

STATISTIKA ZA PSIHologe 2019/20

VAJA 8

1. Med populacijo študentov UP Farnit smo zbrali enostavni slučajni vzorec 82 študentov in jih povprašali po spolu in študijskem programu, ki ga obiskujejo. Dobili smo naslednje podatke.

Spol/Študij	Biopsihologija	Matematika	Računalništvo
M	2	11	31
Ž	28	9	1

- (a) Izračunajte Cramerjev koeficient asociiranosti in ocenite stopnjo asociiranosti.
 (b) Pri stopnji značilnosti $\alpha = 0,01$ testirajte ali sta spremenljivki spol in izbira študija v populaciji asociirani.
2. V populaciji 30-letnikov smo naredili enostavni slučajni vzorec 24 ljudi in jih povprašali ali se s športom ukvarjajo več kot dvakrat tedensko (možna odgovora da ali ne) in ali kadijo (možna odgovora da ali ne). Dobili smo naslednje rezultat (ŠD - šport da, ŠN - šport ne, KD - kadilec da, KN - kadilec ne).

(ŠD, KN), (ŠD, KD), (ŠN, KD), (ŠN, KD), (ŠN, KN), (ŠN, KD),
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 (ŠD, KD), (ŠD, KN), (ŠD, KN), (ŠN, KD), (ŠN, KN), (ŠN, KN)
 (ŠD, KN), (ŠD, KN), (ŠN, KD), (ŠN, KN), (ŠD, KN), (ŠN, KN)

- (a) Izračunajte Cramerjev koeficient asociiranosti in ocenite stopnjo asociiranosti.
 (b) Pri stopnji značilnosti $\alpha = 0,01$ testirajte ali sta spremenljivki ukvarjanje s športom in kajenje v populaciji asociirani.
3. ¹ Zanima nas, ali v populaciji obstaja povezanost med lastništvom živali in izbrano fakulteto (VF=Veterinarska fakulteta, MF=Medicinska fakulteta). S spletno anketo smo pridobili naslednje podatke.

		Fakulteta		Vsota
		VF	MF	
Živali	Da	42	63	105
	Ne	2	33	35
Vsota		44	96	140

Pri stopnji značilnosti $\alpha = 0,05$ testirajte ali sta dani spremenljivki v populaciji asociirani.

¹L. Lusa: Naloge iz Biostatistike

4. ² Denimo, da so se še trije raziskovalci (A, B in C) ukvarjali z istim raziskovalnim vprašanjem in so dobili naslednje rezultate (rezultati v prvi tabeli so tisti, ki smo jih dobili z našo raziskavo).

Naši rezultati		Fakulteta		Vsota
		VF	MF	
Živali	Da	42	63	105
	Ne	2	33	35
Vsota		44	96	140

Raziskovalec A		Fakulteta		Vsota
		VF	MF	
Živali	Da	22	48	70
	Ne	22	48	70
Vsota		44	96	140

Raziskovalec B		Fakulteta		Vsota
		VF	MF	
Živali	Da	42·2	63·2	105·2
	Ne	2·2	33·2	35·2
Vsota		44·2	96·2	140·2

Raziskovalec C		Fakulteta		Vsota
		VF	MF	
Živali	Da	42·3	63·3	105·3
	Ne	2·3	33·3	35·3
Vsota		44·3	96·3	140·3

Brez dodatnih izračunov uredite rezultate od najmanjše do največje vrednosti testne statistike.

5. Heck in soavtorji so v članku *Offsetting Risks: High School Gay-Straight Alliances and Lesbian, Gay, Bisexual, and Transgender (LGBT) Youth* raziskovali povezanost spremenljivke Vrsta srednje šole (kjer sta možni samo dve izbiri: GSA+ - participants who attended a high school with a gay-straight student alliance; GSA- - participants who attended a high school without a gay-straight student alliance) z različnimi drugimi spremenljivkami. Mi bi radi raziskali ali sta spremenljivki Vrsta srednje šole in status (v zvezi, poročen, samski) v preučevani populaciji pri stopnji značilnosti $\alpha = 0,05$ povezani. Razberite ustrezne podatke iz tabele in naredite statistično analizo.

