HEALTH PSYCHOLOGY REPORT · 2026
ORIGINAL ARTICLE

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Health and lifestyle challenges among non-binary youth: a study of the Cuida-te+ Program

BACKGROUND
Non-binary youth has been described as a particularly vulnerable group, facing unique challenges regarding their health and lifestyle. It is urgent to identify these challenges and to promote well-being in this population.

PARTICIPANTS AND PROCEDURE
This study aimed to analyze gender differences in health and lifestyles in a sample of Portuguese adolescents. It is part of the Cuida-te+ Program of the Portuguese Institute of Sport and Youth (IPDJ, I.P.), which aims to promote the health and lifestyles of young people aged 12 to 25. This program includes Mobile Units, which consist of awareness-raising actions in places where there is a significant presence of the target population (i.e., schools). To assess the mentioned indicators, a questionnaire was shared at the end of these actions.

RESULTS
The results showed no significant differences when comparing binary and non-binary genders, regarding life satisfaction and the practice of physical activity, smoking, inebriation, general drug use, screen time, and hours of sleep. However, in other areas, non-binary people reported worse results compared to their peers. Namely, they reported poorer eating habits, more frequent lifetime alcohol consumption, and use of some types of illegal drugs (e.g., LSD), less use of screen time for the purpose of studying, working and/or researching, more arguments with family, friends and/or partner, more often not sleeping enough, and more negative results regarding health and well-being (e.g., more symptoms of sadness and exhaustion).

CONCLUSIONS
These results highlight the importance of monitoring and creating adjusted responses, tailored to the needs of non-binary youth.

KEY WORDS
adolescents; young adults; mental health; gender; non-binary youth

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TO CITE THIS ARTICLE – Raimundo, M., Gaspar, T., Noronha, C., Cerqueira, A., Branquinho, C., Guedes, F. B., Tomé, G., Reis, M., Ramos, M., & Gaspar de Matos, M. (2026). Health and lifestyle challenges among non-binary youth: a study of the Cuida-te+ Program. *Health Psychology Report*. https://doi.org/10.5114/hpr/217419

RECEIVED 17.09.2025 · REVIEWED 22.12.2025 · ACCEPTED 27.01.2026 · ONLINE PUBLICATION 07.05.2026

BACKGROUND

From early childhood, individuals are typically socialized within a rigid gender dichotomy that assumes alignment between sex (assigned at birth), gender identity, and gender expression (Fausto-Sterling, 2012). This binary framework shapes social expectations, institutional practices, and interpersonal relationships, often leaving little space for identities that fall outside the categories of "man" and "woman" (Martin & Ruble, 2004; West & Zimmerman, 1987). Individuals whose gender identity does not conform strictly to male or female categories often face unique challenges. Growing up in such contexts can involve invisibility, misunderstanding, and chronic minority stress (Hendricks & Testa, 2012; Scandurra et al., 2019; Todd et al., 2019).

Not all individuals identify within a binary gender framework, and non-binary identities – sometimes referred to as genderqueer or gender-diverse identities – have been documented across cultures and historical periods (Fausto-Sterling, 2012; Herdt, 1994; Hines, 2018). Contrary to the notion that non-binary identities represent a new or transient phenomenon, evidence suggests that gender diversity has long existed, although often marginalized or erased. Recent population-based studies indicate that a significant proportion of adolescents and young adults identify outside the gender binary, highlighting the importance of recognizing non-binary identities as a stable and meaningful aspect of human diversity (Reisner et al., 2016; Todd et al., 2019; Wilson & Meyer, 2021).

Despite growing recognition, much of the existing research continues to focus predominantly on binary transgender identities, frequently overlooking the distinct experiences of non-binary individuals. Non-binary people do not exclusively identify as men or women; their identities may be fluid, situated along a spectrum, or unrelated to binary gender categories altogether (Scandurra et al., 2019; Todd et al., 2019). This diversity underscores the need for research approaches that move beyond binary classifications to better capture the lived realities, health outcomes, and lifestyle patterns of non-binary populations.

