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Sweet Taste Preference and Personality Traits

Using a White Wine

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Abstract

Understanding the influences of food & drink consumption patterns could help elucidate the factors that promote healthy dietary practices. Research has begun to investigate the influence of personality traits on dietary decisions. The current experiment measured personality traits and sweet taste preference using white wine in a healthy sample of adults (n=45). Sweet taste preference was associated with a higher level of impulsiveness but lower openness. These traits have previously been suspected to influence dietary choices (Davis, Strachan & Berkson, 2004; Goldberg & Strycker, 2002) and are briefly discussed within this context.

Keywords: Impulsivity, openness, sweet taste preference, wine, dietary choice

Introduction

There has been a focus on researching underlying factors associated with poor dietary lifestyles. Much research focuses on the degree to which biology (Mennella, Johnson & Beauchamp, 1995), learning (Birch and Marlin, 1982), cultural background (Bourdieu, 1984) and socio economic influences (Drewnowski, 2003) have on taste preferences. One relatively new avenue of research has been the influence of personality traits, specifically the relationship they may have on taste preferences.

Research studies into personality provide supportive evidence of five factors – the ‘big five’ theory of personality; these factors include openness, conscientiousness, extraversion, agreeableness and neuroticism (OCEAN: for overview see Hogan, Johnson & Briggs, 1997). The first two factors in particular may play a role in mediating taste preference. Openness to experience has been portrayed as a proxy measure of the willingness to explore new and unfamiliar experiences, ideas and feelings (Costa & McCrae, 1992) whilst conscientiousness refers to self-discipline, persistence and perfectionism (Brummet, Siegler, Day & Costa, 2008).

Kikuchi and Watanabe (2000) found a preference for sweet and salty taste in people exhibiting high levels of the trait neuroticism (emotionally reactive). However, the sample used was based on junior students from a Tokyo University, with five times as many females than males.

Sensation seeking has been associated with preference for spicy foods, meat and alcoholic drinks (Terasaki & Imada, 1988). A possible explanation for this observed association is that stimulating flavours provide positive reinforcement at higher levels in those high in the trait of sensation seeking.

Impulsivity is considered a multidimensional construct (Wingrove & Bond, 1997). Correlations between self-report measures and behavioural measures of impulsivity are generally weak, which may reflect that they are measuring subtypes of impulsiveness: non-planning, inhibition and sensitivity to reward (Avila, 2001). The first type of impulsiveness is characterised by acting on the spur of the moment without being aware of any risk involved (Eysenck, Eating, & Pearson, 1984) and is measured by self-report. The second is response inhibition, which is predominantly measured by behavioural tasks. Barkley (1997) argues that inhibitory control is essential for the efficiency of executive functions such as self-regulation. A third suggested aspect of impulsivity is sensitivity to reward (STR), which is measured both by behavioural tasks and by self-report questionnaires.

Many of the studies that have investigated the influence of personality on taste preference have simply asked participants to self-report their preferences. An obvious disadvantage of this kind of measure is that socially desirable answering tendencies can be fairly strong (Gerding & Weinstein, 1992). The current study extends on the self report approach by measuring preference for sweet taste through hedonic ratings to determine the role of sweet taste preference in impulsivity and other personality traits that are thought to influence diet. Wine tasting will be used in the current study in an attempt to minimise the effects of social desirability. It is unlikely that wine taste preferences would be based on a desire to appear healthy as a sweeter wine does not initiate thoughts of an unhealthy diet. White wine was used in preference to red wine as white wine is more readily associated with sweetness, such that a sweet red wine might be characterized as faulty or at least unusual by participants.

The current study investigated whether participants with a preference for sweet taste in white wine were higher in impulsivity or other personality traits measured. It is hypothesized that individuals with a preference for sweet taste will report higher in the trait of impulsivity, consistent with research on dietary habits and self reported taste preference (Davis, Strachan & Berkson, 2004). Further, that individuals with a sweet preference will report higher in the traits of venturesomeness and extraversion, based on the results of Terasaki and Imada (1988) on sensation seeking. It is further expected that individuals with a sweet taste preference will report higher levels of the trait neuroticism based on the work of Kikuchi and Watanabe, (2000) showing that individuals high in neuroticism preferred sweet tastes. No predictions were made for the remaining personality traits measured as part of the scales used in the current experiment.

