

Som Lalit Institute of Management Studies

Subject: Business Statistics

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Title: Investigating the Dietary Effects of High-Fiber Breakfast Cereals

Introduction: There is a prevalent belief among scientists that consuming high-fiber cereals may reduce the risk of various forms of cancer. Additionally, it has been hypothesized that individuals who consume high-fiber cereal for breakfast may consume fewer calories at lunch compared to those who do not. If validated, this claim could provide high-fiber cereal manufacturers with another selling point, particularly for individuals seeking weight reduction. To investigate this claim, a preliminary test was conducted involving 120 randomly selected individuals who were asked about their breakfast and lunch habits. Each participant was categorized as either a consumer or non-consumer of high-fiber cereal and the number of calories consumed at lunch was recorded. The data collected from this study are outlined below. The question arises: can the scientist conclude, at the 5% significance level, that his belief regarding the dietary effects of high-fiber breakfast cereals is accurate?

Calories consumed at Lunch by Consumers of High-Fiber Cereal

753	763	654	674	672	694	629
539	776	509	690	582	744	522
451	623	751	556	614	711	596
440	430	564	628	497	670	739
656	701	464	588	698	570	564
609	495	679	489	486	507	701

Calories Consumed at Lunch by Non-consumers of High-Fiber Cereal

680	760	731	592	449	749	514
490	658	471	748	432	700	681
713	658	519	722	536	586	605
705	691	501	504	625	653	615
526	477	650	731	711	770	775
571	490	471	529	757	605	455

440	591	590	580	699	764	462
657	424	472	539	589	476	588
566	466	535	624	607	477	723
630	702	547	761	753	488	452
506	724	559	437	683	480	581
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