Adolescence represents a particularly critical developmental period for the emergence of health disparities related to gender identity (Hatzenbuehler, 2017; Sawyer et al., 2018; Scandurra et al., 2019). During this stage, individuals undergo profound biological, psychological, and social changes while simultaneously negotiating identity formation and social belonging (Erikson, 1968; Meeus, 2011; Steinberg, 2014). For non-binary youth, this process often unfolds in environments that remain structured around binary gender norms, which may intensify experiences of stigma, discrimination, and social exclusion (Fausto-Sterling, 2012; Martin & Ruble, 2004; Scandurra et al., 2019). Research comparing the mental health of binary and non-binary youth has yielded mixed findings. Some studies report lower life satisfaction and higher psychological distress among non-binary youth compared to their binary transgender peers (Ciria-Barreiro et al., 2021; Todd et al., 2019), while others suggest lower prevalence of lifetime suicide attempts among non-binary individuals relative to binary transgender individuals, highlighting the heterogeneity of experiences within gender-diverse populations (James et al., 2016; Monro, 2019).

Beyond mental health, non-binary youth often report poorer general health outcomes than both cisgender and binary transgender peers. These include lower self-rated health, increased psychological and physical complaints, elevated stress levels, and higher prevalence of somatic conditions (Ciria-Barreiro et al., 2021; Johansson et al., 2022).

Life satisfaction among non-binary is generally lower than among cisgender, with higher levels of negative affect frequently reported (Kaufman et al., 2024). Social support plays a crucial role in shaping these outcomes. However, patterns of support differ across gender identity groups: support from significant others and friends appears to be less strongly associated with life satisfaction among non-binary individuals compared to cisgender and binary transgender peers (Bradford & Catalpa, 2019). Experiences of discrimination, combined with gaps in social belonging, further contribute to reduced well-being and emotional distress among non-binary (Kaufman et al., 2024).

Health-related behaviors also reflect these disparities. Non-binary youth commonly report poorer sleep health, including difficulties initiating sleep linked to psychological distress and gender-related concerns (Harry-Hernandez et al., 2020). In addition, substance use – namely tobacco, alcohol, and illicit drugs – appears to be highly prevalent among non-binary youth (Operario et al., 2024; Todd et al., 2019). These behaviors are often interpreted as coping responses to persistent minority stress and anti-transgender stigma (Operario et al., 2024).

Family relationships constitute another central factor influencing the well-being of non-binary youth. Compared to cisgender individuals, non-binary youth frequently report lower levels of family support (Aparicio-García et al., 2018; Commone et al., 2025). Unsupportive family behaviors are strongly associated with increased symptoms of depression, anxiety, and post-traumatic stress disorder.. Notably, supportive family behaviors do not always fully buffer against these adverse outcomes, pointing to the complex and nuanced role of family dynamics in shaping mental health among non-binary adolescents (Taber & Stults, 2025). Psychological distress – including depression, anxiety, and suicidality remains highly prevalent among non-binary youth (Newcomb et al., 2020; Chew et al., 2020). Elevated levels of ob-

sessive-compulsive symptoms, interpersonal sensitivity, and general psychological distress have been consistently reported (Johansson et al., 2022; Newcomb et al., 2020). Moreover, non-binary individuals assigned male at birth often report worse mental health outcomes than those assigned female at birth, highlighting the intersectionality of gender identity and assigned sex in mental health experiences (Newcomb et al., 2020). These findings underscore the urgent need for mental health interventions tailored to the specific needs of non-binary youth (Fredriksen Goldsen et al., 2022).

Despite the growing international literature, research on non-binary adolescents remains scarce in Southern European contexts, including Portugal (ILGA-Europe, 2023; Scandurra et al., 2019). Portuguese society has undergone significant legal and social changes regarding LGBTQ+ rights; however, sociocultural norms surrounding gender remain largely binary, and empirical data on the health and lifestyles of non-binary youth are limited (Almeida, 2023; ILGA-Europe, 2023). Adolescents represent a particularly relevant group in this context, as they navigate identity development within educational, familial, and social systems that may not yet fully accommodate gender diversity (Hatzenbuehler, 2017).