Method

Design

Depending on results from a wine preference test (see Materials), participants were separated into either a sweet preference group or dry preference group.

Participants

Forty-five participants were recruited from around the Sheffield Hallam University campus and from a local golf club via opportunity sampling. The mean age of participants was 42.7 (SD = 20.2) with a gender split of 23 female and 22 male participants. Upon completing the tasting portion of the study (see Materials), participants were separated into one of two groups (either sweet preference or 'dry' preference) thus utilizing a quasi-experimental between-participants

design. Nineteen participants (12 female, 7 male) categorized as having a dry preference had a mean age of 42.9 (SD=20.2) while 26 (11 female, 15 male) were categorized as sweet preference with a mean age of 42.6 (SD=20.6).

Materials

The base wine chosen was a Gran Tesoro Viura, 2007. Viura is a Spanish variety and was chosen for its 'fruity' character and the Gran Tesoro 2007 was specifically chosen because it claimed to be 'dry'. Wine with a fruity character should sustain the fructose addition without seeming out of balance. Chemical analysis revealed that the wine contained 0.43g/L of glucose and 0.45g/L of fructose (D-Glucose enzymatic kit from Boehringer - Mannheim, Germany). Further analysis revealed a pH of 3.45, acetic acid of 0.252g/L and an alcohol content of 12.8% (Foss WinescanTM Auto¹).

Two wine samples were produced; a 'dry' or baseline sample was produced from the straight wine with no addition, while a 'sweet' sample was produced by the addition of fructose at 20g/L. The wine was distributed into small glasses in 5ml samples; this ensured that each participant had the same amount of wine. Participants were also provided with a glass of water to rinse after each wine sample.

Participants were presented with two different personality questionnaires; the IVE, and Big Five. The Adult Impulsiveness, Venturesomeness and Empathy Scale (Eysenck H & Eysenck S, 1991) is a widely used 54-item personality questionnaire producing three orthogonal constructs that

¹ <http://www.foss.dk/>

relate in a factor analysis to impulsiveness (self-control), Venturesomeness (risk-taking/sensation seeking), and empathy. Participants respond in a yes/no format which generates maximum scores of 19, 16, and 19 for Impulsiveness, Venturesomeness and Empathy respectively.

Example questions include "*Would you enjoy water skiing?*", and "*Do you often buy things on impulse?*"

The Big Five Inventory is widely used to assess the personality dimensions of, openness, conscientiousness, extraversion, agreeableness and neuroticism (John & Srivastava, 1999).

Individuals are asked to describe themselves over a range of 44 items. Items involve questions about typical behaviours or reactions such as; "*I worry a lot*", "*I am a reliable worker*" and are answered on a five point Likert scale, ranging from "strongly disagree" to "strongly agree".

Procedure

Participants were tested individually in a quiet room void of noticeable smells. Participants were told that the research was to investigate the effects of personality on taste preferences, in this case white wine taste preference, but were not told anything else about the wine such as variety or brand, as this could influence judgments.

Participants were required to complete the two personality questionnaires. Participants were asked to answer the questionnaires as honestly as possible and not to dwell on the questions, but to answer with the first response which came to mind. Once the questionnaires had been completed participants were asked to taste and preference-rank two samples of wine varying in sweetness. Samples were presented one at a time to participants with order counterbalanced to

control for order effects. Participants were instructed to spit out each sample of wine and rinse with water between each sample. Participants were given as much time as they needed to complete the task. After tasting both samples, participants ranked the samples in order of preference. Once testing had been completed participants were debriefed.

