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Herbal Infusions as a Part of the Mediterranean Diet and Their Association with Psychological Resilience: The Paradigm of Greek Mountain Tea

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Abstract: Herbal infusions (HI) are a popular type of beverage known for their potential health benefits due to the extraction of phytochemicals and bioactive compounds. The Mediterranean Diet (MD) is a well-known dietary pattern with beneficial effects on health, and Psychological Resilience (PsyR) is a key indicator of mental health and human well-being. The aim of this cross-sectional study was to explore the relationship between HI and the MD, as well as their association with PsyR. The study included 398 healthy adults from Greece who participated voluntarily in an online research survey. The results indicated that 45.9% of participants consumed HI more than twice per week. There was a statistically significant association between the weekly consumption of HI and the Mediterranean Diet Adherence Screener (14-MEDAS), which identified HI consumption as a prognostic factor of high adherence to the MD. Additionally, HI consumption was significantly associated with PsyR. St John's wort, green tea, and Greek mountain tea were associated with higher levels of PsyR. Greek mountain tea was also associated with a healthful and sustainable lifestyle. These findings suggest that HI are an integral part of the Mediterranean Diet, and their consumption is associated with PsyR. Promoting the consumption of HI such as Greek mountain tea and other herbs could be an effective way to promote healthy lifestyle behaviors and sustainable practices. Further randomized control trials are needed to confirm the results of this study.

Keywords: herbal infusions; natural functional foods; Mediterranean diet; psychological resilience; well-being; Greek mountain tea; Sideritis; *Camellia sinensis*; Hypericum perforatum

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1. Introduction

Herbal infusions (HI), also known as herbal teas, are beverages typically made by steeping fresh or dried plant materials in hot water. This method allows the extraction of various phytochemicals such as polyphenols, terpenes, flavonoids, alkaloids, tannins, and bioactive compounds that are believed to have a range of health benefits, including improving digestion, reducing inflammation, promoting, and boosting immunity [1]. HI have been consumed for centuries for their possible medicinal properties and unique flavors [2]. Their potential health benefits have been studied, among others, by the Ancient Greek philosopher and scientist Theophrastus, who was a student and successor of Aristotle. In his book, "Historia Plantarum", Theophrastus wrote extensively about the properties of various plants and their potential uses in medicine, and considered HI, alongside a healthful nutrition, part of a holistic approach in boosting well-being [3].

In Greece, herbal infusion consumption is considered a traditional remedy for several health conditions due to their antioxidant properties, given the fact of their high content of phenolic compounds. The antioxidant properties of HI have been investigated by multiple studies [4]. More specifically, consumption of Greek mountain tea, one of the most popular HI in Greece, seems to have a possible effect on cognitive function and mood, due to its interaction with the human neurotransmitter system [5]. Other benefits of

the Greek mountain tea include gastroprotective, antimicrobial, anti-inflammatory effects, and memory enhancing effects [6]. Given the scientific trend toward more natural and systematic approaches to health and wellness [7], in the recent years there has been an increase in the potential of HI in people's health [8], in conjunction with a healthful dietary pattern [9].

One of the most well-studied and widely recognized as a healthful dietary pattern is the Mediterranean diet [10]. This dietary pattern is based on the traditional eating habits of people living in countries bordering the Mediterranean Sea [11]. It is characterized by a high consumption of fruits, vegetables, legumes, whole grains, nuts, and olive oil, with moderate intake of fish and seafood, dairy products, and red wine [12]. The Mediterranean diet's health-promoting properties are attributed to its high content of phenolic compounds, fiber, phytosterols, and polyphenols such as resveratrol, as well as monounsaturated and polyunsaturated fatty acids, vitamins, and minerals [13]. Additionally, the Mediterranean diet emphasises the use of herbs and spices for flavouring instead of salt [14] and encourages the consumption of meals with family and friends [15]. The Mediterranean diet has been associated with numerous health benefits, including reduced risk of cardiovascular disease, metabolic disorders, and certain types of cancer [16]. It has also been proposed as a dietary pattern that could potentially promote mental health. Studies have shown that adherence to the Mediterranean diet is associated with lower risk of cognitive impairment, depression, anxiety, and stress [17].