As research continues to evolve, a more nuanced understanding of the health and well-being of non-binary youth will be crucial in developing effective support systems and improving their overall quality of life. Given the documented differences in health outcomes and lifestyle behaviors between binary and non-binary youth, the present study aims to analyze gender differences in health and lifestyles among a sample of Portuguese adolescents. By focusing on this population, the study seeks to contribute to a more nuanced understanding of non-binary youth experiences within a specific sociocultural context and to inform future research, policy, and intervention efforts.

PARTICIPANTS AND PROCEDURE

DESIGN

This study is part of the Cuida-te+ Program of the Portuguese Institute of Sport and Youth (IPDJ, I.P.). The Cuida-te+ Program aims to promote the health and lifestyles of young people aged 12 to 25. Within the scope of this program, young people have at their disposal a service called Mobile Units, which consist of awareness-raising and dissemination actions in places where there is a significant presence of the target population (e.g., educational establishments, events/fairs, and festivals). These actions take place in auditoriums, classrooms, or external spaces using appropriately equipped vans designed to provide assistance and raise awareness among the youth population. The Mobile Units are located in the 18 districts of mainland Portugal. To assess the health and lifestyles of young people, a questionnaire was used and shared with participants at the end of the Mobile Units' actions. Participation in the study was voluntary.

PARTICIPANTS

The sample is made up of young people who attended awareness-raising activities within the scope of the Mobile Units of the Cuida-te+ Program. To examine and compare the differences between binary and non-binary genders in relation to the health and lifestyles of young people, a gender-stratified sample was created. The analyses included 168 young people aged between 12 and 25 years, 32.1% of whom were female (n = 54), 32.7% male (n = 55), and 35.1% non-binary (n = 59). Male and female participants were grouped together to form the binary gender participant group (n = 109).

INSTRUMENTS

Table 1 describes the variables and measures used in the present study.

DATA ANALYSIS

Data analysis was performed using SPSS Statistics, version 29. In order to study gender differences in the groups of young people, Pearson's chi-square test and ANOVA analysis of variance were used.

RESULTS

In terms of life satisfaction, no statistically significant differences were found when comparing genders (Table 2).

Regarding the practice of physical activity ($F(1, 166) = 1.06$, $p = .305$) and the type of physical activity, no statistically significant differences were found when comparing binary and non-binary genders (Table 3).

Regarding eating habits, there are significant differences in the number of daily meals eaten (i.e., breakfast, lunch and dinner) between the groups, with non-binary young people most frequently reporting never eating meals (Table 4).

Regarding lifetime alcohol consumption, statistically significant differences were found between the two groups ($\chi^2(3) = 9.72$, $p = .021$), with non-binary young people reporting that they had consumed alcohol between 6 and 19 days throughout their lives

