Coffee Consumption, Perceptions, and Patterns

Shannon Rodriguez

Dominican Univeristy of California

Background

Coffee consumption is widespread and has become an important part of culture and socializing (Argan, Akyildiz, Ozdemir, Bas, Akkus, & Kaya, 2015). The act of drinking coffee has persisted throughout history and is still one of the most consumed beverages in the world, while caffeine (found in coffee, tea, and soda) is one of the most consumed pharmacologically active substances (Nawrot, Jordan, Eastwood, Rotstein, Hugenholtz, & Feeley, 2003). Statistics show that "54% of Americans over the age of 18 drink coffee every day" (Coffee by the Numbers, 2010). Prior research shows that there are multiple studies on coffee and caffeine that heavily contradict each other. A positive effect of coffee is that it increases alertness (Bae, Park, Im, & Song, 2014). One study found that if a person drinks high amounts of coffee they can offset the effect of caffeine and have some health benefits such as good blood pressure (Chei, Loh, Soh, Yuan, & Koh, 2017; Higdon & Frei, 2006). An epidemiological study found that coffee consumption also leads to preventing chronic diseases that include type 2 diabetes mellitus, Parkinson's disease, and liver disease (Higdon & Frei, 2006). It was found that coffee activates the sympathetic nervous system, and that it can have anti-stress properties (Papakonstantinou, Kechribari, Sotirakoglou, Tarantilis, Gourdomichali, Michas, … & Sotirakoglou, 2016). In addition, an analysis determined that if a person consumes less than 400 milligrams of caffeine a day there are no adverse effects (Nawrot, Jordan, Eastwood, Rotstein, Hugenholtz, & Feeley, 2003).
Conversely, some negative effects of coffee link lower levels of stress and more sleep disruptions with coffee consumption (Keenan, Tiplady, Priestley, & Rogers, 2014; Papakonstantinou et al,. 2016). Coffee has also been found to negatively impact the body with cardiovascular risk factors (such as blood pressure and plasma homocysteine), irregular heartbeats, and headaches (Bae, Park, Im, & Song, 2014; Chei, Loh, Soh, Yuan, & Koh, 2017; Higdon & Frei, 2006). The substance of caffeine in coffee was found to increase anxiety (Vinader-Caerols, Monleón, Carrasco, & Parra, 2012). Another study found that caffeine increases the risk of death and that coffee decreases the risk of death, based on telomeres (Tucker, 2017). There are also cholesterol-raising effects from the chemicals cafestol and kahweol found in unfiltered coffee (Higdon & Frei, 2006).

Purpose

Determine if there are patterns between demographics, coffee consumption, and perceptions to understand how students, staff, and faculty at Dominican University of California perceive coffee and any factors that could contribute to their views.

Figure 1 . Relationship Between Coffee Consumpiton and Gender

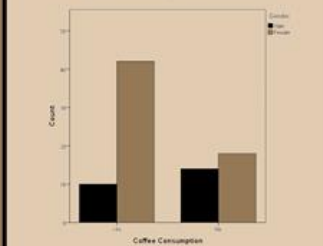


Table 1. Cups of Coffee (of Coffee Drinkers, n=49)