An important factor for determining mental health that is inversely associated with depression, anxiety, and stress [18], and is linked to good health overall, is Psychological Resilience (PsyR) [19,20]. A transversal definition of PsyR that was proposed by Sisto et al., 2019 is "PsyR is the ability to maintain the persistence of one's orientation towards existential purposes. It constitutes a transversal attitude that can be understood as the ability to overcome the difficulties experienced in the different areas of one's life with perseverance, as well as good awareness of oneself and one's own internal coherence by activating a personal growth project" [21]. PsyR is very important for people's functionality in every aspect of their life [22]. As a result, there has been growing interest in PsyR studies. There is evidence to suggest that dietary factors may play a role in promoting PsyR [23], but the relationship between nutrition and PsyR has not been extensively studied.

The growing interest in natural and holistic approaches to mental health [24] has led to the proposal of a healthful dietary pattern, such as the MD, and some of its components, such as HI consumption, as potential suggestions for promoting mental health [25,26]. Therefore, the aim of this study was to investigate the association between HI as part of the MD and PsyR. Specifically, we examined whether regular consumption of HI was associated with higher levels of psychological resilience in the Greek population. In addition, we looked into the paradigm of Greek mountain tea, as a popular local herbal infusion, and its association to PsyR and to a healthful and sustainable lifestyle.

It was hypothesized in our study that a close relationship exists between HI and the MD, and that an association between HI consumption and PsyR is present. This study has important implications for understanding the potential role of HI in promoting mental health and well-being and may inform public health recommendations for the inclusion of HI as part of a healthy dietary pattern.

2. Materials and Methods

2.1. Study Design

An online survey was designed and implemented for data collection using the Sogo-survey cloud survey software. An online questionnaire was deemed necessary due to the unique circumstances in Greece as a result of the Corona Virus Disease 2019 (COVID-19) pandemic. Online questionnaires are becoming more popular as a simple, convenient, and low-cost data collection method. If the design and execution are meticulous and methodical, the results are identical to those of printed questionnaires [27]. Before the survey was officially distributed, a pilot study of 50 people was conducted to check for

potential ambiguities. The processes for distribution, data collection, and analysis were all tested. The pilot study is critical for improving the main study's quality and efficiency [28]. Errors were not found in the data structure, distribution, collection, or analysis. The pilot study's findings were incorporated into the final sample. The survey began in September 2022 and ended in March 2023. Before collecting data, the analytic strategy and hypotheses of this study were defined.

2.2. Subjects

Based on the Greek population, the total sample size calculated to be required for a confidence level of 95% and a confidence interval of 5% was set at 384 people [29]. Every person living in Greece over the age of 18 who agreed to have their responses used anonymously and confidentially for scientific purposes and data analysis met the inclusion criteria for this study. To facilitate accurate responses, participants were given clear instructions on how to complete questionnaires. Following the exclusion of 61 people who were not eligible for this study, as well as 17 incomplete or random responses, the final sample consisted of 398 adults. Transparency, a non-exceptionalist methodology, privacy respect, and adherence to the terms of use of social media platforms were all part of the recruiting process [30]. The survey was available in both Greek and English.

2.3. Ethical and Deontological Issues

This study was carried out in accordance with the established codes of ethics and deontology according to the Declaration of Helsinki. Acceptance of the research's terms and conditions was a prerequisite for participation. The participants were informed about the target of the study, the confidentiality of the data, the voluntary nature of the study, and the acceptance of their participation. The research was approved by the University of the Aegean's ethics and deontology committee (no. 17715/09.09.2021) and is compliant with the ethical, deontological, and legal framework of research as defined in the University's Code of Ethics and Deontology of Research.

2.4. Scales

2.4.1. Mediterranean Diet Adherence Screener (14-MEDAS)

Schroeder et al. [31] developed the 14-MEDAS scale (Supplementary Material, questions nos. 3–16) to assess adherence to the Mediterranean diet as part of the PREDIMED (Prevención con Dieta Mediterránea) study. Each question is graded from 0 to 1. The 14-MEDAS final score ranges from 0 to 14. A score of 0 to 5 indicates low adherence to the Mediterranean diet, 6 to 9 indicates moderate adherence, and 10 to 14 indicates high adherence. The 14-MEDAS has been validated in numerous countries and languages, including Greek. Garcia-Conesa et al. [32] found that the Greek version of 14-MEDAS had a very high agreement (81.2 %) with the Food Frequency Questionnaire (FFQ), making it a very valid and reliable research tool for measuring adherence to the Mediterranean diet in the Greek population.

