



Article

# Migration as Cultural Phenomenon in a Globalized World: A Pilot Study on Lifestyle and Eating Behaviours of Adolescents Living in Rome

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**Abstract:** The aim of this research was to assess, through an observational study, lifestyle and eating behaviours of adolescents (native, and first- and second-generation immigrants), in order to understand if the migration process may have influenced these aspects. The study was carried out by a structured questionnaire packet that investigated anthropometric data, eating habits, smoking, alcohol consumption, physical activity, and sedentary behaviours. A total of 105 respondents, aged 10–24 years (51.4% first-generation immigrants, 19.1% second-generation immigrants, and 29.5% natives) were included in the study. The results showed statistical differences in some social aspects by migration status, such as place of residence, living arrangement, parental educational level, and eating differently from family members. Despite these differences, volunteers were perfectly integrated regarding most eating habits and lifestyle behaviour, underlying a process of acculturation. Moreover, our study indicates the existence of inadequate dietary habits, such as skipping breakfast. It is important to implement effective nutrition interventions for adolescents to promote healthier lifestyle choices, considering that they should also include cultural components of dietary habits.

Keywords: migration; adolescents; lifestyle; eating behaviours



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#### 1. Introduction

Human migrations represent the greatest feature of the globalized world. The gradual increase in migration is observed worldwide and the reasons behind it can be traced to five areas: personal or familiar (when they contemplate an intentional project of emancipation and improvement of conditions and prospects, particularly aimed at children), political (flight from wars, regimes, instability, persecution), economic (unemployment, poverty, absolute or relative deprivation, backwardness), social (terrorism, crime, violence, banditry, low security, inequalities and discrimination, religious conflicts), and cultural (fascination with "Western culture", impatience with traditions and cultural models considered restrictive). In most cases the decision to migrate includes aspects pertaining to more than one sphere and represents a complexity that can never be fully fathomed [1]. From 1990 to 2020, the total number of international migrants increased from 153 million (2.9% of the global population) to 281 million (3.6% of the global population). The greatest increases in international migration during the past decade have been due to family migration (including family reunification) and labour migration. Since the early 2000s, circular migration has also become more common, with migrants moving temporarily for economic opportunities and then returning to their home countries, although the number of annual circular migrants remains unclear [2]. Migrations imply a complete readjustment of the individual in the community and territory, and this affects all segments of the population. When moving to different cultures, especially when the stay in these is prolonged, a strong conflict arises between the need for integration and the desire to remain anchored to one's own identity.

Related to these aspects, more vulnerable elements are adolescents who, as their native peers, follow a path of growth that is more complicated, because they must at the same time face transition towards both adulthood and the host society [3,4]. Adolescence is defined as the broad age range from 10-24 years [5] and it is further classified into early adolescence (10-15 years), late adolescence (15-18 years), and early adulthood or emerging adulthood (18–24 years) [6]. Adolescence is a transitional phase from childhood to adulthood, and it is a critical period in an individual's physical and emotional development. The transition from child to adult takes place within a complex framework of family, peer group, community, school, and sociocultural influences. Although the family continues to be an important point of reference, adolescents gradually increase their independence and their wealth of experience as they build their identity. As the lifestyle adopted in this period influences the state of health in later life, it is important to acquire correct eating habits and adequate levels of physical activity. Indeed, several unhealthy behaviours often emerge or intensify during adolescence; hence, a comprehensive understanding of adolescent-onset risk behaviours is essential [7-9]. Italy, a traditional country of emigration, is now characterized by an increasingly stable and consolidated foreign presence as well as by having become a multiethnic and multicultural nation, a welcoming land for people who have left their country of origin spontaneously or forcefully. Natives live side by side with immigrants and there is the possibility of exchange opportunities to improve mutual understanding and inclusion processes. The foreign citizens residing in Italy in January 2022, as surveyed by the National Institute of Statistics, represent 8.8% of the total country population. As in other European countries, in recent years there has been an increasing proportion of foreign adolescents: in Italy, minors represent 20.0% of the foreign population [10]. The increase in the number of foreign minors present in Italy is due to a change in migration processes; in fact, if until some time ago male immigrants in search of work arrived in Italy, after having left their families in their country of origin, today migration concerns entire family groups in search of better conditions. Family reunifications, the arrivals of entire families, and the new births of children of immigrants, to which we must also add the number of minors who arrived alone, have given rise to a situation of very varied coexistence and often a harbinger of many difficulties. A fundamental role in the integration process belongs to the family of origin and its attitude towards the host society because, if the daily reference is constantly addressed to the culture, traditions, and identity context to which they belong, it will be more difficult for young foreigners to free themselves from cultural conditioning and integrate, while maintaining their own peculiarities, with their peers [11].

