** A média de idade foi de 24,1 anos ($\pm 5,4$). Muitos participantes se autodeclararam brancos (54%) e 46% não-brancos. Maiores escores da B-MRS foram observados em estudantes do sexo masculino ($p=0,008$) e não-brancos ($p=0,002$). Os escores da B-MRS para o domínio 'afirmação de diferenças' (representação daqueles que acreditam que brancos e não-brancos são diferentes) foram maiores entre estudantes de odontologia do sexo masculino (RP=1,138; IC 95%: 1,019–1,271) e aqueles de famílias de baixa renda (RP=1,306; IC 95%: 1,089–1,565). Os escores do domínio 'negação do preconceito' (ideia de que os não-brancos usam sua raça para receber benefícios legais) foram maiores entre os participantes do sexo masculino (RP=1,328; IC 95%: 1,129–1,562). **Conclusão:** Os estudantes homens, não-brancos, apresentavam indicadores de racismo mais elevados. Homens, provenientes de famílias de baixa renda, acreditavam que brancos e não-brancos são verdadeiramente diferentes, o que representa a afirmação da diferença entre o grupo desta amostra.

Palavras-chave: racismo - desigualdade - educação em saúde - discriminação - preconceito - odontologia.

INTRODUCTION

The negative oral health outcomes of disadvantaged racial groups have been well-documented, as racial disparity in oral health persists over time in different locations¹. However, it is important to note that skin colour has no biological meaning, and the observed differences can be physiological expressions of social injustice such as racism². Understanding how knowledge and power are organised for the benefit of white people is fundamental for addressing racial inequities in oral health³. Racial groups are social constructs representing the attributes historically assigned to them by society. Therefore, the critical appraisal of racialised groups requires consideration of social and political contexts that vary across different societies⁴.

In Brazil, the myth of racial democracy is widespread in the collective imaginary and intends to mask racism^{5,6}. Interraciality and the ideal of harmonious coexistence among racial groups has contributed to the general belief that racial discrimination is not a problem in Brazil⁶. However, white supremacy is consolidated by means of possession of power and unspoken social consensus. The ideology of meritocracy which has become established in Brazilian society intersects with racism to maintain hierarchical racial positions⁵.

Moreover, disapproval of explicit racial hostilities driven by contemporary social norms has created more subtle, “modern” expressions of racism, which has spread throughout society and institutions such as dental schools^{7,8}. The concept of modern racism emerged as a theoretical construct in the United States after the civil rights movement of the 1950s and 1960s. It originally referred to discrimination against black Americans, mainly due to political opposition to the rights of black people⁷⁻⁹. The Modern Racism Scale (MRS) was developed to measure the cognitive component of subtle racial attitudes using a less reactive approach⁷.

The MRS was validated in Brazil in 2006 to analyse local racial democracy¹⁰. The Brazilian version of the Modern Racism Scale (B-MRS) is divided into two domains: ‘denial of prejudice’ and ‘affirmation of differences’. ‘Denial of prejudice’ captures the idea that racism no longer exists in Brazil but could be used by black people as means to obtain social benefits. ‘Affirmation of differences’ reflects the idea that black people have characteristics that differentiate them from white people and make them fit

only for jobs that require less formal qualification. It focuses on the belief that Blacks and Whites are essentially different¹⁰.

A growing body of evidence has revealed the presence of modern racism in dental schools worldwide. Recent studies have researched the underrepresentation of disadvantaged racial groups in dental education and in the workforce¹¹, patients’ perceptions of racial discrimination in oral healthcare settings¹², and students’ experiences of racism at dental schools¹³. Given the evidence of racism in the patient-student-professor-institutional system, it is also necessary to understand how modern racism manifests in dental students. This understanding is key to challenging and dismantling the racist framework within dental education. Such efforts would assist in decolonising the curricula in Brazilian dental schools, enabling the identification and elimination of the roots of racial inequities in oral health^{4,5,14,15}.

A social psychology study analysing types of prejudice highlighted four profiles: truly prejudiced people, aversive racists, principled conservatives, and modern racists (camouflaged prejudice). Egalitarianism/humanism, social conservatism and economic/political conservatism permeated the prejudiced attitudes of each profile. The prejudice was conservative and demonstrated the effect of ambiguity among Asian university students¹⁶. It is essential to reflect upon the implications and understand the nature of prejudice¹⁶.