2.4.2. Connor-Davidson Resilience Scale 10-Item (CD-RISC-10)

CD-RISC-10 (Supplementary Material, questions nos. 19–28) is a brief version of the Connor and Davidson resilience scale [33]. It is one of the most widely used scales for measuring psychological resilience and contains 10 of the original scale's 25 items. It is graded on a Likert scale [34], with answers ranging from 0 to 4 points. The total score may range from 0 to 40 points. A higher score indicates greater resilience. CD-RISC-10 was validated in Greek by Tsigaropoulou et al. [35]. The authors concluded from a case-control study of 546 people that the Greek translation of the CD-RISC-10 is a reliable and valid tool for measuring psychological resilience in the Greek population.

2.4.3. Single Item Sleep Quality Scale (SQS)

SQS (Supplementary Material, question no. 33) is a validated single-item sleep quality scale designed to provide a simple and practical way to assess sleep quality. The participants answer a single question regarding their sleep quality over a 7-day recall period, in a 0–10 visual analogue scale. While the SQS's single-item format allows people to rate their own sleep quality, the addition of a discretizing Visual Analog Scale improves the measurement's sensitivity [36]. This scale is a valid tool for measuring sleep quality in healthy adults [37].

2.5. HI Intake

Questions about the consumption frequency of the HI of choice on a weekly basis were used to determine HI intake (Supplementary Material, questions nos. 17, 18). People that never or rarely consumed HI were categorized as non-users. People that consumed HI regularly, usually, or everyday were characterized as regular users [38]. Participants who consumed HI had the option of selecting their preferred HI from a list of 12 of Greece's most popular HI: black tea (oxidized *Camellia sinensis*), green tea (unoxidized *Camellia sinensis*), Greek mountain tea (*Sideritis*), chamomile (*Matricaria chamomilla*), sage (*Salvia officinalis*), St John's wort (*Hypericum perforatum*), lemon balm (*Melissa officinalis*), mint (*Mentha spica*), silver lime (*Tilia tomentosa*), marjoram (*Origanum majorana*), louisa (*Aloysia citrodora*), and CBD (*Cannabidiol*).

2.6. Lifestyle Factors and Sustainable Behaviors

In order to investigate the relationship between HI and some of the lifestyle factors and behaviors associated with the Mediterranean lifestyle, participants were asked about their physical activity, proximity to nature, food waste management, and consumption of seasonal and local products (Supplementary Material, questions nos. 29–32) [22].

2.7. Demographics-Anthropometrics

The demographic and anthropometric data questions in the questionnaire were placed at the end. This option helps to reduce research abandonment [39]. Among the demographic questions were education, employment status, marital status, and gender. Participants were asked to fill out forms with their height and weight, which were then used to calculate their body mass index (BMI). Although self-reporting height and weight is not the most reliable source of data for drawing conclusions about respondents' body composition, it is a valid method of calculating BMI for adults from various socio-demographic groups [40]. Individuals' BMIs were classified into four categories based on existing guidelines (underweight, normal weight, overweight, and obesity) [41].

2.8. Statistical Analysis

The data were checked for possible omissions. When a participant's completion of the questionnaire was interrupted (Missing Completely at Random), the data were removed from the observations. In the event of an unintentional omission (Missing at Random), the average of all respondents' answers was used to compensate [42]. The data were exported as a file ready for import and processing in SPSS v28 and R-Statistics. The statistical analysis and visualization of the results were carried out using the statistical analysis programs SPSS v28 and R-Statistics. Prior to submitting the data to statistical tests, their distribution was checked for regularity. For the best and most reliable control of regularity, a combination of visual evaluation and the Shapiro–Wilk test should be used [43]. Regularity tests were performed on the research's main variables. The statistical significance level was set at $p < 0.05$. ANOVA, correlations, *t*-tests, multiple linear regressions, and multinomial logistic regression were used for the statistical analysis of the data. The data analysis in this study meticulously accounted for potential confounding variables.

3. Results

3.1. HI Consumption among Survey Participants

Among the 398 survey participants, 183 (45.9%) consumed HI on a regular basis. Greek mountain tea (13.8%) was the most used of the 12 offered HI, followed by green tea (9.8%), chamomile (7%), and louisa (5%) (Figure 1).