Results

Participants were separated into two groups, either dry wine preference (n=19) or sweet wine preference (n=26) on the basis of the tasting portion of the experiment. Table 1 provides descriptive statistics (mean and standard error) for each of the personality traits measured. Standard error was used because the group sizes were unequal. The family-wise alpha level of $\alpha=0.05$ was used for interpretation of significance for the statistical analyses conducted in the current experiment.

A box's test of equality of covariance matrices was conducted and found to be non-significant, $F(66,4816.3)=1.05$, $p=0.367$. The data were therefore suitable to be analyzed with an omnibus multivariate ANOVA (MANOVA), conducted to determine whether any difference existed between the two preference groups, sweet and dry, for any of the personality traits. The analysis revealed a significant difference in personality traits measured in the two groups $F(11,33)=3.18$, $p=0.005$.

INSERT TABLE 1 ABOUT HERE

A Levene's test of equality of error variances was then conducted for each of the personality traits. Each of the personality traits was found to be non-significant except agreeableness ($F(1,43)=6.65, p=0.013$), neuroticism, ($F(1,43)=5.25, p=0.027$) and openness, ($F(1,43)=5.27, p=0.027$). An ANOVA was conducted to determine differences between the two preference groups, sweet and dry, for personality traits other than the three that 'failed' the Levene test. Data for these three personality traits were analyzed using a Welch test, as this test is robust even where the homogeneity assumption is violated and group sizes are unequal (Keppel, 1991), as is the case for agreeableness, neuroticism and openness.

The ANOVA revealed that the sweet and dry preference groups differed significantly only on impulsiveness ($F(1,43)=4.80, p=0.034$). Table 1 shows that those with a preference for sweet taste were higher in the trait impulsivity. The Welch test revealed that the sweet and dry preference groups differed significantly only on openness ($F(1,32.7)=11.0, p=0.002$). Table 1 shows that those with a preference for sweet taste were lower in the trait openness.

Discussion

Sweet taste preference was linked to a higher level of impulsiveness and a lower level of openness compared with dry taste preference in white wine. No other personality trait investigated was found to be significantly different for the sweet versus dry preference groups.

Participants with a sweet taste preference were significantly higher in impulsiveness than their dry preference counterparts. This finding is consistent with previous research using self reported taste preference (Davis, Strachan & Berkson, 2004), suggesting that self reported taste

preference was consistent with the hedonic taste preference procedure used in the current experiment. There is some support for the notion that sweet preference develops early in humans and thus could drive the development of impulsiveness. Research suggests that flavours from a pregnant woman's diet are transmitted into the amniotic fluid, which the foetus in turn ingests (Mennella, Johnson & Beauchamp, 1995). Evidence further suggests that exposure of the unborn child to flavours in the amniotic fluid may contribute to taste preferences in later life (Beauchamp & Bartoshuk, 1997). DeSnoo (1937) noted an increase in foetal gulp rate in response to injections of saccharin into the amniotic fluid during pregnancy, which suggests that the response to sweet taste may be innate. It is thought that humans are born with an innate preference for sweet tastes and distaste for bitter or sour tastes (Desor, Greene & Maller, 1975). The conventional explanation for such adaptation is that sweetness is a proxy for food containing high amounts of energy, whereas bitterness signals dietary danger such as poison and are avoided (Drewnowski & Gomez-Carneros, 2000).

However, there is evidence that preference for sweet tastes is dynamic and fluctuates throughout life. Such preferences have been observed to be heightened throughout childhood and adolescence, however this declines during late adolescence (Desor, Maller & Greene, 1977; Desor and Beauchamp, 1987). Sweet taste preference is clearly impacted by experience (Beauchamp and Moran, 1982) and therefore may develop through, in part, positive reinforcement proportional to impulsivity. Further study is required to determine whether a causal relationship between impulsivity and sweet taste preference exists, and if so, the direction of that relationship.