Acculturation is the multidimensional and multidirectional process whereby immigrants and their descendants adopt the behaviours, beliefs, and values of the host culture while adapting those belonging to their culture of origin. Migration status does not directly measure acculturation but is an important and easily identifiable measure representing length of exposure to the host culture [12,13]. Health-related behaviours of migrants are likely to be affected by the process of acculturation. For example, the length of residence in the new environment, which is one of the indicators of acculturation, is likely to lead to changes in diet and in physical activity. On the other hand, past and current exposure to the socio-cultural norms of the home country could underplay the influence of the new environment. Lifestyles that are related to these norms may be retained to a greater or lesser extent in the new place of residence [14]. Immigrant adolescents are a heterogeneous population, with a diverse and variable socioeconomic status, education, and level of social support. Besides first-generation immigrants, there is an increasing proportion of secondgeneration immigrants, who are descendants of persons who migrated and, although they did not face migration directly and had a growth path in the host country, nevertheless may have been influenced by the culture of their country of origin. More than half of the world's population is concentrated in cities, mainly because cities, usually offering more opportunities in terms of employment, education, and health, attract job seekers who aspire to improve the quality of their lives and that of their families. Cities are therefore, in a historical period that is a harbinger of profound economic and social transformations, the

main pole of attraction for migrants [15]. In Italy, the growth of foreign population has affected particularly the metropolitan areas, especially in Northern and Central Italy [16]. For this reason, Rome confirms itself as a great attracter of migratory movements as the foreign population registered on 1 January 2022 is 12.3% of the total population [17].

Although Italy is turning into a multicultural society with an important presence of adolescents of various geographical proveniences, specific migrant studies on lifestyle and eating behaviours are lacking. It being understood that ethnicity reflects biological, cultural, linguistic, religious, and personal history as well as behavioural differences [18], an important role is played by the migration process.

The present research investigated, through an observational pilot study, the lifestyle and eating behaviours of native and immigrant adolescents, both of first- and second-generation, in order to understand if the migration process may have influenced these aspects.

#### 2. Materials and Methods

## 2.1. Study Participants

The observational study was conducted, between October 2020 and June 2022, with 105 adolescents, aged 10–24 years, enrolled in three different youth aggregation centres of the First Municipality of Rome. Due to the small sample size and the geographically limited area, the study could be considered a pilot. Before starting data collection, participants were assured that all data would be used only for research purposes and, subsequently, provided informed consent. Participation in the study was fully voluntary and subjects could withdraw from the study at any time, for any reason. Moreover, in accordance with the European Commission General Data Protection Regulation (679/2016), those willing to participate signed, in advance, a privacy policy and consent form for collecting and processing personal data. In the case of minors, both releases were signed by parents or someone in their stead.

This study was conducted by anonymous questionnaires, administered in a "face to face" assisted modality, in order to collect information about lifestyle, eating habits, physical activity and sedentary behaviour, and use of electronic devices. This type of interview optimizes data quality: for any missing information or ambiguous answers, the participants were directly approached for clarification. The administration of questionnaires to volunteers with linguistic difficulties took place through the translation into other languages and/or the use of visual and/or technological supports. As the assessment did not involve invasive procedures, the approval by the Ethics Committee was not required. All the information came from subjective statements of the participants and referred to a habitual condition, which did not consider the COVID-19 pandemic that has changed the lifestyles of adolescents [19].

# 2.2. Migration Status of Study Sample

The study sample of 105 volunteers was divided into 3 groups according to migration status: first-generation immigrants, second-generation immigrants, and natives. Adolescents born abroad and whose parents were not both born in Italy were considered "first-generation immigrants", while adolescents born in Italy and who had at least one parent born abroad were "second-generation immigrants". Adolescents whose both parents were born in Italy were considered "natives".

#### 2.3. Anthropometric Data

Self-reported weight and height were used for calculating Body Mass Index (BMI) (kg/m<sup>2</sup>), classifying volunteers as follows: underweight (<18.5 kg/m<sup>2</sup>), normal weight (18.5–24.9 kg/m<sup>2</sup>), overweight (25.0–29.9 kg/m<sup>2</sup>), and obese ( $\geq$ 30.0 kg/m<sup>2</sup>) [20].

### 2.4. Lifestyle Questionnaire

The lifestyle questionnaire consisted of a package of questions specifically designed to obtain different information about the participants' migration status, social aspects (place of residence, living arrangement), education, working situation, leisure time activity (recreational activities and sports), eating habits (frequency of meal consumption, awayfrom-home meals and type of restaurant used, tendency to eat differently from family members or roommates), smoking, and alcoholic beverages' consumption. Both first-and second-generation volunteers had to fill an appendix about their country of origin, Italian language proficiency, eating habits acquired in Italy, and habitual consumption of country-of-origin food, such as fruit, vegetables, sweets, beverages.

#### 2.5. Physical Activity

Physical activity behaviour was assessed by administrating the Godin–Shephard Leisure-Time Physical Activity Questionnaire, widely used in both sexes over 10 years of age [21,22]. This questionnaire is composed of 3 questions about the number of times spent in physical activity with 3 different intensities (strenuous, moderate, and mild/light) in a typical 7-day period. Total physical activity is expressed in arbitrary units by adding the products of the individual components, following the formula: Weekly physical activity score =  $(9 \times \text{Heavy physical activity}) + (5 \times \text{Moderate physical activity}) + (3 \times \text{Light physical activity})$ . The total score allows the subjects to be classified into three levels: total score  $\geq 24$ , active; total score 14–23, moderately active; total score < 14, sedentary.

#### 2.6. Use of Electronic Devices

An additional questionnaire about the daily time spent on electronic devices (smart-phones, computers, tablets, television or other electronic devices) was administered.