It is crucial to dismantle racial oppression in overwhelmingly white spheres such as dental schools³, especially in countries such as Brazil, which have limited healthcare system resources. Brazilian-style white supremacy seems to be veiled, operating as a social pact⁵. The denial of racism is a major issue and should be considered as a central point of debate in dental research. This survey was designed to identify modern racism among dental students in Brazil and to identify correlations between B-MRS scores and sociodemographic variables.

MATERIAL AND METHOD

Ethical statement

This study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Ethics Committee (Protocol number: #05021018.7.0000.5149 Universidade Federal de Minas Gerais). All participants were informed about

anonymity and data confidentiality and provided informed consent to be part of the study.

Study design and eligibility criteria.

An epidemiological cross-sectional online survey was conducted using Google Forms. The recommendations of the Checklist for Reporting of Survey Studies (CROSS) were followed¹⁷. The target population was Brazilian dental students enrolled in the country's public and private higher dental education system, with no restrictions on age, gender, skin colour, ethnicity, or socioeconomic background. Data were collected from November 2021 to July 2022.

Sample selection and recruitment.

Convenience sampling using the snowballing recruitment technique was used to reach the highest possible number of participants from all areas of the country. The researchers presented the survey to professors of public and private dentistry courses throughout the country and invited them to share it with students at their own schools and with other professors in their network. Invitations to participate were extended to students via remote lectures, email and social media, additionally requesting help to contact further eligible subjects. Social media posts and a brief video about the research containing a link to access the questionnaire were distributed through Instagram and WhatsApp. The campaigns were promoted in social media on relevant national and international dates for the struggle against racial discrimination. The first campaign took place on November 20, the Brazilian day of Black Awareness, and the second was launched on March 21, the United Nations International Day for the Elimination of Racial Discrimination. As the sample size expanded, the risk of selection bias was progressively reduced¹⁸. Descriptive analysis was periodically performed, and data collection stopped when the composition of the sample was balanced according to the distribution of dental students and schools in the country^{18,19}.

Questionnaire content and data collection

Responses to all survey items were mandatory. Students were asked about their gender identity (female, male, non-binary, prefer not to say)²⁰, self-declared skin colour (see below), age (in years), and the current semester of the dentistry course in which they were enrolled (first to tenth). Students'

age was grouped for data analysis as follows: up to 20 years old, 20 to 35 years old, and over 35 years old. Based on the dental schools represented in the study, two variables were created: regional location of the school (North, Northeast, Midwest, Southeast, South) and administrative type (public, private). Participants' occupation was categorised as either full-time student or student also engaged in paid work unrelated to the course.

Students' self-declared skin colour was classified according to the Brazilian Institute of Geography and Statistics (IBGE) classifications of black, brown, indigenous, white, or yellow. The IBGE criterion was adopted because it is referenced in the enrolment process for Brazilian dental education²¹. Participants' self-declared skin colour was then recategorized as "white" and "non-white" (black, brown, indigenous, yellow) for statistical analysis. This categorisation was adopted to better identify the role of whiteness in the expression of modern racism in Brazilian dental education^{5,22-24}.

The brown skin colour classification generally refers to a person of mixed skin colour, such as people with indigenous-black, indigenous-white or black-white heritage. Brazilian self-identification of skin colour is a complex topic^{22,23}. Deciding 'who is racially who' in Brazil is a longstanding social and political issue²³, primarily because it has been based on phenotypical characteristics. In any case, the structural disposition of racism grants symbolic and material privilege to those considered white, compared to non-white individuals⁵.

Data on participants' monthly family income was also collected from the socioeconomic questionnaire administered during enrolment in Brazilian public universities. Participants were grouped into: Class E (up to \$235 USD); Class D (\$235.01 USD–\$703 USD); Class C (\$703.01 USD–\$1,406 USD); Class B (from \$1,406.01 USD–\$2,110 USD); and Class A (more than \$2,110.01 USD). These groups are based on multiples of the national minimum monthly wage (approximately \$235 USD).