Table 1

Variables and measures used in the present study

Variables	Measure
Gender	1 – binary; 2 – non-binary
Life satisfaction	Scale adapted from Cantril (1965), consisting of 11 steps, with the lowest step (0) corresponding to the worst possible life and the highest step (10) corresponding to the best possible life.
Frequency of physical activity (Inchley et al., 2016, 2020; Gaspar et al., 2022)	The practice of physical activity for at least 60 minutes in the last 7 days was assessed using an 8-point Likert scale, ranging from 0 to 7 days.
Type of physical activity (Inchley et al., 2016, 2020; Gaspar et al., 2022)	7-item scale (I did not practice physical activity, individual sport, individual physical exercise, collective physical exercise, green exercise, gym/indoor space) with dichotomous response being 1 – *no* and 2 – *yes*.
Eating habits (Inchley et al., 2016, 2020; Gaspar et al., 2022)	Eating habits were assessed using 3 items (breakfast, lunch, dinner) using a 5-point Likert scale (1 – *never* to 5 – *daily*). Responses were recoded to a 3-point scale, ranging from 1 – *never*, 2 – *sometimes* to 3 – *daily*.
Frequency of tobacco use (Inchley et al., 2016, 2020; Gaspar et al., 2022)	4-point Likert scale (1 – *every day* to 4 – *I don't smoke*).
Frequency of alcohol use (Inchley et al., 2016, 2020; Gaspar et al., 2022)	Frequency of alcohol consumption was assessed using 2 items (lifetime consumption and consumption in the last 30 days) using a 7-point Likert scale (1 – *never* to 7 – *more than 29 days*). Responses were recoded to a 4-point scale, ranging from 1 – *never*, 2 – *less than 6 days*, 3 – *6 to 19 days*, and 4 – *20 or more days*.
Frequency of use by type of alcoholic beverage (Inchley et al., 2016, 2020; Gaspar et al., 2022)	The frequency of consumption by type of alcoholic beverage was assessed using 4 items (beer, wine, liquors and spirits) using a 5-point Likert scale (1 – *every day* to 5 – *never*. Responses were recoded to a 3-point scale, ranging from 1 – *every day*, 2 – *sometimes* to 3 – *rarely/never*.
Inebriation (Inchley et al., 2016, 2020; Gaspar et al., 2022)	4-point Likert scale (1 – *none* and 4 – *more than 4 times*). Responses were recoded to a 3-point scale, ranging from 1 – *never*, 2 – *1 to 3 times* and 3 – *4 or more times*.
Frequency of illegal drug use in the last month (Inchley et al., 2016, 2020; Gaspar et al., 2022)	4-point Likert scale (1 – *none* to 4 – *regular use*).
Drug use by type of illegal substance (Inchley et al., 2016, 2020; Gaspar et al., 2022)	Consumption by type of illegal substances was assessed using 9 items (cannabis, solvents and benzenes, ecstasy, LSD, amphetamines, heroin, cocaine, other substances/drugs, medications used as drugs) using a 5-point Likert scale (1 – *I don't know what it is* and 5 – *regularly*). Responses were recoded to a 3-point scale, ranging from 1 – *I don't know what it is*, 2 – *never* to 3 – *yes*.
Daily screen time (Inchley et al., 2016, 2020; Gaspar et al., 2022)	4-point Likert scale (1 – *none* to 4 – *more than 2 hours*).
Type of screen time (Inchley et al., 2016, 2020; Gaspar et al., 2022)	5-item scale (communicating with other people (cell phone), sharing or consulting content on social networks, playing online or offline games and studying, working or conducting research) with a dichotomous response of 1 – *no* and 2 – *yes*.

Table 1 continues

Table 1

Table 1 continued

Variables	Measure
Reasons for arguments with family, friends or partner due to excessive behaviors (Inchley et al., 2016, 2020; Gaspar et al., 2022)	Reasons for arguments with family, friends or partner due to excessive time were assessed using 12 items (e.g., studying, reading, playing sports/exercising) using a 5-point Likert scale (1 – *rarely or never happens* and 5 – *happens several times a day*). Responses were recoded to a 4-point scale, ranging from 1 – *rarely or never*, 2 – *a few times*, 3 – *sometimes* and 4 – *every or almost every day*.
Psychological symptoms (Inchley et al., 2016, 2020; Gaspar et al., 2022)	Psychological symptoms were assessed using 5 items (nervousness, irritation or bad mood, sadness and fear), on a 5-point Likert scale, ranging from 1 – *almost every day* to 5 – *rarely or never*.
Number of hours of sleep (Inchley et al., 2016, 2020; Gaspar et al., 2022)	Sleep hours were assessed using 2 items (weekdays and weekends) using a 6-point Likert scale (1 – *5 hours or less* and 6 – *10 hours or more*). Responses were recoded to a 3-point scale, ranging from 1 – *less than 8 hours*, 2 – *8 hours* to 3 – *more than 8 hours*.
Sleep quality (Inchley et al., 2016, 2020; Gaspar et al., 2022)	Sleep quality assessed using 9 items (e.g., I sleep well, I sleep too much, I have trouble waking up in the morning) using a 3-point Likert scale, with 1 – *never/almost never* and 3 – *almost always/always*.

Table 2

Gender differences regarding life satisfaction (n = 168)

	Binary		Non-binary		*F*
	M	*SD*	*M*	*SD*	
Life satisfaction	6.94	1.89	6.56	2.96	1.06

(19.1%) and binary young people reporting that they had never consumed alcohol (70.7%). On the other hand, no statistically significant differences were observed for tobacco consumption ($\chi^2(2) = 3.03$, $p = .220$), alcohol consumption in the last 30 days ($\chi^2(3) = 4.91$, $p = .179$) and inebriation ($\chi^2(2) = 2.79$, $p = .248$) when comparing genders. Regarding the type of alcoholic beverage, there are statistically significant differences in the consumption of beer, liquors, and spirits, with non-binary young people reporting higher daily consumption than binary participants (Table 5).