## 2.7. Statistical Analysis

All statistical analyses were performed using the MedCalc Software version 20.106 for Windows, considering statistically significant p values < 0.05. Continuous variables were expressed as means and standard deviations (sd), while categorical variables as percentages. Normality of distributions of variables was tested by Shapiro–Wilk test. Means were compared by the Analysis of Variance (ANOVA) or Kruskal–Wallis test for normally and non-normally distributed variables, respectively. Post hoc analysis was performed by Tukey HSD test. Associations between each categorical variable were tested by the Pearson chi-square test.

## 3. Results

The study sample consisted of 105 volunteers, among which 51.4% (N=54) were first-generation immigrants, 19.1% (N=20) were second-generation immigrants, and 29.5% (N=31) were natives. The characteristics of the sample are reported in Table 1. There were statistically significant differences, related to migration status, by gender (p=0.021), and by mean age (p=0.001). The BMI was mainly in the normal range (70.0% of first-generation immigrants, 56.3% of second-generation immigrants, and 83.4% of natives), with a proportion of respondents (15.0%, 31.2%, and 8.3%, respectively) falling within the overweight range. Only 7.5% of first-generation immigrants were obese. About 22.0% of the volunteers did not know or remember their anthropometric measures and for them it was impossible to determine the BMI; consequently, this value is reported only for 80 volunteers (40 first-generation immigrants, 16 second-generation immigrants, and 24 natives).

**Table 1.** Study sample characteristics by migration status.

	First- Generation Immigrants	Second- Generation Immigrants	Natives	p Value
N	54	20	31	
Gender (%) Males	72.2	65.0	41.0	0.021
Females	27.8	35.0	41.9 58.1	
Age (years) (mean $\pm$ sd)	$19.5 \pm 3.0~^{\mathrm{a}}$	$15.2\pm4.3^{\mathrm{\ b}}$	$19.1 \pm 4.1$ a	0.001
Weight (kg) (mean $\pm$ sd)	$66.7 \pm 14.6$	$59.5 \pm 18.8$	$59.8 \pm 11.1$	ns
Height (cm) (mean $\pm$ sd)	$168.0 \pm 9.9$	$163.2\pm14.0$	$167.0 \pm 9.8$	ns
BMI (kg/m <sup>2</sup> ) (mean $\pm$ sd)	$23.5 \pm 5.1$	$22.5 \pm 4.1$	$21.2 \pm 2.4$	ns
BMI categories (%)				ns
Underweight Normal weight	7.5 70.0 15.0	12.5 56.3 31.2	8.3 83.4 8.3	
Overweight Obese	7.5	0.0	0.0	

Data are presented as mean  $\pm$  standard deviations (sd) for continuous variables and percentage for categorical variables. Statistical analysis: Chi square test and ANOVA or Kruskal–Wallis test. Post hoc analysis: Tukey HSD test. Different superscript letters (a, b) indicate statistically significant differences; ns = not significant.

The geographical area of origin by migration status is reported in Table 2. Most of the first-generation immigrants (37.0%) hailed from Africa, while most of the second-generation immigrants (55.0%) were from South America. However, there were not statistically significant differences between the two groups (p = ns).

**Table 2.** Geographical area of origin by migration status.

	First-Generation Immigrants	Second-Generation Immigrants	p Value
Geographical area of origin (%)			ns
Europe	1.9	0.0	
Africa	37.0	10.0	
South America	31.5	55.0	
Asia	29.6	35.0	

Data are presented as percentage for categorical variables. Statistical analysis: Chi square test; ns = not significant.

Table 3 reports the number of years spent in Italy and the linguistic skills concerning the Italian language of first-generation immigrants by geographical area of origin. Except for the European volunteers, who spent in Italy more than 5 years, most of the sample who hailed from Africa, South America, and Asia (40.0%, 41.2%, and 50.0%, respectively) had been living in Italy for 1–5 years. Moreover, 70.4% of the first-generation immigrants had never returned to their country since they were in Italy (data not shown), as well as 55.0% of the second-generation immigrants. Most of the first-generation immigrant volunteers did not know the Italian language before arriving in Italy (100.0% of Europeans, 95.0% of Africans, 76.6% of South Americans, and 75.0% of Asians), and currently some volunteers were still experiencing difficulties. Great difficulties in reading (15.0%), writing (20.0%), speaking (15.0%), and understanding (10.0%) persisted mainly in African volunteers, and the 5.9% of Asian volunteers had linguistic troubles. Obviously, these difficulties decreased

as the time spent in the host country increased, even though among those who had been in Italy for more than 5 years, about 10.0% still had linguistic difficulties (data not shown).

**Table 3.** Number of years spent in Italy and linguistic competences in the Italian language of first-generation immigrants by geographical area of origin.