The last section of the questionnaire comprised items rated according to the B-MRS^{7,10} scale, which assesses the central notion of disguised prejudice^{7,8}, and was culturally adapted to the Brazilian context using 14 items distributed into two domains: 'denial of prejudice' (9 items) and 'affirmation of differences' (5 items)¹⁰. All responses were rated on a 7-point Likert-type scale, from 1 = strongly disagree to 7 =

strongly agree. The total score ranged from 14 to 98, with higher scores expressing higher levels of modern racism. The maximum scores are 63 points in the 'denial of prejudice' domain, and 35 points in the 'affirmation of differences' domain.

Data analysis.

Data were analysed using the Statistical Package for the Social Sciences (version 21.0, SPSS Inc., Chicago IL, USA). The total score and domain scores of the B-MRS were the dependent variables. The independent variables comprised participants' gender, self-declared skin colour, age, current semester of the dentistry course, occupation, national region of the dental school of enrolment, school administrative type and family monthly income. Mann-Whitney U and Kruskal-Wallis tests were used to analyse the association between participants' total and domain scores on the B-MRS and their sociodemographic characteristics. Bonferroni and Tukey's HSD post-hoc tests were used to identify the pairwise comparisons in which statistically significant differences occurred. Univariate and multivariate analyses were performed using Poisson regression with robust variance. For the multivariate analysis, variables with a p -value ≤ 0.20 in the univariate (non-adjusted) model were included in the adjusted model, and effect changes were considered in the final model. The level of statistical significance was set at 5% ($p < 0.05$).

RESULTS

A total 485 users accessed the electronic form and 441 (90.9%) participated in the survey. Participants' mean age was 24.1 years (± 5.4), ranging from 17 to 53 years. Of the participants, 54.9% ($n=242$) were self-declared white and 45.1% non-white ($n=199$). More white dental students studied at paid private educational institutions (52.2%). In contrast, most non-white dental students studied at public free of charge dental schools (62.6%).

Table 1 shows the sociodemographic status of participants and provides a univariate analysis of the relationship between these characteristics and their total sum-score on the B-MRS scale. Higher B-MRS sum-score was observed for male ($p = 0.008$) and non-white ($p = 0.002$) participants. Assessed by age group, Bonferroni's test revealed higher B-MRS sum-score for students over 35 years old than for those aged 20 to 35 years ($p = 0.024$). Regarding

family income, Bonferroni's test showed that sum-score was significantly higher for students in Class E on the B-MRS scale than for those in Class D ($p = 0.002$), Class C ($p = 0.001$) or Class A ($p = 0.001$). Students enrolled in private dental schools had higher B-MRS sum-score than those from public dental schools ($p = 0.001$). Bonferroni's test showed higher B-MRS mean sum-score for students from the north than for those from the south of Brazil ($p = 0.012$). Tukey's HSD test identified that participants enrolled from the seventh to tenth semesters of the course had higher B-MRS mean sum-score than students in the fourth to sixth semesters ($p = 0.048$). B-MRS in the domains of 'denial of prejudice' and 'affirmation of differences' were higher among male participants ($p = 0.018$ and $p = 0.014$ respectively). Non-white dental students had higher sum-score in the 'affirmation of differences' domain ($p = 0.037$) (Table 2).

Poisson regression analysis with robust variance estimation showed that total B-MRS sum-score was significantly higher among males (Prevalence Ratio [PR] = 1.130; 95% Confidence Interval [CI]: 1.027–1.244), and among students at private dental schools (PR = 1.404; 95% CI: 1.272–1.550). Participants from Class E (PR = 1.321; 95% CI: 1.134–1.538) and Class B (PR = 1.188; 95% CI: 1.008–1.402) had higher B-MRS sum-score than those from Class A (Table 3).

Male participants had higher sum-score in the 'denial of prejudice' domain (PR = 1.126 95% CI 1.018–1.245 $p = 0.021$) than females. Participants from the family income Class E group had higher sum-score in the 'denial of prejudice' domain than students with higher family incomes (PR = 1.328 95% CI = 1.129–1.562 $p = 0.001$) (Table 4). Sum-score in the 'affirmation of differences' domain was higher among male students (PR = 1.138 95% CI 1.019–1.271 $p = 0.022$) than among females. Dental students from income Class E scored higher in the 'affirmation of differences' domain (PR = 1.306 95% CI 1.089–1.565 $p = 0.004$) than students from higher income families (Table 5).