Regarding the use of illegal drugs in the last month, no statistically significant differences were found when comparing the groups ($\chi^2(3) = 5.51$, $p = .064$). However, there were statistically significant differences in terms of type of substances used, namely ecstasy and LSD, with 15.3% of non-binary young people reporting that they had already consumed ecstasy and 16.9% reporting that they had already consumed LSD (Table 6).

Regarding screen time, no statistically significant differences were found for screen time per day ($\chi^2(2) = 0.44$, $p = .932$). In Table 7 it can be seen that among the different online behaviors, there are statistically significant differences with regard to their use for studying, working or carrying out research. Binary youth most frequently report using screens for this purpose (58.7%).

Regarding arguments with family, friends or boyfriend/girlfriend, this study found that young non-binary people reported arguing every or almost every day significantly more often than binary participants about spending too much time reading, surfing the internet, being on social media, dating, smoking, sleeping, and doing nothing/"being lazy" (Table 8).

In terms of health and well-being, there are statistically significant differences in terms of sadness, irritation and bad mood, nervousness, difficulty falling asleep, and tiredness and exhaustion. Non-binary youth report experiencing the symptoms mentioned more frequently (Table 9).

No statistically significant differences were found in terms of hours of sleep per night during the week ($\chi^2(2) = 3.15$, $p = .207$) and on the weekends ($\chi^2(2) = 0.57$, $p = .751$). On the other hand, non-binary young people report that they almost always/always sleep little, while binary young people report that this only happens sometimes, with this difference being statistically significant (Table 10).

Table 3

Gender differences regarding life satisfaction (n = 168)

	M ± *SD* or % (*n*)		χ^2
	Binary	Non-binary	
Physical activity[1]	3.26 ± 2.32	2.97 ± 2.46	0.58
Type of physical activity			
I didn't practice any physical activity[2]			0.88
No	85.3 (93)	79.7 (47)	
Yes	14.7 (16)	20.3 (12)	
Individual sport[2]			2.27
No	68.8 (75)	79.7 (47)	
Yes	31.2 (34)	20.3 (12)	
Team sport[2]			0.67
No	62.4 (68)	55.9 (33)	
Yes	37.6 (41)	44.1 (26)	
Individual physical activity[2]			2.00
No	73.4 (80)	83.1 (49)	
Yes	26.6 (29)	16.9 (10)	
Collective physical activity[2]			1.40
No	77.1 (84)	84.7 (50)	
Yes	22.9 (25)	15.3 (9)	
Gym/indoor space[2]			1.68
No	84.4 (92)	76.3 (45)	
Yes	15.6 (17)	23.7 (14)	

Note. [1]*t*-test; [2]chi-square.

Table 4

Gender differences regarding eating habits (n = 168)

	% (*n*)		χ^2
	Binary	Non-binary	
Breakfast			12.32**
Never	9.2 (10)	**28.8 (17)**	
Sometimes	31.2 (34)	32.2 (19)	
Daily	**59.6 (65)**	39.0 (23)	
Lunch			9.14**
Never	0.9 (1)	**8.5 (5)**	
Sometimes	25.7 (28)	35.6 (21)	
Daily	**73.4 (80)**	55.9 (33)	
Dinner			8.14*
Never	1.8 (2)	6.8 (4)	
Sometimes	26.6 (29)	**42.4 (25)**	
Daily	**71.6 (78)**	50.8 (30)	

Note. *$p < .05$, **$p < .01$. Adjusted residual > 1.96 marked in bold.