	Geographical Area of Origin of First-Generation Immigrants				p Value
	Europe	Africa	South America	Asia	
Number of years spent in Italy (%)					ns
Less than 1 year	0.0	30.0	23.6	18.7	
1–5 years	0.0	40.0	41.2	50.0	
More than 5 years	100.0	30.0	35.3	31.2	
Previous knowledge of the Italian					ns
<b>language (%)</b> None	100.0	95.0	76.6	75.0	
Scarce	0.0	5.0	11.8	25.0	
Good	0.0	0.0	5.8	0.0	
Not knowing	0.0	0.0	5.8	0.0	
	0.0	0.0	5.0	0.0	
Current reading difficulties (%)	0.0	15.0	<b>5</b> 0	0.0	ns
Great	0.0	15.0	5.9	0.0	
Sufficient	0.0	35.0	5.9	37.5	
Scarce	0.0	35.0	23.5	37.5	
None	100.0	15.0	64.7	25.0	
Current writing difficulties (%)					0.010
Great	0.0	20.0	5.9	0.0	
Sufficient	0.0	40.0	0.0	31.2	
Scarce	0.0	20.0	41.2	56.2	
None	100.0	20.0	52.9	12.5	
Current speaking difficulties (%)					ns
Great	0.0	15.0	5.9	12.5	
Sufficient	0.0	30.0	5.9	18.8	
Scarce	0.0	25.0	41.2	31.2	
None	100.0	30.0	47.1	37.5	
Current understanding difficulties (%)					ns
Great	0.0	10.0	5.9	6.2	
Sufficient	0.0	35.0	11.8	37.5	
Scarce	0.0	15.0	17.6	12.5	
None	100.0	40.0	64.7	43.8	

Data are presented as percentage for categorical variables. Statistical analysis: Chi square test; ns = not significant.

In Table 4 are reported some social aspects, as important in a foreign population as linguistic problems. There were differences in place of residence (p = 0.004), living arrangements (p = 0.004), and educational level of parents or someone in their stead (p = 0.002). Most of the sample lived in their own or rented houses, but there was also 16.7% of the first-generation immigrants who lived in a community home with other people (neither friends nor relatives). The totality of the second-generation immigrants lived with their parents, as well as most natives (83.9%). Almost all the sample (72.2% of the first-generation immigrants, 90.0% of the second-generation immigrants, and the 77.4% of natives) declared to study as the main activity, but it is interesting to underline that 21.0% of first-generation immigrants exclusively attended the Italian language course offered by one of the centres involved in the study. Since the educational level of volunteers was in line with their age, it was not reported as a result; however, 44.4% of the first-generation immigrants achieved it in Italy, as well as 80.0% of the second-generation immigrants and 100% of the natives (data not shown). The highest educational level of parents or someone in their stead has

been investigated. Most of them had a secondary school diploma (27.8%, 45.0%, and 48.4%, respectively) or had graduated (20.4%, 30.0%, and 45.2%, respectively). It is interesting to note that 27.8% of the first-generation immigrants, 10.0% of the second-generation immigrants, and 6.4% of the natives said they had no one to take care of them. At the same time, 20.4% of parents or someone in their stead for first-generation immigrants had no qualifications.

Table 4. Social aspects by migration status.

	First-Generation Immigrants	Second- Generation Immigrants	Natives	p Value
Place of residence (%)				0.004
Home ownership/renting	63.0	85.0	87.0	
Shared flat	3.7	5.0	6.5	
Care institute	7.4	0.0	0.0	
Community home	16.7	5.0	0.0	
Other	9.2	5.0	6.5	
Living arrangement (%)				0.004
With parents	59.2	100.0	83.9	
With other related adults	7.4	0.0	0.0	
With other unrelated adults	16.7	0.0	16.1	
Other	16.7	0.0	0.0	
Employment situation (%)				ns
Student	72.2	90.0	77.4	
Worker	7.4	5.0	3.2	
Both of them	13.0	5.0	16.1	
Neither of them	7.4	0.0	3.2	
Highest educational level of parents				0.002
or someone in their stead (%)				0.002
None	20.4	5.0	0.0	
Primary education	1.8	10.0	0.0	
Secondary education	27.8	45.0	48.4	
Degree, master, doctoral or equivalent level	20.4	30.0	45.2	
No external cares	27.8	10.0	6.4	
Not knowing	1.8	0.0	0.0	

Data are presented as percentage for categorical variables. Statistical analysis: Chi square test; ns = not significant.

In foreign volunteers, attention was also given to other social and religious aspects that could affect eating behaviours, such as the nationality of people volunteers spent their time with, the origin of food habitually consumed, and the presence of dietary restrictions due to religion and their practice (Table 5). Despite the persistence of some linguistic difficulties, 38.9% of first-generation immigrants spent time only with Italian adolescents. Most of the sample (46.3% of first-generation immigrants and 50.0% of second-generation immigrants) spent time with people of different nationalities, indicating an integration process. This could be explained by the fact that volunteers, attending multicultural centres, were used to relating to peers from different cultures. Foreign volunteers were asked for their preference for Italian food or country-of-origin food, observing no statistically significant differences. The majority of them (40.7% of first-generation immigrants and 65.0% of second-generation immigrants) indicated to consume both country-of-origin food and Italian food equally. Moreover, 40.7% of first-generation immigrants confirmed the presence of dietary restrictions due to religion, but only 35.2% followed them; instead, no second-generation immigrants followed dietary restrictions, even if 10.0% of them stated that their religion has dietary restrictions.