DISCUSSION

The results suggest an interesting background to the (re)arrangement of power and racism in Brazilian dental education system. Alongside its purpose of measuring subtle individual-level racist beliefs^{7,10}, the B-MRS has evidenced the pathways used by

Table 1. Descriptive sociodemographic and economic data of Brazilian dental students and univariate analyses between the independent variables and the total score on the Brazilian version of the Modern Racism Scale.

Variables	Dental students	Total score on the B-MRS			
	N (%)	Mean (\pm SD)	Min – Max	Median	P
Sex					
Female	343(78.1)	32.5(15.7)	14 – 98	29.0	0.008*
Male	96(21.9)	37.2(16.9)	14 – 93	36.0	
Self-declared race					
White	242(54.9)	32(15.7)	14 – 98	29.0	0.002*
Non-white	199(45.17)	35.8(16.3)	14 – 86	32.0	
Age group					
Up to 20 years old	78(17.7)	33.8(15.1)	14 – 93	31.0	0.030**
20 to 35 years old	341(77.5)	32.9(15.7)	14 – 98	29.0	
Over 35 years old	21(4.8)	42.4(21.6)	14 – 82	43.0	
Socioeconomic status					
Class E	53(12.5)	42.1(19.4)	14 – 86	41.0	0.005**
Class D	122(28.8)	32.3(14.2)	14 – 79	30.5	
Class C	116(27.4)	31.7(14.2)	14 – 93	28.5	
Class B	59(13.9)	35.5(19.5)	14 – 98	32.0	
Class A	74(17.5)	31.1(14.2)	14 – 84	28.0	
Administrative type of the HEI					
Public	236(54.3)	30.5(16.1)	14 – 98	25.0	<0.001*
Private	199(45.7)	37(15.3)	14 – 93	36.0	
Semester of dental course					
1 st to 3 rd semester	119(27.0)	31(14.7)	14 – 86	31.0	0.025**
4 th to 6 th semester	89(20.2)	30.2(15.3)	14 – 84	24.0	
\geq 7 th semester	233(52.8)	35(16.8)	14 – 98	32.0	
Occupation					
Full-time student	297(70.0)	33.1(16)	14 – 93	30.0	0.229*
Studies and works	127(30.0)	34.7(16.2)	14 – 98	34.0	

B-MRS = Brazilian version of the Modern Racism Scale; HEI = Higher Education Institution; N = Number of participants; SD = Standard Deviation; Min = Minimum; Max = Maximum; P = Probability value. *Mann-Whitney test; **Kruskal-Wallis test. Values in bold indicate statistically significant difference.

white people keep prejudice camouflaged in Brazil. The high percentage of white dental students in the study population stands out and shows that dental education in Brazil is still an environment for white students²⁵. However, this national scenario is changing. A study from southern Brazil observed a recent increase in non-white students at Brazilian universities²⁵. An official national survey also observed an increase in non-whites enrolled at universities²⁵. An important finding in this study was the difference in B-MRS sum-score between male and female students. A plausible explanation for the higher scores

among males is in the complexity of the systems of oppression present in the intersections of social categories such as skin colour, gender and socioeconomic class²⁶. As the socially dominant group, men enjoy the benefits of their position, and the dominant discourse may cause them to express racial discrimination more assertively, based on the theory of the intersectionality of racism and sexism²⁵⁻²⁷. For instance, health inequities linked to skin colour are usually associated with gender inequities, and such intersections leave black women in more unfavourable positions²⁸.

Table 2. Descriptive sociodemographic and economic data of Brazilian dental students and bivariate analyses between the independent variables and the domains 'denial of prejudice' and 'affirmation of differences' of the Brazilian version of the Modern Racism Scale.