Table 5

Gender differences regarding consumption by substance type (n = 168)

	% (*n*)		χ^2
	Binary	Non-binary	
Beer			8.30*
Every day	2.8 (3)	**10.2 (6)**	
Every week/month	12.8 (14)	23.7 (14)	
Rarely/never	**84.4 (92)**	66.1 (39)	
Wine			4.15
Every day	2.8 (3)	10.2 (6)	
Every week/month	9.2 (10)	8.5 (5)	
Rarely/never	88.1 (96)	81.4 (48)	
Liquor			17.55***
Every day	2.8 (3)	**11.9 (7)**	
Every week/month	4.6 (5)	**20.3 (12)**	
Rarely/never	**92.7 (101)**	67.8 (40)	
Distilled beverages			11.62**
Every day	3.7 (4)	**15.3 (9)**	
Every week/month	14.7 (16)	25.4 (15)	
Rarely/never	**81.7 (89)**	59.3 (35)	

Note. *$p < .05$, **$p < .01$, ***$p < .001$. Adjusted residual > 1.96 marked in bold.

Table 6

Gender differences regarding substance use (illegal drugs) (n = 168)

	% (*n*)		χ^2
	Binary	Non-binary	
Cannabis			4.24
I don't know what it is	15.6 (17)	13.6 (8)	
Never	71.6 (78)	61.0 (36)	
Yes	12.8 (14)	25.4 (15)	
Solvents and benzenes			4.53
I don't know what it is	26.6 (29)	25.4 (15)	
Never	67.9 (74)	59.3 (35)	
Yes	5.5 (6)	15.3 (9)	
Ecstasy			7.92**
I don't know what it is	30.3 (33)	16.9 (10)	
Never	65.1 (71)	67.8 (40)	
Yes	4.6 (5)	**15.3 (9)**	
LSD			9.03*
I don't know what it is	27.5 (30)	15.3 (9)	
Never	67.9 (74)	67.8 (40)	
Yes	4.6 (5)	**16.9 (10)**	

Table 6 continues

Table 6

Table 6 continued

	% (*n*)		χ^2
	Binary	Non-binary	
Amphetamines			5.86
I don't know what it is	23.9 (26)	18.6 (11)	
Never	71.6 (78)	66.1 (39)	
Yes	4.6 (5)	15.3 (9)	
Heroine			4.60
I don't know what it is	18.3 (20)	13.6 (8)	
Never	77.1 (84)	72.9 (43)	
Yes	4.6 (5)	13.6 (8)	
Cocaine			5.96
I don't know what it is	16.5 (18)	11.9 (7)	
Never	78.9 (86)	72.9 (43)	
Yes	4.6 (5)	**15.3 (24)**	

Note. $^{*}p < .05$, $^{**}p < .01$. Adjusted residual > 1.96 marked in bold.

Table 7

Gender differences regarding online behavior (chi-square) (n = 168)

	% (*n*)		χ^2
	Binary	Non-binary	
Mobile phone			0.78
No	16.5 (18)	22.0 (13)	
Yes	83.5 (91)	78.0 (46)	
Social media			0.11
No	43.1 (47)	45.8 (27)	
Yes	56.9 (62)	54.2 (32)	
Online or offline gaming			1.90
No	41.3 (45)	30.5 (18)	
Yes	58.7 (64)	69.5 (41)	
Watching videos			5.47
No	27.5 (30)	11.9 (7)	
Yes	72.5 (79)	88.1 (52)	
Studying, working or carrying out research			4.10*
No	41.3 (45)	**57.6 (34)**	
Yes	**58.7 (64)**	42.4 (25)	

Note. $^{*}p < .05$. Adjusted residual > 1.96 marked in bold.

DISCUSSION

Literature suggests that non-binary youth face distinct health and lifestyle challenges compared to their peers who identify with a binary gender (Ciria-Barreiro et al., 2021; Johansson et al., 2022; Todd et al., 2019). Accordingly, the main objective of this study was to analyze gender differences in terms of health and lifestyles in a sample of young Portuguese people.

Regarding life satisfaction, although the literature reports that non-binary people have lower life satisfaction (Ciria-Barreiro et al., 2021; Kaufman et al., 2024; Todd et al., 2019), the results of this study do not reveal statistically significant differences between young people of binary and non-binary genders.

In terms of lifestyle, the results vary between the different areas under study. In terms of physical activity, there are no statistically significant differences between binary and non-binary young people; however, in terms of diet, alcohol consumption, experimentation with some types of drugs (i.e., ecstasy and LSD) and sleep, young non-binary people present worse indicators. These results are in line with the literature stating that young non-binary people report worse indicators in terms of sleep and greater risk behaviors related to alcohol consumption and the use of other substances (Harry-Hernandez et al., 2020; Operario et al., 2024; Todd et al., 2019). On the other hand, regarding tobacco consumption and inebriation, although the literature reports that non-binary young people have higher consumption rates (Operario et al., 2024; Todd et al., 2019), the results of this study do not reveal statistically significant differences between binary and non-binary young people.