Participants with a sweet taste preference in white wine were significantly lower in the trait openness to experience than their dry preference counterparts. Individuals with a preference for dry (or non-sweet) tastes may plausibly be less likely to consume high-sugar products; indeed those high in the trait openness report healthier dietary practices (Goldberg & Strycker, 2002). One explanation of the link is that infants with a preference for non-sweet taste do not receive sufficient stimulation from their diet and that they develop higher levels of openness as a result of having to try new experiences in order to generate the kind of stimulation that would come from the diet of an infant with a sweet taste preference. This hypothesis is highly speculative and requires investigation before it is given any credence. However, it is noted that men with the s-allele for the serotonin transporter gene (and thus lower levels of serotonin) have been reported as scoring higher on a questionnaire measure of openness (Stoltenberg et al, 2002). Thus there may be at least a biological basis for this desire to seek new experiences. Further study is required to confirm the causal link between openness, sweet taste preference and dietary practice.

Participants in the current study did not differ significantly in reported levels of the traits venturesomeness, empathy, extroversion, agreeableness, conscientiousness and neuroticism. This finding was expected for empathy and agreeableness as these two traits have not consistently been linked with dietary practices or taste preference. The trait of venturesomeness is a measure of sensation seeking and extroversion has been linked with sensation seeking both theoretically (Eysenck, 1970) and with experimental evidence (Bone & Montgomery, 1970). Terasaki and Imada (1988) have reported a link between spicy foods and sensation seeking. It was therefore expected that extroversion and venturesomeness would be linked to sweet taste preference. The

current experiment used 20 g/L addition of fructose to create the ‘sweet’ stimulus. The relative sweetness of fructose is considered to be greater than that of glucose (Stone & Oliver, 1969) such that a 20 g/L addition in wine can be expected to elicit perception of sweetness in the majority of the population (Amerine & Singleton, 1984). However, Fabian and Blum (1943) report that the sensitivity to fructose is 3.5 g/L, such that a concentration greater than 20 g/L would have provided a sweeter perception. The concentration used in the current experiment might not have been high enough to provide the magnitude of flavour equivalent to the sensation experienced for spicy foods used by Terasaki and Imada (1988). The addition of larger amounts of fructose may have generated another sweet taste preference group – those with a preference for what might be called high sweetness. Such a stimulus might be required to find higher levels of venturesomeness and extroversion. This assertion could be tested by using the paradigm used in the current experiment, but with the inclusion of stimuli with higher levels of fructose. The exact concentration to add is uncertain; however the perception should be equivalent to that evoked by spicy foods.

Participants in the current study did not differ significantly in reported levels of the trait neuroticism. This finding differs from that reported by Kikuchi and Watanabe (2000), who found that individuals high in neuroticism preferred sweet tastes. There are a number of differences in the methodology used between the current study and that reported by Kikuchi and Watanabe (2000). Firstly, they used dichotomous self reports for sweet taste preference. It is unclear whether yes/no self reports of sweet taste preference correlate highly with actual hedonic responses following the ingestion of sweet food or beverages. Secondly, the participants used were all junior students from a Nutrition Department at Tokyo University who were

predominantly females. The current study was relatively balanced for males and females, had a broad age range and was sampled from the United Kingdom. It is difficult to make comparisons between experiments conducted with such different samples. The role of neuroticism should not be ruled out, however given that (to our knowledge) no other studies have found a link between sweet taste preference and neuroticism; the effect reported by Kikuchi and Watanabe (2000) may be mediated by an age or gender imbalance of the sample or a specific phenomenon found in the country in which the study was conducted. The role of age, gender and cultural background should be investigated by further research into the interaction between sweet taste preference and neuroticism.

Several issues need to be considered when interpreting the results of the current experiment.

Firstly, wine was chosen to ameliorate the influence of response bias, specifically, social desirability to indicate healthy preferences. This procedure may have introduced a selection bias, whereby non-drinking respondents may not have participated. There is some evidence that personality characteristics correlate with alcohol consumption (Koppes, Twisk, Snel, De Vente & Kemper, 2001) and while no traits examined by the current experiment have been specifically linked to alcohol consumption choices, this potential sampling bias needs to be considered.