Variables	Dental students	Denial of Prejudice				Affirmation of Differences			
	N (%)	Mean (\pm SD)	Min – Max	Median	P	Mean (\pm SD)	Min – Max	Median	P
Sex									
Female	343(78.1)	21.32(10.84)	9 – 63	19	0.018*	11.16(6.15)	5 – 35	10	0.014*
Male	96(21.9)	24.22(11.51)	9 – 60	23.5		12.96(6.69)	5 – 33	12	
Self-declared race									
White	242(54.9)	21(10.61)	9 – 63	18.5	0.069*	11(6.18)	– 35	9	0.037*
Non-white	199(45.1)	23.1(11.46)	9 – 54	21		12.18(6.41)	– 35	11	
Age group									
Up to 20 years old	78(17.7)	22.08(10.66)	9 – 60	19	0.079**	11.7(5.89)	– 33	11	0.412**
20 to 35 years old	341(77.5)	21.53(10.8)	9 – 63	19		11.37(6.27)	– 35	10	
Over 35 years old	21(4.8)	28.67(14.22)	9 – 52	30		13.76(8.07)	– 30	15	
Socioeconomic status									
Class E	53(12.5)	27.92(13)	9 – 54	25 ^a	0.005**	14.17(8.26)	– 35	12	0.189**
Class D	122(28.8)	21.4(9.86)	9 – 50	19 ^b		10.87(5.54)	– 29	11	
Class C	116(27.4)	20.55(9.55)	9 – 60	18 ^b		11.15(5.91)	– 33	9	
Class B	59(13.9)	23.25(13.28)	9 – 63	22 ^{ab}		12.20(7.29)	– 35	11	
Class A	74(17.5)	20.5(10.37)	9 – 55	17 ^b		10.64(5.05)	– 29	9.5	
Semester of dental course									
1 st to 3 rd semester	119 (27.0)	21.9(10.34)	9 – 54	19 ^{ab}	0.040**	11.1(5.85)	– 32	10	0.102**
4 th to 6 th semester	89(20.2)	19.71(10.56)	9 – 55	16 ^a		10.53(6)	– 29	8	
\geq 7 th semester	233(52.8)	22.81(11.48)	9 – 63	21 ^b		12.13(6.6)	– 35	11	
Occupation									
Full-time student	297(70.0)	21.67(10.77)	9 – 60	19	0.258*	11.44(6.41)	– 35	10	0.422*
Studies and works	127(30.0)	23.06(11.6)	9 – 63	21		11.65(6.04)	– 35	11	

HEI = Higher Education Institution; N = Number of participants; SD = Standard Deviation; Min = Minimum; Max = Maximum; P = Probability value. *Mann-Whitney test; **Kruskal-Wallis and post-hoc test. Bolded values indicate statistically significant difference. Different letters indicate statistically significant difference.

This reasoning is also consistent with the lower B-MRS sum-score observed among the students with the highest socioeconomic status, particularly compared to those of the lowest socioeconomic group. However, it would be reductionist to assume that this result reflects their real positions of social power. Further qualitative studies might provide greater insight into why participants from the more vulnerable groups, such as Class E, had higher scores in the B-RMS domains. Defence mechanisms that cause the oppressed to become oppressors⁷ might be a reasonable explanation, and different study designs could further investigate this possibility^{7,8,10}. The presence of internalised racism may explain

the higher B-MRS sum-score among participants from a lower economic class. People in vulnerable situations tend to accept their own oppression and internalise the racism perpetuated by the majority in society²⁹. Furthermore, there is the social desirability of being accepted in society^{30,31}. The B-MRS encompasses items regarding blacks' rights, which require tailored public policies¹⁰. However, there is well-known opposition from high-income groups in Brazilian society against important affirmative action initiatives in Brazil, such as the Quota Law, which gives preference to racially marginalised students enrolling in public federal universities by reserving 50% of student vacancies for them²⁶. Based on

Table 3. Poisson regression of dental students' sociodemographic characteristics associated with the total score on the Brazilian version of the Modern Racism Scale.