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Table 6 reports the frequency of meal consumption, the frequency of away-fromhome meals, and the type of restaurant frequented. There were no statistically significant differences for these aspects. The frequency of meal consumption was classified into "every day", "less than every day", and "never". In our sample, 38.9% of the first-generation immigrants, 25.0% of the second-generation immigrants, and 29.0% of natives stated that they sometimes skipped breakfast, due to insufficient time or appetite and to the will to sleep. There was also a percentage of volunteers not having lunch or dinner every day (24.1% and 16.7% of the first-generation immigrants, 10.0% and 20.0% of the secondgeneration immigrants, and 12.9% and 3.2% of natives, respectively) and, among firstgeneration immigrants, there were 1.9% who never have lunch and 1.8% never having dinner. Cases worthy of attention concerned foreign volunteers who reported that they did not eat the main meals due to lack of food or lack of satisfaction with the meals provided at the community home in which they reside. A total of 25.9% of the first-generation immigrants, 15.0% of the second-generation immigrants, and 12.9% of natives never had snacks (defined as any food eaten between main meals) during the day. The away-fromhome lunch was mainly on a weekly basis in fast food restaurants (defined as establishments that provide limited service and require customers to place orders and pay before eating at a counter or table), while the away-from-home dinner was mainly monthly in full-service restaurants (defined as establishments where customers are seated and meals are brought to a table by a server).

**Table 5.** Nationality of people volunteers spend time with, origin of food habitually consumed, presence of religious dietary restrictions and their practice by migration status.

	First-Generation Immigrants	Second- Generation Immigrants	p Value
Nationality of those spending time with (%)			ns
Only people of the same nationality	14.8	25.0	
Only Italians	38.9	25.0	
Different nationalities	46.3	50.0	
Origin of food habitually consumed (%)			ns
Country-of-origin food	20.4	10.0	
Italian food	33.3	20.0	
Both country-of-origin and Italian food	40.7	65.0	
Other	5.6	5.0	
Presence of dietary restrictions due to religion (%)			0.012
Yes	40.7	10.0	
Not	59.3	90.0	
Practice of dietary restrictions due to religion (%)			0.007
Yes	35.2	0.0	
Not	64.8	100.0	

Data are presented as percentage for categorical variables. Statistical analysis: Chi square test; ns = not significant.

**Table 6.** Frequency of meal consumption, away-from-home meals, type of restaurant used, tendency to eat differently from family members or roommates by migration status.

	First- Generation Immigrants	Second- Generation Immigrants	Natives	p Value
Frequency of breakfast				ns
(%)				113
Never	5.6	5.0	6.5	
Less than everyday	38.9	25.0	29.0	
Everyday	55.5	70.0	64.5	
Frequency of lunch (%)				ns
Never	1.9	0.0	0.0	
Less than everyday	24.1	10.0	12.9	
Everyday	74.0	90.0	87.1	
Frequency of dinner (%)				ns
Never	1.8	0.0	0.0	
Less than everyday	16.7	20.0	3.2	
Everyday	81.5	80.0	96.8	
Frequency of snacks (%)				ns
Never	25.9	15.0	12.9	
1 a day	31.5	35.0	45.1	
2 a day	35.2	45.0	35.5	
>2 a day	7.4	5.0	6.5	
Frequency of				
away-from-home lunch (%)				ns
Never	25.9	5.0	9.7	
Monthly	27.8	30.0	41.9	
Weekly	46.3	60.0	48.4	
Daily	0.0	5.0	0.0	
Type of restaurants for				
away-from-home				ns
lunch (%)				
Full-service restaurants	40.5	41.2	25.0	
Fast food restaurants	51.4	41.2	50.0	
Both of them	8.1	17.6	25.0	

Table 6. Cont.

	First- Generation Immigrants	Second- Generation Immigrants	Natives	<i>p</i> Value
Frequency of				
away-from-home				ns
dinner (%)				
Never	35.2	15.0	22.6	
Monthly	33.3	55.0	41.9	
Weekly	31.5	30.0	35.5	
Daily	0.0	0.0	0.0	
Type of restaurants for				
away-from-home				ns
dinner (%)				
Full-service restaurants	83.3	86.6	70.6	
Fast food restaurants	10.0	6.7	11.8	
Both of them	6.7	6.7	17.6	
Eating differently from				
family members or				0.006
roommates (%)				
Yes	44.4	70.0	80.6	
Not	50.0	30.0	19.4	
Not knowing	5.6	0.0	0.0	

Data are presented as percentage for categorical variables. Statistical analysis: Chi square test; ns = not significant.

Volunteers were also questioned about the consumption of different foods with respect to their family members or roommates, as an indicator of the adolescents' autonomy in food choices (Table 6). Statistically significant differences were found among the three groups (p = 0.006). The percentage of volunteers saying they eat different food increased from the first-generation immigrants (44.4%) to the second-generation immigrants (70.0%) to the natives (80.6%), indicating a higher autonomy of the last group.

Table 7 reports alcohol consumption and smoking habits (categorised as current smoker or non-smoker, which included former smokers and never smokers). These risk behaviours were mainly practiced by natives and in case of alcohol consumption, the differences among groups were statistically significant (p = 0.04).