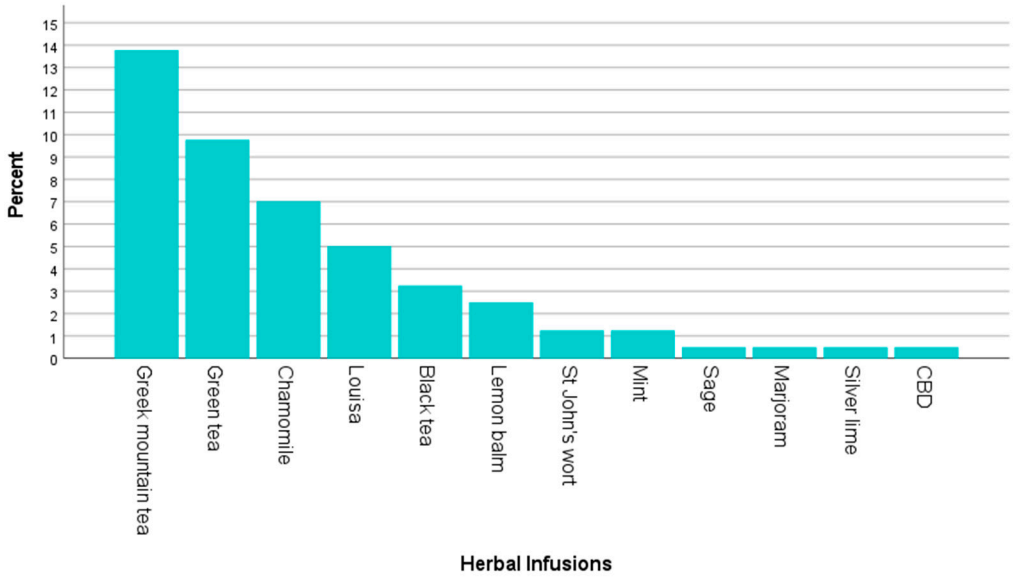

Figure 1. Consumption of various HI by survey respondents who reside in Greece, represented as a percentage.

HI were consumed on a regular basis by 61.1% of the participants living in countries other than Greece, who were excluded from the main analysis of this study. The most commonly consumed HI was black tea (22.2%) (Figure 2).

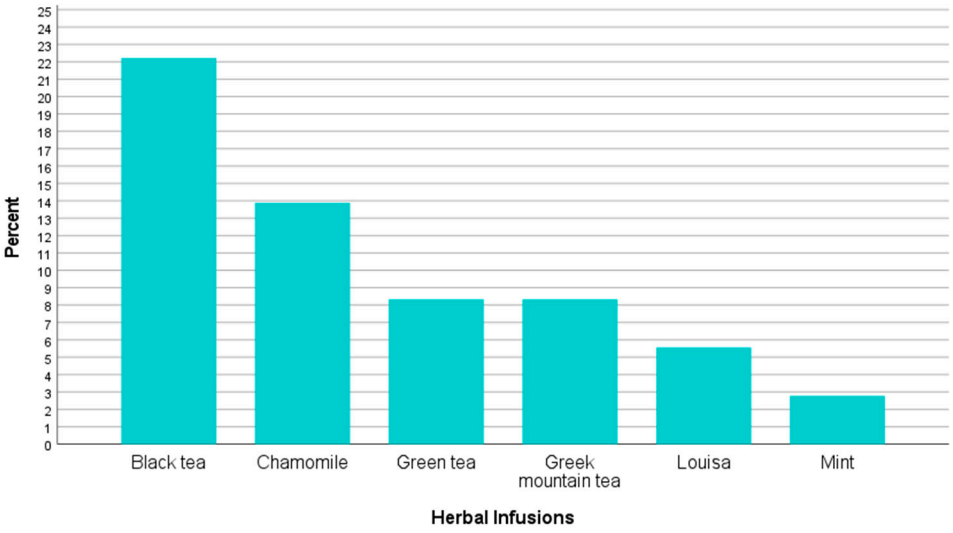

Figure 2. Consumption of various HI by excluded survey respondents who reside outside of Greece, represented as a percentage.

3.2. HI and Their Association with the MD

HI were tested for their association with MD. There was statistically significant ($p < 0.001$) Pearson's correlation coefficient (r = 0.205), between HI weekly consumption and 14-MEDAS. One-way ANOVA analysis revealed a statistically significant ($p < 0.001$) difference between the means of 14-MEDAS score in different HI weekly intakes (Figure 3).

LSD post hoc test results showed a statistically significant difference in the means of 14-MEDAS in regular ($p = 0.026$), usual ($p = 0.039$), and everyday ($p < 0.001$) consumption of HI, compared to no consumption of HI.