Another potential limitation is that preference for sweet taste may be influenced by alcohol, such that respondents categorised as preferring sweet taste may be categorised differently for other products. The results of the current experiment may therefore be limited in scope to alcoholic beverages. It is likely that non-drinkers would be attracted to sweetness in wine to balance the novel experience of acid and alcohol; whereas, respondents familiar with alcoholic beverages are less likely to demonstrate the 'first time' affect described. The authors suggest that since

respondents were aware that they would be consuming alcoholic beverages, it is unlikely that respondents were placed in the sweet taste category only because wine was the stimulus. In any case, if there was a weak bias toward categorising respondents into the sweet taste group, this would simply mean that the sweet taste affect may be even more pronounced than reported, since means for that group were diluted by members of the dry preference group.

In summary, the current experiment found that participants with a sweet taste preference in white wine reported significantly higher levels of impulsiveness, but significantly lower levels of openness.

References

Amerine, M.A. & Singleton, V.L. (1984). *Wine an introduction* (2nd Ed.). Berkeley, CA: University of California Press.

Avila, C. (2001). Distinguishing BIS-mediated and BAS-mediated disinhibition mechanisms: A comparison of disinhibition models of Gray (1981, 1987) and of Patterson and Newman (1993). *Journal of Personality and Social Psychology*, *80*, 311–324.

Barkley, R. A. (1997). Behavioural inhibition, sustained attention, and executive functions: Constructing a unifying theory of ADHD. *Psychological Bulletin*, *121*, 65–94.

Beauchamp, G. K. & Bartoshuk, L. (1997). *Tasting and Smelling. Handbook of Perception and Cognition*. San Diego, CA: Academic Press.

Beauchamp, G.K. & Moran, M.M. (1982). Dietary experience and sweet taste preference in human infants. *Appetite*, *3*, 139–152.

Beaver, J. D., Lawrence, A. D., van Ditzhuijzen, J., Davis, M. H., Woods, A., & Calder, A. J. (2006). Individual differences in reward drive predict neural responses to images of food. *Journal of Neuroscience*, *26*, 5160–5166.

Birch L. & Marlin D. (1982). I don't like it, I never tried it: effects of exposure on two-year-old children's food preferences. *Appetite*, 3, 353–360.

Bone, R.N. & Montgomery, D.D. (1970). Extraversion, Neuroticism, and Sensation Seeking. *Psychological Reports*, 26, 974.

Bourdieu, P. (1984). *Distinction: A Social Critique of the Judgement of Taste*. London: Routledge.

Brummett, B.H., Siegler, I.C., Day, R.S. & Costa, P.T. (2008). Personality as a Predictor of Dietary Quality in Spouses During Midlife. *Behavioral Medicine*, 34(1), 5-10.

Costa, P.T., & McCrae, R.R. (1992). *NEO PI-R. Professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.

Davis, C., Strachan, S. & Berkson, M. (2004). Sensitivity to reward: implications for overeating and overweight. *Appetite*, 42, 131-138.

DeSnoo, K. (1937). The drinking child in the uterus. *Journal of Obstetric Gynecology*, 105, 88-97.

Desor, J.A. & Beauchamp, G.K. (1987). Longitudinal changes in sweet preferences in humans. *Journal of Physiology and Behaviour*, 39, 639–641.

Desor, J., Greene L. & Maller, O. (1975). Preferences for sweet and salty in 9-to 15-year-old and adult humans. *Science*, *190*, 686–687.

Desor, J.A., Maller, O. & Greene, L.S. (1977). Preference for sweet in humans: infants, children and adults. In J.M. Weiffenbach (Ed.), *Taste and Development: The Genesis of Sweet Preference* (pp. 161–173). Washington, DC: Government Printing Office.

Drewnowski, A. & Gomez-Carneros, C. (2000). Bitter taste, phytonutrients and the consumer: a review. *American Journal Clinical Nutrition*, *72*, 1424-1435.