Variables	Total score on the B-MRS			
	Unadjusted model	P	Adjusted model	P
	PR (95% CI)		PR (95% CI)	
Sex				
Male	1.145 (1.032 – 1.270)	0.011	1.130 (1.027 – 1.244)	0.013
Female	1		1	
Self-declared race				
Non-white	1.102 (1.009 – 1.205)	0.031	1.048 (0.958 – 1.147)	0.307
White	1		1	
Age group				
Up to 20 years old	0.796 (0.630 – 1.006)	0.056	0.887 (0.717 – 1.098)	0.270
20 to 35 years old	0.775 (0.623 – 0.964)	0.022	0.833 (0.692 – 1.003)	0.054
Over 35 years old	1		1	
Socioeconomic status				
Class E	1.353 (1.152 – 1.588)	<0.001	1.321 (1.134 – 1.538)	<0.001
Class D	1.037 (0.911 – 1.180)	0.583	1.015 (0.897 – 1.149)	0.810
Class C	1.019 (0.893 – 1.162)	0.784	1.050 (0.919 – 1.200)	0.474
Class B	1.139 (0.958 – 1.355)	0.140	1.188 (1.008 – 1.402)	0.040
Class A	1		1	
Administrative type of the HEI				
Private	1.214 (1.111 – 1.326)	<0.001	1.404 (1.272 – 1.550)	<0.001
Public	1		1	
Semester of dental course				
1 st to 3 rd semester	0.944 (0.854 – 1.045)	0.266	0.917 (0.813 – 1.035)	0.161
4 th to 6 th semester	0.865 (0.766 – 0.977)	0.020	0.952 (0.846 – 1.071)	0.411
≥ 7 th semester	1		1	

B-MRS = Brazilian version of the Modern Racism Scale; HEI = Higher Education Institution; PR = Prevalence Ratio; CI = Confidence Interval; P = Probability value. Values in bold indicate statistically significant difference.

the ideology of meritocracy, the Brazilian economic and political elite resist the idea of social minorities occupying spaces they used to inhabit^{5,27}. In this regard, the lower sum-score among Class A students might be seen as an attempt to hold onto power.

Our study found higher B-MRS sum-score among students at private than at public dental schools. It may be intuitive to assume that this result is closely linked to the abovementioned Quota Law²⁷, and the consequent increase of non-white students at public institutions. If so, it is important to devise political initiatives to support opportunities for non-whites to have increased access to private dental schools³⁰. In this context, two governmental funding programmes have been created to promote access of students of lower socioeconomic status to private higher education: the Student Loan Fund (FIES) and

the University for All program (PROUNI)³⁰. These programmes are crucial to increase the opportunities of low-income groups, which consist mainly of non-whites, to have access to higher education. As a result of these initiatives, the racial and socioeconomic profiles of dental students enrolled in Brazilian public and private higher education have become more diverse²⁷⁻³¹, as can be seen from the findings of this study, although they do not enable the researchers to address the social hierarchies among students³⁰. Further research is needed to analyse the social dynamics and anti-racist engagement in both private and public Brazilian dental education¹⁵.

The discussion should extend to all Latin America. The 2021 Pan American Health Organization report "Health of Afro-descendant People in Latin America" concluded that people of African descent live

Table 4. Poisson regression of the sociodemographic characteristics of dental students associated with the score on the 'denial of prejudice' domain of the Brazilian version of the Modern Racism Scale.

Variables	Denial of Prejudice			
	Unadjusted model	P	Adjusted model	P
	PR (95% CI)		PR (95% CI)	
Sex				
Male	1.136 (1.019 – 1.267)	0.022	1.126 (1.018 – 1.245)	0.021
Female	1		1	
Self-declared race				
Non-white	1.100 (1.002 – 1.208)	0.046	1.045 (0.950 – 1.149)	0.365
White	1		1	
Age group				
Up to 20 years old	0.770 (0.610 – 0.972)	0.028	0.850 (0.688 – 1.049)	0.130
20 to 35 years old	0.751 (0.607 – 0.930)	0.009	0.814 (0.681 – 0.974)	0.025
Over 35 years old	1		1	
Socioeconomic status				
Class E	1.363 (1.151 – 1.614)	<0.001	1.328 (1.129 – 1.562)	<.0001
Class D	1.045 (0.908 – 1.202)	0.542	1.020 (0.889 – 1.171)	0.775
Class C	1.003 (0.870 – 1.157)	0.965	1.030 (0.892 – 1.189)	0.688
Class B	1.135 (0.944 – 1.364)	0.177	1.179 (0.988 – 1.406)	0.068
Class A	1		1	
Semester of dental course				
1 st to 3 rd semester	0.960 (0.863 – 1.068)	0.452	0.919 (0.807 – 1.047)	0.204
4 th to 6 th semester	0.864 (0.760 – 0.982)	0.025	0.943 (0.834 – 1.067)	0.354
≥7 th semester	1		1	