Variable	Cups of Coffee, No (%)				p-value
	1 cup	2-3 cups	4 or more	Total	
University role					p=.629
Student	36(97.3)	1(90.9)	1(100)	45(95.9)	
Faculty/staff	1(2.7)	1(9.1)	0(0)	2(4.1)	
Gender					p=.890
Male	7(18.9)	2(18.2)	0(0.0)	9(18.4)	
Female	30 (81.1)	9(81.8)	1 (100)	40(81.6)	
Age Group					p=<0.001
18-24	36(97.3)	10(90.9)	0(0)	46(93.9)	
25-35	1(2.7)	1(9.1)	1(100)	3(6.1)	
Alertness	31(76.8)	8(72.7)	1(100)	39(61.2)	p=.814
Low	6(16.2)	1(9.1)	0(0)	7(14.3)	
Moderate	1(6(27.0)	2(18.2)	0(0)	12(24.5)	
High	21(56.8)	8(72.7)	1(100)	30(61.2)	
Headache					p=.312
Low	33(89.2)	10(90.9)	1(100)	44(89.8)	
Moderate	0(0)	1(9.1)	0(0)	1(2.0)	
High	4(10.8)	0(0)	0(0)	4(8.2)	
Energetic					p=.860
Low	8(21.6)	3(27.3)	0(0)	11(22.4)	
Moderate	1(6(27.0)	2(18.2)	0(0)	1(8(24.5)	
High	1(8(51.4)	6(54.5)	1(100)	26(53.1)	
Trouble Sleeping at Night					p=.225
Low	22(59.5)	9(81.8)	1(100)	32(65.3)	
Moderate	3(8.1)	2(18.2)	0(0)	5(10.2)	
High	12(32.4)	0(0)	0(0)	12(24.5)	
Anxious					p=.003
Low	29(73.4)	6(54.5)	1(100)	36(73.5)	
Moderately	1(2.7)	5(45.5)	0(0)	6(12.2)	
High	7(18.9)	0(0)	0(0)	7(14.3)	
Craving for Caffeine					p=.478
Low	28(75.7)	6(54.5)	1(100)	35(71.4)	
Moderately	6(16.32)	2(18.2)	0(0)	8(16.3)	
High	3(8.1)	3(8.1)	0(0)	6(12.2)	
Craving for Coffee					p=.246
Low	29(78.3)	4(36.4)	1(100)	31(63.3)	
Moderate	3(8.1)	3(27.3)	0(0)	6(12.2)	
High	8(21.6)	4(36.4)	0(0)	12(24.5)	

Results

Demographics. There were 84 participants in this study, who consented and filled out the surveys. The sample contained more females (71.4%), most were aged from 18-24 years old (95.2%), and were primarily white (34.5%). Additionally, a large group of participants took the survey online (75.3%). There were many participants who did drink coffee (61.9%), and from this group they tended to drink one cup of coffee (43.5%) and did not drink it decaffeinated (51.8%).

Factors Associated with Coffee Consumption. The majority of the participants drink coffee (61.9%). There was a significant correlation between the participants who drank coffee and their gender (p=0.024), males were more likely to say that they don't drink coffee (58.3%) while females were more likely to say that they did drink coffee (70%), shown on Figure 1. It was discovered that university role, employment status, and ethnicity had no correlation to which participants consumed coffee.

Factors Associated with the Number of Cups Consumed. The amount of coffee a person consumed in one day depended on the number of people who drank coffee and answered all the questions (n=49). A significant correlation was found between the number of cups of coffee the participant consumes and age group (p<0.001), respondents aged 18-24 were more likely to consume one cup of coffee (97.3%), shown on Figure 2. There was a significant correlation between the number of cups coffee drinkers consume and how anxious they feel after consumption (p=0.003), people who drank one cup of coffee were likely to feel lower anxiety afterwards (73.4%) than people who drank more than one cup. There is no correlation between the amount of coffee people drink and their university role, gender, alertness, trouble sleeping at night, craving for caffeine, or craving for coffee shown on Table 1.

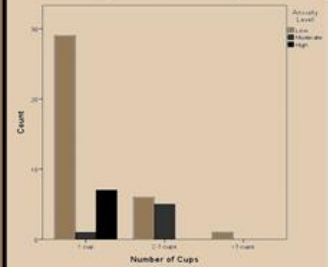
Method

There were statistically significant results in the factors associated with coffee consumption and women being more likely to drink coffee. Participants in the age group 18-24 were more likely to drink one cup of coffee. Similarly, there was a relationship between having low anxiety and drinking one cup of coffee as well. It was unexpected that there was not a correlation between the amount of coffee consumed and gender or the role in the university (students and staff). These results from the study give an insight into how students on a college campus consume coffee and perceive to be impacted by it

Coffee is a substance that people consume all over the world and on a daily basis, so it is important to do research on such a widely used substance and the chemicals it contains. Based on the research, a majority of the studies done on coffee are contradicting so more studies need to be conducted to draw definitive results.

