Clinical Epidemiology

https://epistatistics.com

QUIZ 25

You get hired at a waterpark. As a statistician. You want to know what affects the number of times someone goes down the slide. What's an appropriate statistic to answer this question?

You want to know what motivates students to skateboard around campus. What is an appropriate research approach to answer this question?

You want to know which tastes better: cake or pie. The same fifty people try both and rank them on a satisfaction scale (0-100). What is an appropriate statistic to test which is better: cake or pie?

You want to know what variables predict salary in the NBA. What is an appropriate statistic to answer that question?

Here is a statistical output about hospital patients who experienced a fall:

Continuous Variable Information

		N	Minimum	Maximum	Mean	Std. Deviation
Dependent Variable	Num_of_Previous_Falls	593	0	11	1.91	1.313
Covariate	HENDRICH Fall Risk Score	593	0	14	2.46	2.715
	Age	593	65	101	79.95	9.082
	Taking a drug on the Beers list	593	0	1	.49	.500
	Avg temp between 6:54am and 6:54pm https://www.timeanddate.com/weather/usa/indianapolis/historic?month=1&year=2015	593	3.0	84.4	49.799	20.2321

Goodness of Fit[a]

	Value	df	Value/df
Deviance	303.484	588	.516
Scaled Deviance	303.484	588	
Pearson Chi-Square	344.452	588	.586
Scaled Pearson Chi-Square	344.452	588	
Log Likelihood[b]	-869.642		
Akaike's Information Criterion (AIC)	1749.283		
Finite Sample Corrected AIC (AICC)	1749.385		
Bayesian Information Criterion (BIC)	1771.209		
Consistent AIC (CAIC)	1776.209		

Dependent Variable: Num_of_Previous_Falls
Model: (Intercept), HENDRICH Fall Risk Score, Age, Taking a drug on the Beers list, Avg temp between 6:54am and 6:54pm https://www.timeanddate.com/weather/usa/indianapolis/historic?month=1&year=2015

a. Information criteria are in smaller-is-better form.

b. The full log likelihood function is displayed and used in computing information criteria.

Parameter Estimates

			95% Wald Confidence Interval		Hypothesis Test				95% Wald Confidence Interval for Exp(B)	
Parameter	B	Std. Error	Lower	Upper	Wald Chi-Square	df	Sig.	Exp(B)	Lower	Upper
(Intercept)	-.136	.2763	-.677	.406	.242	1	.623	.873	.508	1.500
HENDRICH Fall Risk Score	.097	.0099	.077	.116	94.798	1	.000	1.102	1.080	1.123
Age	.008	.0034	.002	.015	6.158	1	.013	1.008	1.002	1.015
Taking a drug on the Beers list	.115	.0601	-.003	.233	3.660	1	.056	1.122	.997	1.262
Avg temp between 6:54am and 6:54pm https://www.timeanddate.com/weather/usa/indianapolis/historic?month=1&year=2015	-.005	.0015	-.008	-.002	10.257	1	.001	.995	.992	.998
(Scale)	1[a]									

Dependent Variable: Num_of_Previous_Falls
Model: (Intercept), HENDRICH Fall Risk Score, Age, Taking a drug on the Beers list, Avg temp between 6:54am and 6:54pm https://www.timeanddate.com/weather/usa/indianapolis/historic?month=1&year=2015

a. Fixed at the displayed value.

The dependent variable is the number of times that patients fell. What statistic was conducted? Interpret this output from the perspective of age. What effect does age have on the number of times patients fall?