Drewnowski, A. (2003) Fat and sugar: An economic analysis. *American Journal Clinical Nutrition*, *133*, 838–840.

Eysenck, H.J. (1970). *The Structure of Human Personality*. London: Eyre Methuen, Ltd.

Eysenck, S., Eating, G. & Pearson, P.R. (1984). Age norms for impulsiveness, venturesomeness and empathy in children. *Personality and Individual Differences*, *5*, 315–321.

Eysenck, H.J. & Eysenck, S. (1991). *Adult Impulsiveness, Venturesomeness, and Empathy Scale*. London, UK: Hodder & Stoughton.

Fabian, F.W. & Blum, H.B. (1943). Relative taste potency of some basic food constituents and their competitive and compensatory action. *Food Research*, 8(3), 179–193.

Gerding, A. L. & Weinstein, L. (1992). Taste ratings of obese people, and taste preferences based on geographical location. *Bulletin of the Psychonomic Society*, 30, 509–510.

Goldberg, L.R. & Strycker, L.A. (2002). Personality traits and eating habits: The assessment of food preferences in a large community sample. *Personality and Individual Differences*, 32, 49–65.

Hogan, R., Johnson, J. & Briggs, S. (Eds.) (1997). Handbook of personality psychology. California: Academic Press.

John, O.P. & Srivastava, A. (1999). The Big-Five Trait Taxonomy: History, Measurement, and Theoretical Perspectives. In L. Pervin & O.P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed.). New York: Guilford.

Keppel, A. (1991). *Design and Analysis: A Researcher's Handbook*. (3rd ed.), Englewood Cliffs: Prentice Hall.

Kikuchi, Y. & Watanabe, S. (2000). Personality and dietary habits. *Journal of Epidemiology*, 10, 191–198.

Koppes, L.L.J., Twisk, J.W.R., Snel, J., De Vente W. & Kemper, H.C.G. (2001). Personality characteristics and alcohol consumption: Longitudinal analyses in men and women followed from ages 13 to 32. *Journal of Studies on Alcohol*, 62, 494-500.

Mennella, J.A., Johnson A. & Beauchamp, G.K. (1995). Garlic ingestion by pregnant women alters the odor of amniotic fluid. *Chemical Senses*, 20, 207–210.

Stoltenberg, S.F., Twitchell, G.R., Hanna, G.L., Cook, E.H., Fitzgerald, H.E., Zucker, R.A. & Little, K.Y. (2002). Serotonin transporter promoter polymorphism, peripheral indexes of serotonin function, and personality measures in families with alcoholism. *American Journal of Medical Genetics*, 114, 230-234.

Stone H. & Oliver, S.M. (1969). Measurement of the relative sweetness of selected sweeteners and sweeteners mixtures. *Journal of Food Science*, 34, 215–222.

Terasaki, M. & Imada, A. (1988). Sensation seeking and food preferences. *Personality and Individual Differences*, 9, 87–93.

Wingrove, J. & Bond, A. J. (1997). Impulsivity: a state as well as a trait variable. Does mood awareness explain low correlations between trait and behavioural measures of impulsivity? *Personality and Individual Differences*, 22, 333–339.

1 **Tables**

2 Table 1: Mean and standard error for each personality type, for sweet and dry preference groups.

3

Inventory	Personality Trait	Dry Preference (n=19)	Sweet Preference (n=26)
IVE	Impulsiveness ^a	7.53 (0.73)	10.0 (0.91)
	Venturesomeness	7.32 (0.58)	7.27 (0.76)
	Empathy	11.8 (0.6)	12.1 (0.52)
The Big Five	Openness ^a	27.7 (0.46)	25.0 (0.71)
	Conscientiousness	16.2 (0.47)	15.5 (0.45)
	Extroversion	16 (0.44)	15 (0.44)
	Agreeableness	17 (0.32)	15.9 (0.67)
	Neuroticism	14.2 (0.28)	13.4 (0.62)

4 ^a Traits found to be different between sweet and dry preference groups (p<0.05)

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6