**Table 7.** Alcohol consumption and smoking habits by migration status.

	First- Generation Immigrants	Second- Generation Immigrants	Natives	p Value
Alcohol consumption				0.04
(%)				0.04
Yes	48.1	25.0	61.3	
No	51.9	75.0	38.7	
Smoking (%)				ns
Yes	16.7	15.0	35.5	
No	83.3	85.0	64.5	

Data are presented as percentage for categorical variables. Statistical analysis: Chi square test; ns = not significant.

Table 8 reports the availability of free time and type of activities performed, the daily hours spent on electronic devices and physical activity levels, and the modalities of commuting by migration status. Most of the sample had 1–3 h of free time a day, dedicated to recreational activities, such as reading, going out with friends, using electronic devices, watching television, playing an instrument, drawing, and similar activities. At the same time, as an indicator of sedentary behaviour, it was evaluated the daily screen time for

watching films or videos and for video game playing, both on weekdays and on the weekend, and results are reported as mean value between them. The mean screen time was lower than 3 h, without statistically significant differences between groups. Regarding physical activity, 85.2% of the first-generation immigrants, 85.0% of the second-generation immigrants, and 61.2% of natives were active, without statistical differences. Natives were the most inactive. Since daily commuting is also considered among the international recommendations regarding physical activity, part of the lifestyle questionnaire was dedicated to this aspect. Most of the volunteers declared using public transport followed by walking, without differences among groups.

**Table 8.** Available free time and type of activities, screen time and physical activity, and modality of commuting by migration status.

	First- Generation Immigrants	Second- Generation Immigrants	Natives	p Value
Daily hours of free time				ns
(%)				113
<1	7.4	10.0	6.5	
1–3	46.3	60.0	58.0	
>3	46.3	30.0	35.5	
Type of activities (%)				ns
Recreational activities	64.7	61.1	77.4	
Sports	19.6	22.2	0.0	
Both of them	15.7	16.7	22.6	
Daily hours of screen watching (%)				ns
<3	65.4	67.5	66.7	
3–6	30.0	22.5	28.3	
>6	4.6	10.0	5.0	
Daily hours of video game playing (%)				ns
<3	77.8	75.0	87.1	
3–6	16.7	22.5	3.2	
>6	5.5	2.5	9.7	
Physical activity (%)				ns
Active	85.2	85.0	61.2	
Moderately active	11.1	5.0	19.4	
Inactive	3.7	10.0	19.4	
Modality of commuting				ns
(%)				115
Walking	21.2	30.0	26.7	
Cycling	3.8	5.0	6.7	
Driving	1.9	15.0	6.7	
By public transport	63.4	50.0	53.3	
By train	7.7	0.0	0.0	
Other	1.9	0.0	6.7	

Data are presented as percentage for categorical variables. Statistical analysis: Chi square test; ns = not significant.

#### 4. Discussion

The present pilot study aimed to evaluate the lifestyle and eating behaviours in adolescents living in Rome, also considering important factors not yet sufficiently studied, such as migration status. Indeed, generation is a proxy measure that can provide important insight into the historical and geographical context, in addition to baseline cultural characteristics of the individual [23,24]. To the best of our knowledge, few similar studies have been published, and those were often oriented towards a specific ethnic group [13,25,26], while our volunteers represented a multi-ethnic and multicultural society, and followed the slow

and natural process of inclusion and integration between different population groups of the last 20 years; for this reason, our results cannot be easily compared with a part of the literature studies.

Our data demonstrated statistically significant differences, related to migration status, by gender with a prevalence of males both in the first- and the second-generation immigrants. Available data indicate that the gender structure of the immigrants living in Italy is balanced: the ratio between the sexes is 95 women for every 100 men. The general balance, however, conceals strong imbalances within the various communities: for Ukrainians and Russians, the female component exceeds 75% of the total presence, while some communities, such as Bangladeshis, Egyptians, and Pakistanis, are instead unbalanced to men and the percentage of women is between 28 and 34% [16]. Men are generally seen as pioneers of migration and "breadwinners" for their families, while women are mainly relegated to the role of passive followers of other family members [27,28]. In contemporary societies, female migration is ever more related to the structure of push and pull factors in sending and receiving countries; an important role is played by changes in the organisation of the labour market and by demographic and social evolution. Resident permits indicate that most migrant women arrive for family reunification [29]. This argument may not be totally applicable to our sample, given its young age or simply that the higher percentage of male volunteers was because they frequented the youth aggregation centres more.

Data related to the countries of origin of foreign people were surveyed in 2021 and highlighted that most of them hailed from Europe (47.6%), followed by Asia (22.6%), Africa (22.2%), America (7.5%), and Oceania (0.04%); 0.008% were stateless persons [29]. From a geographical point of view, the incidence of foreigners appears very variable in the city of Rome, without fractures between the center and the periphery; there are not differences in specific quadrants of the city, nor in areas characterized by acute socioeconomic distress, but they are based more on origin and occupation [15]. Our results showed that most of the first-generation immigrants (37.0%) hailed from Africa, while most of the second-generation immigrants (55.0%) were from South America.