This study is useful for future studies or meta-analyses to consider smaller populations on college campuses. Research completed on coffee in specific populations would influence interventions to disseminate information and allow people to make informed decisions

Figure 2 . Relationship Between Number of Cups of Coffeee and Anxiety



Conlcusion

There were statistically significant results in the factors associated with coffee consumption and women being more likely to drink coffee. Participants in the age group 18-24 were more likely to drink one cup of coffee. Similarly, there was a relationship between having low anxiety and drinking one cup of coffee as well. It was unexpected that there was not a correlation between the amount of coffee consumed and gender or the role in the university (students and staff). These results from the study give an insight into how students on a college campus consume coffee and perceive to be impacted by it

Coffee is a substance that people consume all over the world and on a daily basis, so it is important to do research on such a widely used substance and the chemicals it contains. Based on the research, a majority of the studies done on coffee are contradicting so more studies need to be conducted to draw definitive results.

This study is useful for future studies or meta-analyses to consider smaller populations on college campuses. Research completed on coffee in specific populations would influence interventions to disseminate information and allow people to make informed decisions

References

Argan, M., Akyildiz, M., Ozdemir, B., Bas, A., Akkus, E., & Kaya, S. (2015). Leisure aspects of turkish coffee consumption rituals: An exploratory qualitative study. International Journal of Health & Economic Development, 1(1), 26-36.
Bae, J., Park, J., Im, S., & Song, D. (2014). Coffee and health. Integrative Medicine Research, 3(4), 189-191. doi:10.1016/j.imr.2014.08.002
Chei, C., Loh, J. K., Soh, A., Yuan, J., & Koh, W. (2017). Coffee, tea, caffeine, and risk of hypertension: The singapore chinese health study. European Journal of Nutrition, doi:10.1007/s00394-017-1412-4
Coffee by the numbers. (2010). Harvard College. Retrieved from https://www.hsph.harvard.edu/news/multimedia-article/facts/
Higdon, J. V., & Frei, B. (2006). Coffee and health: A review of recent human research. Critical Reviews in Food Science and Nutrition, 46(2), 101-123. doi:10.1080/10408390500400009
Keenan, E. K., Tiplady, B., Priestley, & C. M., Rogers, P. J. (2014). Naturalistic effects of five days of bedtime caffeine use on sleep, next-day cognitive performance, and mood. Journal of Caffeine Research, 4(1), 13-20.
Lee, E. B. (2012). Facebook & Friends Survey. Psyctests, doi:10.1037/t34651-000; Juliano, L. M., Huntley, E. D., Harell, P.T., Westerman, A. T. (2012). Development of the caffeine withdrawal symptom questionnaire: Caffeine withdrawal symptoms cluster into 7 factors. Washington, D.C.: Department of Psychology, American University. Doi: 10.1037/t08429-000
Nawrot, P., Jordan, S., Eastwood, J., Rotstein, J., Hugenholtz, A., & Feeley, M. (2003). Effects of caffeine on human health. Food Additives and Contaminants, 20(1), 1-30. doi:10.1080/0265203021000007840
Papakonstantinou, E., Kechribari, I., Sotirakoglou, K., Tarantilis, P., Gourdomichali, T., Michas, G., … Sotirakoglou, K. (2016). Acute effects of coffee consumption on self-reported gastrointestinal symptoms, blood pressure and stress indices in healthy individuals. Nutrition Journal, 15, 1-11. doi:10.1186/s12937-016-0146-0
Tucker, L. A. (2017). Caffeine-consumption and telomere length in men and women of the national health and nutrition examination survey (NHANES). Nutrition & Metabolism, 14(1) doi:10.1186/s12986-017-0162-
Vinader-Caerols, C., Monleón, S., Carrasco, C., & Parra, A. (2012). Effects of alcohol, coffee, and tobacco, alone or in combination, on physiological parameters and anxiety in a young population. Journal of Caffeine Research, 2(2), 7-76. doi:10.1089/jcr.2012.0018