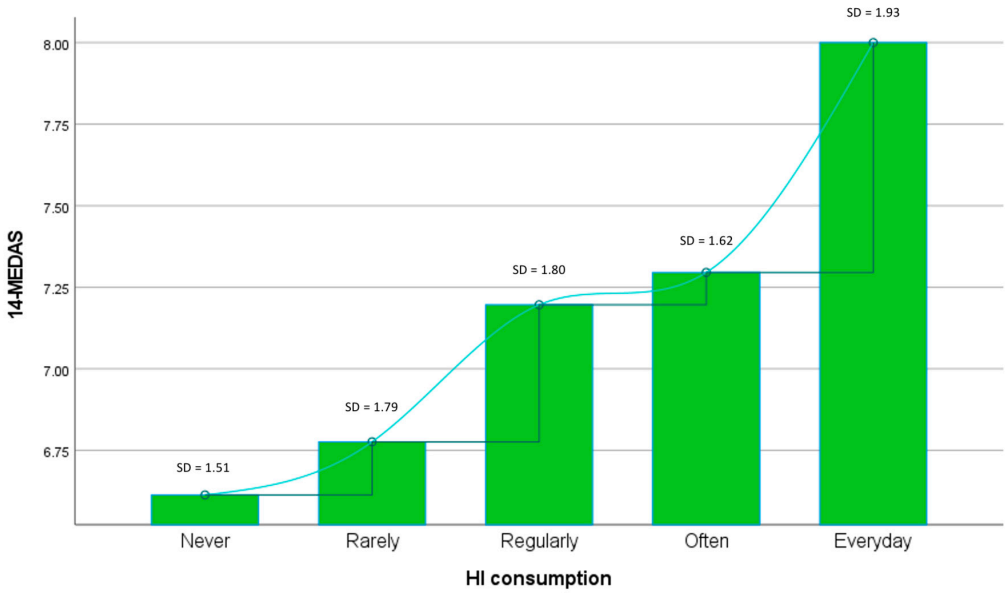

Figure 3. 14-MEDAS means for various HI consumption rates.

In order to further explore the link between 14-MEDAS and specific HI, multinomial regression was applied. Multinomial regression analysis identified adherence to the MD as a statistically significant prognostic factor of consumption of green tea (OR: 1.241, 95% CI: 1.012, 1.521, $p = 0.38$, compared with no HI consumption), Greek mountain tea (OR: 1.259, 95% CI: 1.054, 1.504, $p = 0.11$, compared with no HI consumption), St John's wort (OR: 3.004, 95% CI: 1.572, 5.738, $p < 0.001$, compared with no HI consumption), and louisa (OR: 1.505, 95% CI: 1.136, 1.994, $p = 0.004$, compared with no HI consumption).

3.3. HI and Their Association with PsyR

There was a statistically significant ($p = 0.002$) Spearman's correlation coefficient ($\rho = 0.156$) between HI weekly consumption and CD-RISC-10. One-way ANOVA analysis revealed a statistically significant difference ($p = 0.022$) between the means of PsyR in various HI weekly consumption. The LSD post hoc test results revealed a statistically significant difference in the means of PsyR in the consumption of green tea ($p = 0.02$), Greek mountain tea ($p = 0.007$), and St John's wort infusion ($p = 0.001$), compared to no consumption of HI.

Based on the results of an independent samples *t*-test, a significant difference ($p = 0.003$) in PsyR scores was found between participants who reported consuming Herbal Infusions (HI) at least twice a week and those who reported no consumption or consumption less than once a week (Figure 4). Specifically, participants who reported consuming HI at least twice a week had higher PsyR scores (M = 26.88, SD = 5.97) compared to those who reported no consumption or consumption less than once a week (M = 25.03, SD = 6.41).

Multinomial regression analysis showed that people with higher PsyR were more likely to consume Greek mountain tea (OR: 1.073, 95% CI: 1.019, 1.129, $p = 0.007$), green tea (OR: 1.072, 95% CI: 1.011, 1.137, $p = 0.020$, compared to no HI consumption), and St John's wort infusion (OR: 1.362, 95% CI: 1.108, 1.673, $p = 0.004$, compared to no HI consumption).