Dealing with a new culture in a new country for first-generation immigrants presupposes the overcoming of linguistic barriers: in fact, foreigners, especially if they have recently arrived in the host country, are prone to become more familiar with people of the same nationality, thus accentuating an attitude of closure, or with people from other countries, because they feel they share the condition of being extraneous to the host society. Failing to express or communicate in the new language can also lead to a condition of isolation [1]. For this reason, knowledge of the Italian language, both previous and current, also in relation to the time spent in our country, was one of the aspects considered in this research. Our results showed that, except for the European volunteers who spent in Italy more than 5 years, most of the sample who hailed from Africa, South America, and Asia had been living in Italy for 1-5 years. Most of the first-generation immigrant volunteers did not know the Italian language before arriving in Italy and currently some volunteers were still experiencing difficulties, especially the African ones, who however had skills in other languages, such as English or French, that allowed them to communicate more easily in the host country. Difficulties decreased inversely to the length of stay in the host country, but about 10.0% of those who had been in Italy for more than 5 years still had some linguistic problems. The second-generation immigrants partially integrated behaviours and cultural aspects of the host population whilst maintaining some aspects of their own culture. The results showed that both first-generation and second-generation immigrant adolescents adopted Italian dietary habits in parallel with the natural process of integration in the new culture and lifestyle, but they still consumed their country-of-origin food to consolidate the link with their origins. The dietary acculturation has been defined as "the process that occurs when members of a minority group adopt the food choices and eating patterns of the host country". Available research indicates that immigrants may find new ways to compose traditional dishes and meals, to exclude foods, and consume new foods [30,31].

In addition to the linguistic problem, the lack of a family network together with housing precariousness and social, cultural, and economic deprivation, outlines a picture of complexity that can often be found in a foreign population. The educational level of parents or someone in their stead was assessed as it has been demonstrated that it can influence the lifestyle of adolescents [32-34]. This could be due to the fact that parental education has the advantage of being relatively stable; it does not fluctuate according to transient life events as income or occupation can. A higher parental educational level can promote the parents' ability to process health information, which may lead to improved health-related decisions in parenting practice and can also influence the parents' motivation to practice a healthy lifestyle as a role model for their offspring [34]. Our results showed that most of the parents of volunteers had a secondary school diploma or had graduated, independently from migration status. At the same time, 20.4% of parents or someone in their stead for first-generation immigrants had no qualifications. More than a quarter of the first-generation immigrants had no external cares; thus, they were independent and consequently not affected by their family. The BMI of volunteers was mainly in the normal range, with a proportion of respondents falling within the overweight range. Only 7.5% of first-generation immigrants were obese. The prevalence of normal weight volunteers was in line with other studies which, however, do not consider the multicultural aspects [35,36]. Self-reported weight and height might not correspond to the true physiological variables: self-reported height tends to be slightly overestimated and weight underestimated, resulting in an underestimation of BMI. However, the use of self-reported anthropometric measurements can be used for weight classification purposes [37].

The prevalence of overweight and obesity seems to be higher in North African female children and adolescents compared to males both in Europe and in North African countries, suggesting that girls are particularly at risk. Sociocultural factors, in particular, should be viewed as the origin of these trends. It seems, therefore, that overweight and obesity among North African immigrants in Europe are conditioned by factors linked to acculturation in the host society (the acquisition of Western eating habits) and other aspects maintained from the country of origin [38].

Immigrant adolescents simultaneously face transition both towards adulthood and towards the host society [3,4]. The differences in health risks and resources between migrants and the native population change with the length of time passed since migration, and especially over generations, and it has been postulated, and partly shown, that migration can be described as a "health transition" [39]. This model holds that in the host country, migrants from low-income countries are faced with more advanced health care services, but also a different, "Western", lifestyle.

Adolescence is an age in which young people tend to experiment with alternative or even opposing behaviour and patterns to those of the family, to escape all forms of control and protection, to manage themselves through increasing autonomy, to give more credit to the peer group and social "influencers" than to their parents, and to experience everything in an excessive and extreme manner. If before, the family environment played an essential role in defining the relationship with food, the consumption of individual foods and the quality of the diet, now the group of friends becomes increasingly important, and the fears of not being accepted, adapted to what the context seems to require, become greater [40]. As an indicator of the adolescents' autonomy in food choices, our study highlighted statistical differences in eating differently from family members or roommates, due to migration status. The percentage of volunteers saying they eat different food increased from the first-generation immigrants to the second-generation immigrants to the natives, indicating a higher autonomy of the last group.

Our research also showed that among first-generation immigrants, there were 1.9% who never have lunch and 1.8% never having dinner. Moreover, 38.9% of the first-generation immigrants, 25.0% of the second-generation immigrants, and 29.0% of natives declared that they sometimes skipped breakfast, due to insufficient time or appetite and a will to sleep longer in the morning; this result is in line with those of other stud-

ies conducted on Italian adolescents [41,42]. A recent systematic review reporting on the prevalence of breakfast-skipping among children and adolescents from 33 countries, concluded that most studies reported between 10–30% of young people skipped breakfast [42]. The higher percentage of first-generation immigrants not consuming breakfast might be due to previous dietary habits, such as a different meal organization. Commonly reported reasons for breakfast-skipping among children and adolescents include those related to a lack of time, enjoyment of breakfast or feelings of hunger in the morning, and weight control. Evidence suggests that breakfast-skipping is most prevalent among females, older children, and adolescents. Further, as with many health-related behaviours, breakfast-skipping is socioeconomically patterned and tends to cluster with other unhealthy behaviours [42–48]. Moreover, it has been demonstrated that there is high variability in the prevalence of breakfast-skipping among participants from different countries or ethnic backgrounds [49,50].