²L. Lusa: Naloge iz Biostatistike

Table 1
Demographic Characteristics of the Entire Sample and a Comparison of GSA+ and GSA- Groups to Determine Potential Covariates

Variable	Entire sample (n = 145)	GSA+ (n = 79)	GSA- (n = 66)	GSA+ and GSA- comparison	
	n (%)	n (%)	n (%)	t/ χ^2	p-value
Gender				3.33	.189
Female	87 (60.0)	52 (65.8)	35 (53.0)		
Male	48 (33.1)	21 (26.6)	27 (40.9)		
Transgender/other	10 (6.9)	6 (7.6)	4 (6.1)		
Ethnicity				6.09	.297
African American	14 (9.7)	6 (7.6)	8 (12.1)		
Asian American	8 (5.6)	5 (6.4)	3 (4.5)		
White	102 (70.8)	56 (71.8)	46 (69.7)		
Hispanic/Chicano	7 (4.9)	2 (2.6)	5 (7.6)		
Indian/Native American	1 (0.7)	0 (0.0)	1 (1.5)		
Other	12 (8.3)	9 (11.5)	3 (4.5)		
Sexual orientation				8.42	.015
Bisexual	54 (37.2)	37 (46.8)	17 (25.8)		
Gay/lesbian	83 (57.2)	40 (50.6)	43 (65.1)		
Other	8 (5.6)	2 (2.5)	6 (9.1)		
Relationship status				3.85	.146
Dating	42 (29.0)	24 (30.4)	18 (27.3)		
Married/committed	31 (21.3)	21 (26.6)	10 (15.2)		
Single	72 (49.7)	34 (43.0)	38 (57.6)		
Population				18.11	.003
Less than 2,500	9 (6.2)	0 (0.0)	9 (13.6)		
2,500–4,999	9 (6.2)	4 (5.1)	5 (7.6)		
5,000–9,999	19 (13.1)	8 (10.3)	11 (16.7)		
10,000–49,999	43 (29.7)	31 (39.7)	12 (18.2)		
50,000–250,000	36 (24.8)	21 (26.9)	15 (22.7)		
More than 250,000	28 (19.3)	14 (17.9)	14 (21.2)		
Education				1.60	.660
12 years	25 (17.2)	13 (16.5)	12 (18.2)		
13 years	53 (36.6)	26 (32.9)	27 (40.9)		
14 years	49 (33.8)	30 (38.0)	19 (28.8)		
15 years	18 (12.4)	10 (12.7)	8 (12.1)		
	Mean (SD)	Mean (SD)	Mean (SD)		
Age	19.17 (0.76)	19.06 (0.75)	19.30 (0.74)	-1.91	.058
Community climate	2.90 (1.19)	2.67 (1.13)	3.18 (1.21)	-2.63	.009
CTQ-SF total score	21.28 (8.35)	21.02 (8.83)	21.58 (7.80)	-0.39	.694
CTQ-SF sexual	6.25 (3.43)	6.16 (3.87)	6.35 (2.83)	-0.32	.749
CTQ-SF physical	6.46 (2.86)	6.39 (3.00)	6.53 (2.71)	-0.29	.774
CTQ-SF emotional	8.57 (4.02)	8.47 (4.08)	8.70 (3.98)	-0.34	.735
Outness inventory	26.41 (8.71)	26.22 (9.51)	26.65 (7.72)	-0.29	.775
Sexual orientation	5.52 (1.39)	5.28 (1.37)	5.82 (1.35)	-2.38	.019

Note. GSA+ = participants who attended a high school with a gay-straight student alliance; GSA- = participants who attended a high school without a gay-straight student alliance. Population refers to the population of the city or town where the participant attended high school for the longest period of time. CTQ-SF = Childhood Trauma Questionnaire-Short Form that provides a total score and three subscales for sexual, physical, and emotional abuse.

by other students”) and so that participants could indicate whether they felt the victimization was related to their sexual orientation. Researchers studying bullying have often relied on retrospective self-reports, and the accurate re-

porting of bullying experiences by victims has been demonstrated (Olweus, 1993).

For each item, participants indicated how often they experienced each form of at-school victimization using a Likert scale ranging from 0 (this

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