B-MRS = Brazilian version of the Modern Racism Scale; HEI = Higher Education Institution; PR = Prevalence Ratio; CI = Confidence Interval; P = Probability value. Values in bold indicate statistically significant difference.

with a wide range of disadvantages compared to the white population. The disadvantages experienced by people of African descent in Latin America occur in a context of discrimination and racism, often exacerbated by gender inequalities³². Perhaps these data justify the higher rates of prejudice related to gender and low income among the university students who participated in our study. Attending university and envisioning a professional career, which other family members may not have been able to do, may have influenced an argumentation stance with camouflaged prejudice among men, compared to women in the study sample.

There are limitations to this study. The snowball sampling method facilitated access to participants, considering the geographical size of Brazil, but limited direct interaction with the researchers. Participants may have had doubts and questions during the survey but could not contact the researchers for clarification. A future qualitative study may be

beneficial in this context. Additionally, the desire to be socially acceptable may also have interfered with the responses³¹. Confidentiality was guaranteed to all participants, but some participants may still have felt embarrassed to admit their own prejudice to themselves. It is important to note that white students predominated in the dental schools observed. Brazilian laws have attempted to correct the historical debt owed to black people in the country by encouraging affirmative action in university admissions. It is important to discuss the levels of prejudice within universities^{11,12}.

Future population-based research with a qualitative or mixed methods approach¹⁰ could expand on the findings of this study. The defence of ethnic minorities needs to be encouraged in various sectors of society around the world. Intervention studies are needed to evaluate anti-racist educational strategies aimed at dental students and this could be a rich research topic to be developed at all dental education institutions.

Table 5. Poisson regression of the sociodemographic characteristics of dental students associated with the score on the 'affirmation of differences' domain of the Brazilian version of the Modern Racism Scale.

Variables	Affirmation of Differences domain on the B-MRS			
	Unadjusted model	P	Adjusted model	P
	PR (95% CI)		PR (95% CI)	
Sex				
Male	1.161 (1.032 – 1.307)	0.013	1.138 (1.019 – 1.271)	0.022
Female	1		1	
Self-declared race				
Non-white	1.107 (1.000 – 1.226)	0.049	1.055 (0.949 – 1.172)	0.321
White	1		1	
Age group				
Up to 20 years old	0.850 (0.649 – 1.112)	0.235	0.964 (0.746 – 1.246)	0.779
20 to 35 years old	0.826 (0.642 – 1.063)	0.137	0.872 (0.690 – 1.101)	0.249
Over 35 years old	1		1	
Socioeconomic status				
Class E	1.332 (1.103 – 1.610)	0.003	1.306 (1.089 – 1.565)	0.004
Class D	1.022 (0.888 – 1.176)	0.761	1.006 (0.878 – 1.152)	0.934
Class C	1.048 (0.907 – 1.211)	0.523	1.089 (0.939 – 1.263)	0.260
Class B	1.147 (0.953 – 1.381)	0.146	1.208 (1.013 – 1.440)	0.036
Class A	1		1	
Semester of dental course				
1 st to 3 rd semester	0.915 (0.814 – 1.029)	0.139	0.914 (0.794 – 1.052)	0.208
4 th to 6 th semester	0.868 (0.757 – 0.995)	0.042	0.967 (0.838 – 1.116)	0.647
≥7 th semester	1		1	

B-MRS = Brazilian version of the Modern Racism Scale; HEI = Higher Education Institution; PR = Prevalence Ratio; CI = Confidence Interval; P = Probability value. Values in bold indicate statistically significant difference.

CONCLUSION

This study found higher sum scores of denial prejudice and affirmation of difference among male than female students. Camouflaged prejudice about the difference in skin colour between whites and non-whites was evident among participants with low

family income. Despite legal attempts at historical reparations, there is still a lot of inequality in Brazil and throughout Latin America between whites and non-whites, as well as gender inequality. The topic needs to gain more visibility, and global discussions about prejudice should be encouraged.

DECLARATION OF CONFLICTING INTERESTS

The authors declare no potential conflicts of interest regarding the research, authorship, and/or publication of this article.

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