Licit drugs, represented by cigarettes and alcohol, are the most widely used harmful substances in the world and one of the greatest public health problems in both low- and high-income countries [51]. Their consumption generally begins in adolescence. Socio-cultural, environmental, and psychological factors have been identified as key theoretical pathways for the explanation of licit drug use in this period of life. Among psychosocial variables, the quality of life of an adolescent is associated with resilience to life's challenges and the establishment of health-related behaviours and healthy interpersonal relationships [52]. Therefore, adolescents are a major target group for preventive measures to modify these health risk behaviours [53]. Our investigation suggests that, despite the young age of volunteers, these risk behaviours were mainly practiced by natives, and in particular for alcohol consumption the differences among groups were statistically significant, probably due to the higher age of natives or to the fact that some of the foreign volunteers did not consume alcoholic beverages for religious reasons.

These findings are supported by available data that have previously highlighted differences in alcohol consumption between native and immigrant adolescents. However, findings concerning the direction of the association between alcohol consumption and immigrant status are mixed [54,55]. According to Convergence Theory [56], alcohol consumption by second-generation immigrants more strongly resembles that by natives than that by first-generation immigrants. The higher lifetime frequency of drunkenness among first-generation immigrants (than among both their second-generation and native peers) highlights the vulnerability of first-generation immigrant adolescents to getting drunk. This behavioural drift across immigrant generations has been attributed to greater contact with the receiving culture, which increases the likelihood of adopting normative behaviours of the receiving society and diminishes the influence of the origin country, indicating that for immigrant adolescents, alcohol consumption, in the origin country, is a stronger predictor than for those in the receiving country [57].

International studies on smoking and migrants have reported partly high smoking prevalence in migrant populations [58,59] and differences in smoking prevalence between migrants and the native population [60–64]. Our data did not reveal differences due to migration status, suggesting that most of the sample had no smoking habits.

Among the factors characterizing a correct lifestyle, the balance between physical activity and a sedentary lifestyle plays a priority role. Physical activity is also fundamental in adolescents, especially for bone and muscle development and to grow healthy; furthermore, participation in recreational motor and sports activities represents an opportunity to improve themselves, overcome their limits and have fun. This is through the processes of socialisation, character identification and structuring, improved self-esteem, and enhanced interpersonal relationship skills. The World Health Organization (WHO) recommends that children and adolescents aged <18 years accumulate at least an average of 60 min per day of moderate-to-vigorous intensity physical activity, whereas people aged  $\geq$ 18 years should accumulate at least 150–300 min of moderate-intensity physical activity or 75–150 min of vigorous-intensity physical activity per week, or an equivalent combination [65]. It has

been demonstrated that during adolescence there is a decrease in physical activity levels because of sedentary activities, including TV viewing, video game playing, computer use (collectively termed "screen time"), driving automobiles, and reading [66]. The imbalance between physical activity and sedentary behaviours has been associated with obesity and obesity-related health problems [67]. Screen media exposure is another factor that might contribute to increase the risk of incorrect eating habits characterized by a high consumption of energy-dense foods and sweetened drinks during the viewing. Because of that, WHO strongly recommends that children and adolescents should limit the amount of time spent being sedentary, particularly the amount of recreational screen time [65]. Almost all the volunteers enrolled in this research were active, had 1–3 h of free time a day and the mean screen time was lower than 3 h, without statistically significant differences due to migration status.

#### 5. Conclusions

The encounter between different cultures seems to have become the key theme of our time, which opens up new horizons and new opportunities. Just like native-born adolescents, immigrant youth have to cope with a set of developmental tasks, such as academic achievement, social relationships, and their own psychological well-being. In parallel with the time spent in the host country, because of acculturation, immigrants partially embrace behaviours of the host population but, at the same time, maintain some aspects of their culture. The study sample, which represented some of the different cultures and geographical origins currently present in Italy, was perfectly integrated, since there were few significant differences in lifestyle and eating behaviours due to migration status: this could be due to the fact that the volunteers attended multicultural centres. Diversity, therefore, becomes an added value, bringing a dynamic interchange between the parties, made possible by the willingness of both to welcome the novelty of the other. The strengths and weaknesses of the study are described elsewhere [40]. The small sample size, the dishomogeneus numeric distribution of volunteers into the three categories (first-generation immigrants, second-generation immigrants, and natives), and the geographically limited area do not allow generalizations and extrapolations; thus, further investigations are recommended, involving larger populations, recruited in different municipalities. However, given the persistence of incorrect habits, adolescence represents a key moment in which to intervene effectively to promote healthier lifestyle and eating habits, also considering the cultural components.

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**Institutional Review Board Statement:** The investigation was carried out following the rules of the 1975 Declaration of Helsinki, revised in 2013. Ethical review and approval were waived for this study because it did not involve any invasive procedure or laboratory assessment, or induce lifestyle changes or dietary intake modifications.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study. In the case of minors, the release was signed by parents or by whoever had parental responsibility.

**Data Availability Statement:** The archived data and all the elaboration and analysis generated and used for the presentation of results in this study are fully available on request from the corresponding author.

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