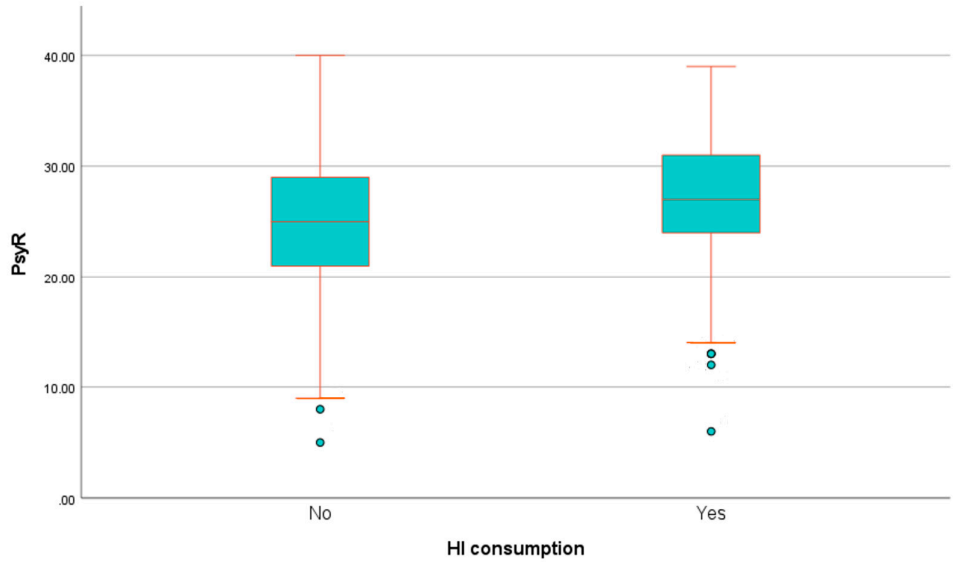

Figure 4. Boxplots of PsyR means in HI consumption.

3.4. HI, BMI and Sleep Quality

The Pearson's correlation coefficient (r = −0.123) between HI intake and BMI was statistically significant (p = 0.014). According to multinomial regression analysis, people with higher BMI were more likely to drink marjoram infusion (OR: 1.141, 95% CI: 1.011, 1.287, p = 0.032, compared to no HI consumption) and less likely to drink mint infusion (OR: 0.732, 95% CI: 0.538, 0.996, p = 0.004, compared to no HI consumption). There was no statistically significant relationship between HI intake and SQS. The intercorrelations between HI, 14-MEDAS, PsyR, BMI, and SQS are demonstrated in Table 1.

Table 1. *p*-Values of the correlations between HI, 14-MEDAS, PsyR, BMI, and Sleep Quality.

	HI	14-MEDAS	CD-RISC-10	BMI	SQS
HI	1	<0.001 *	0.002 *	0.014 *	0.920
14-MEDAS	<0.001 *	1	0.018 *	0.132	<0.001 *
CD-RISC-10	0.002 *	0.018 *	1	0.146	<0.001 *
BMI	0.014 *	0.132	0.146	1	0.506
SQS	0.920	<0.001 *	<0.001 *	0.506	1

* Correlation is significant at the 0.05 level.

3.5. HI, Lifestyle Factors and Sustainable Behaviors

3.5.1. HI and Physical Activity

Independent samples t-test showed a statistically significant difference (p = 0.005) between the means of physical activity of consumption vs. no consumption of HI. Multinomial regression analysis revealed that participants with higher physical activity were more likely to consume Greek mountain tea (OR: 1.453, 95% CI: 1.141, 1.850, p = 0.002, compared to no HI consumption).

3.5.2. HI and Food Waste

After the application of a Pearson Chi-square test, we found that there was a statistically significant association (p = 0.014) between HI consumption and avoiding food waste. The effect size, as measured by Phi, was 0.279, indicating a moderate association between the two variables. Multinomial regression analysis showed that people that avoided food waste had higher odds of consuming Greek mountain tea (OR: 1.420, 95% CI: 1.126, 1.791, p = 0.003, compared to no HI consumption).

3.5.3. HI and Seasonal and Local Products

A Pearson Chi-square test revealed a statistically significant association (p = 0.003) between HI intake and choosing seasonal and local products. There was a moderate association (Phi = 0.299) between the two variables. Multinomial regression analysis revealed that participants who chose seasonal and local products were more likely to consume Greek mountain tea (OR: 2.135, 95% CI: 1.445, 3.155, p < 0.001, compared to no HI consumption), chamomile (OR: 1.721, 95% CI: 1.060, 2.794, p = 0.028, compared to no HI consumption), and louisa (OR: 1.779, 95% CI: 1.005, 3.150, p = 0.048, compared to no HI consumption).