In terms of psychological factors – including sadness, irritation and bad mood, nervousness, and tiredness and exhaustion – non-binary youth have worse

Table 8

Gender differences regarding reasons for arguments with family, friends or boyfriend/girlfriend due to excessive behaviors (chi-square) (n = 168)

	% (*n*)		χ^2
	Binary	Non-binary	
Studying			1.18
Rarely/never happens	74.3 (81)	67.8 (40)	
Happens a few times/sometimes	18.3 (20)	20.3 (12)	
Happens every day/almost every day	7.3 (8)	11.9 (7)	
Reading			13.39**
Rarely/never happens	**78.0 (85)**	54.2 (32)	
Happens a few times/sometimes	16.5 (18)	23.7 (14)	
Happens every day/almost every day	5.5 (6)	**22.0 (13)**	
Practicing sports			3.77
Rarely/never happens	64.2 (70)	49.2 (29)	
Happens a few times/sometimes	22.0 (24)	28.8 (17)	
Happens every day/almost every day	13.8 (15)	22.0 (13)	
Gaming			3.16
Rarely/never happens	40.4 (44)	28.8 (17)	
Happens a few times/sometimes	42.2 (46)	44.1 (26)	
Happens every day/almost every day	17.4 (19)	27.1 (16)	
Surfing the internet			6.31*
Rarely/never happens	**40.4 (44)**	23.7 (14)	
Happens a few times/sometimes	41.3 (45)	44.1 (26)	
Happens every day/almost every day	18.3 (20)	**32.2 (19)**	
Social media			10.77**
Rarely/never happens	32.1 (35)	28.8 (17)	
Happens a few times/sometimes	**46.8 (51)**	27.1 (16)	
Happens every day/almost every day	21.1 (23)	**44.1 (26)**	

Table 8 continues

Table 8

Gender differences regarding reasons for arguments with family, friends or boyfriend/girlfriend due to excessive behaviors (chi-square) (n = 168)

	% (*n*)		χ^2
	Binary	Non-binary	
Dating			9.79**
Rarely/never happens	**71.6 (78)**	49.2 (29)	
Happens a few times/sometimes	15.6 (17)	20.3 (12)	
Happens every day/almost every day	12.8 (14)	**30.5 (18)**	
Drinking			4.77
Rarely/never happens	73.4 (80)	59.3 (35)	
Happens a few times/sometimes	19.3 (21)	23.7 (14)	
Happens every day/almost every day	7.3 (8)	16.9 (10)	
Smoking			7.53*
Rarely/never happens	**84.4 (92)**	66.1 (39)	
Happens a few times/sometimes	9.2 (10)	18.6 (11)	
Happens every day/almost every day	6.4 (7)	15.3 (9)	
Sleeping			5.93*
Rarely/never happens	44.0 (48)	32.2 (19)	
Happens a few times/sometimes	35.8 (39)	30.5 (18)	
Happens every day/almost every day	20.2 (22)	**37.3 (22)**	
Doing nothing/"being lazy"			8.93*
Rarely/never happens	25.7 (28)	22.0 (13)	
Happens a few times/sometimes	**50.5 (55)**	32.2 (19)	
Happens every day/almost every day	23.9 (26)	**45.8 (27)**	
Going out at night			1.14
Rarely/never happens	53.2 (58)	47.5 (28)	
Happens a few times/sometimes	31.2 (34)	30.5 (18)	
Happens every day/almost every day	15.6 (17)	22.0 (13)	

Note. $^{*}p < .05, ^{**}p < .01$. Adjusted residual > 1.96 marked in bold

Table 9

Gender differences regarding health and well-being (ANOVA) (n = 168)

	Binary		Non-binary		*F*
	M	*SD*	*M*	*SD*	
Sadness	3.39	1.45	2.75	1.65	6.98**
Irritation or bad mood	3.11	1.44	2.54	1.64	5.40*
Nervousness	3.08	1.46	2.47	1.67	5.98*
Difficulty falling asleep	3.31	1.64	2.61	1.71	6.78**
Tiredness and exhaustion	2.93	1.51	2.27	1.66	6.74**

Note. $^{*}p < .05, ^{**}p < .01$.