3.5.4. HI and Proximity to Nature

Independent samples t-test revealed a statistically significant difference (p < 0.001) between the means of being frequently in contact with nature and HI consumption vs. no consumption. Multinomial regression analysis showed that participants who were closer to nature had higher odds of consuming Greek mountain tea (OR: 1.445, 95% CI: 1.091, 1.914, p = 0.010, compared to no HI consumption), green tea (OR: 1.437, 95% CI: 1.040, 1.985, p = 0.028, compared to no HI consumption), chamomile infusions (OR: 1.453, 95% CI: 1.000, 2.111, p = 0.048, compared to no HI consumption), and St John's wort infusions (OR: 3.330, 95% CI: 1.073, 10.336, p = 0.037, compared to no HI consumption).

A summary of the predicting value of Greek mountain tea consumption in the main structures of our study is presented in Figure 5.

Figure 5. Odds ratio of Greek mountain tea consumption vs. no HI consumption (* statistically significant differences).

3.5.5. HI and Marital Status

A Pearson Chi-square test showed a statistically significant association (p = 0.013) between HI intake and marital status, with a moderate association (Phi = 0.252) between the two variables. Multinomial regression analysis revealed that singles were more likely to consume HI regularly (OR: 1.368, 95% CI: 1.094, 1.711, p = 0.006, compared to married participants).

4. Discussion

Although plant materials serve as the foundation for drug discovery and HI are widely consumed, there is a limited number of articles examining their clinical efficacy and safety [44]. This lack of research also applies to the association of HI with both the MD and

PsyR. The present research aimed to address this gap. To our knowledge this is the first study to investigate the relationship between HI, the MD, and PsyR.

Our findings suggest that HI are widely consumed in Greece, with nearly one in every two participants (45.9%) drinking HI on a regular basis. It is interesting to point out that Greek mountain tea (*Sideritis*) was the most popular HI in our study, even though *Camellia sinensis* (black tea, green tea) is the most popular HI worldwide [45], with possible bioactivity due its high composition on phenolic compounds. Excluded participants in our study confirmed the worldwide popularity of Camellia sinensis, with nearly one out of every three people (30.6%) living in a country other than Greece selecting black or green tea as their preferred HI.

The results of this study validated our hypothesis that HI intake is associated with the MD. Participants who consumed HI regularly had higher adherence to the MD. In particular, Greek mountain tea, St John's wort, louisa, and green tea consumption was significantly associated with the MD. HI consumption has historically been a dietary habit of people living in Greece and the Mediterranean region [46], but its association with the MD is overlooked. There are limited studies that include HI consumption as part of the Mediterranean lifestyle [22,47], but there is no MD adherence scale to our knowledge that includes HI in its items. Inclusion of HI intake in future MD adherence scales could be a viable option for a more accurate overall assessment of the MD.

PsyR, one of our study's basic structures, is a vital aspect of mental health, and prioritising its promotion may be crucial for enhancing people's overall mental health and well-being. The significance of the link between nutrition and mental health has not been fully recognised. However, in recent years, there has been a shift in this trend, with an increasing focus on neuropsychiatric research [48].

In our study, the hypothesis that HI and PsyR are associated was confirmed by the study's results. Participants that consumed HI regularly had higher levels of PsyR. Specifically, participants who consumed green tea, St John's wort, and Greek mountain tea were more likely to have high levels of PsyR. These findings are consistent with the existing literature. According to a systematic review conducted by Mancini et al., 2017, green tea (*Camellia sinensis*) has positive effects on important mental health structures such as cognition, mood, and brain function. It can also reduce psychopathological symptoms such as anxiety [49], which is associated with lower PsyR [50]. St John's wort (*Hypericum perforatum),* apart from consistent evidence in mitigating depressive symptoms [51], has also been linked to anxiety reduction [52]. The link between Greek mountain tea (*Sideritis)* and mental health has not been sufficiently investigated. However, the abundant occurrence of phenolic compounds, especially phenolic acids in *Sideritis*, seems to have a positive effect on memory and general cognitive abilities [53], as well as in the reduction in anxiety symptoms [5]. Therefore, even if the link between HI and PsyR is still in its infancy with limited number of articles studying this link, the promising results of this study combined with previous research regarding HI and mental health in general contribute to the ongoing psycho-dietetics research.

The results of this study suggest that there is a significant association between HI consumption and healthy lifestyle behaviors and sustainable practices. The findings are consistent with previous research, which has shown that consuming HI is associated with a healthy lifestyle [54]. Moreover, the consumption of HI appears to be associated with engagement in a range of pro-environmental behaviors and attitudes, including physical activity, avoiding food waste, choosing seasonal and local products, and being closer to nature. These results are particularly relevant for public health initiatives aimed at promoting healthy lifestyle behaviors and sustainable practices.