Table 10

Gender differences regarding sleeping habits (chi-square) (n = 168)

	% (*n*)		χ^2
	Binary	Non-binary	
Sleeps well			5.54
Never/almost never	15.6 (17)	30.5 (18)	
Sometimes	32.1 (35)	30.5 (18)	
All the time/almost always	52.3 (57)	39.0 (23)	
Oversleeps			0.11
Never/almost never	39.4 (43)	37.3 (22)	
Sometimes	43.1 (47)	45.8 (27)	
All the time/almost always	17.4 (19)	16.9 (10)	
Undersleeps			7.56*
Never/almost never	30.3 (33)	30.5 (18)	
Sometimes	**44.0 (48)**	37.5 (15)	
All the time/almost always	25.7 (28)	**44.1 (26)**	
Has a restless sleep			3.19
Never/almost never	45.9 (50)	44.1 (26)	
Sometimes	34.9 (38)	25.4 (15)	
All the time/almost always	19.3 (21)	30.5 (18)	
It's difficult to wake up in the morning			1.07
Never/almost never	22.0 (24)	16.9 (10)	
Sometimes	34.9 (38)	32.2 (19)	
All the time/almost always	43.1 (47)	50.8 (30)	
It's difficult to fall asleep at night			2.18
Never/almost never	30.3 (33)	28.8 (17)	
Sometimes	41.3 (45)	32.2 (19)	
All the time/almost always	28.4 (31)	39.0 (23)	
Wakes up in the middle of the night			2.59
Never/almost never	37.6 (41)	39.0 (23)	
Sometimes	41.3 (45)	30.5 (18)	
All the time/almost always	21.1 (23)	30.5 (18)	
Wakes up in the morning before needed			4.76
Never/almost never	34.9 (38)	32.2 (19)	
Sometimes	45.9 (50)	33.9 (20)	
All the time/almost always	19.3 (21)	33.9 (20)	
Has nightmares			3.74
Never/almost never	48.6 (53)	50.8 (30)	
Sometimes	35.8 (39)	23.7 (14)	
All the time/almost always	15.6 (17)	25.4 (15)	

Note. *$p < .05$. Adjusted residual > 1.96 marked in bold.

results than their binary peers. These results are in line with previous research reporting that non-binary young people have higher rates of mental health problems and more psychological symptoms, including depression and anxiety, as well as higher suicide rates (Johansson et al., 2022; Newcomb et al., 2020).

CONCLUSIONS

No significant differences were found regarding life satisfaction, the practice of physical activity as well as the type of activity practiced, screen time, and hours of sleep per night during the week and on the weekends.

Non-binary young people presented worse results in terms of eating habits, being the group who most frequently reported never eating meals such as breakfast, lunch and/or dinner. Regarding substance abuse, the two groups showed no significant differences in terms of smoking, alcohol consumption in the past month, inebriation and general drug use. However, non-binary young people reported higher lifetime alcohol consumption, more frequent consumption of beer, liquors, and spirit beverages, as well as more frequent use of certain illegal drugs, such as ecstasy and LSD. In terms of online behaviors, binary youth reported more frequent use of screen time for the purpose of studying, working, and carrying out research. Non-binary young people also reported more arguments with family, friends, and/or boyfriend/girlfriend about spending too much time in activities such as reading, surfing the internet, being on social media, dating, smoking, sleeping, and doing nothing/"being lazy." This group also reported more frequently sleeping too little. Finally, in terms of well-being, non-binary youth reported more psychological symptoms, such as sadness, irritation and bad mood, nervousness, difficulty falling asleep, and tiredness and exhaustion.

Taken together, these results underscore the urgent need for further research on the health and well-being of non-binary youth, as well as the creation of specialized services available to support these young people.

Disclosures

This research received no external funding.
Institutional review board statement: Not applicable.
The authors declare no conflict of interest.

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