The design of this study did not specifically target the investigation of a particular HI, but rather focused on examining the general association between the most popular HI in Greece and the MD, PsyR, as well as healthful and pro-environmental behaviors. However, the widespread popularity of Greek mountain tea consumption, coupled with being the only HI that was significantly associated with all MD, PsyR, healthful lifestyle

behaviors, and sustainable practices, prompted us to consider it as a paradigmatic HI in our study. Encouraging the consumption of herbal teas like Greek mountain tea may be an effective way to promote a healthful lifestyle, while also fostering a deeper connection to nature and a more sustainable way of living. Additionally, the promotion of seasonal and local products, such as Greek mountain tea in Greece, may also have a range of benefits, including a reduced environmental impact and improved local economies.

Despite confirming previous literature on the association between HI consumption and weight status [55,56], the observed correlation was not statistically strong enough to provide conclusive evidence. Thus, further studies with a more focused approach are required to validate the findings of this study. Similarly, the relationship between HI consumption and sleep quality was not statistically significant, warranting further investigations to either support or refute these observations.

This study offers several strengths and valuable insights. Firstly, it addresses a significant gap in the literature by being the first to investigate the relationship between HI, MD, and PsyR. Furthermore, the study highlights the association between HI consumption and higher levels of PsyR, with green tea, St John's wort, and Greek mountain tea being linked to increased PsyR. Additionally, this study reveals that HI consumption is associated with healthful lifestyle behaviors and sustainable practices, such as physical activity, avoidance of food waste, and preference for seasonal and local products. Encouraging the consumption of herbal teas like Greek mountain tea can promote a healthful lifestyle, foster a connection with nature, and contribute to sustainability efforts.

This study has some limitations. The cross-sectional design of this study makes it impossible to determine the direction of the causal correlation. It is not impossible that the consumption of HI is influenced by PsyR. Nonetheless, previous studies have shown that HI have anti-inflammatory and antioxidant properties due to their high level of phenolic compounds [57–59] and may contribute to a better mental health status, reduced anxiety symptoms, and as a result higher PsyR [22,25,60]. These findings support the current study hypothesis' causal direction. Another limitation is the use of an online questionnaire to collect study data—non-probability sampling. In order to address the limitations of an online survey, including low data quality due to bots, random responses, and satisficing, this survey included open-ended questions (e.g., enter height, weight), timing checks (surveys completed under 4 min were excluded), and consistency checks (follow-up questions were included). The cross-sectional design of this study poses limitations in differentiating between specific herb species, as consumers are typically aware of only the common name of the herbal infusion (HI) they consume. However, the main objective of this study was to provide a broader understanding of HI consumption patterns, laying the groundwork for future randomized controlled trials that can focus on investigating the efficacy and health promoting properties of specific HI species. By examining HI consumption in general, this study paves the way for more targeted research in the future. A basic limitation of the study is the lack of analysis about the nutritional composition of the teas and the possible small differences on the composition in different tea species. Future randomized control trials incorporating nutritional analysis could provide valuable insights into the specific composition of the consumed teas and their potential health benefits.

5. Conclusions

To our knowledge, this current study is the first to investigate the association between HI, the MD, PsyR, and a healthful and sustainable lifestyle, adding data to the existing literature. This study identified HI as an integral part of the MD. Our study suggests that there is a reciprocal relationship between the consumption of herbal teas and adherence to the Mediterranean diet. HI consumption is associated positively with PsyR. Among HI, Greek mountain tea (*Sideritis*), St John's wort (*Hypericum perforatum*), and green tea (*Camellia sinensis*) intake is associated with higher levels of PsyR. HI and particularly Greek mountain tea is associated with a healthful and sustainable lifestyle.

In conclusion:

- The consumption of HI is a component of the Mediterranean Diet and has been found to be associated with PsyR.
- Promoting the consumption of HI, such as Greek mountain tea, could potentially contribute to the adoption of healthy lifestyle behaviors and sustainable practices.
- To validate the results of this cross-sectional study and explore the potential bioactivity of HI, it is recommended to conduct prospective epidemiological studies.
- Additionally, randomized controlled clinical trials should be undertaken to further investigate the effects and mechanisms of HI consumption.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/nutraceuticals3030032/s1, Questionnaire of Herbal Infusions Survey 2023.

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