In a long-term study of 3462 randomly selected adults from Lausanne, Switzerland, researchers investigated the relationship between weekly napping frequency and whether or not a person experienced an event related to cardiovascular disease (CVD), such as a heart attack. The two-way table summarizes the data.

		Napping frequency per week				
		None	1-2	3-5	6-7	Total
CVD event status	Yes	93	12	22	28	155
	No	1921	655	389	342	3307
	Total	2014	667	411	370	3462

(a) In the sample, 4.5% of people experienced a CVD event. To what population can this result be generalized? Explain your answer.

(b) One person from those surveyed will be selected at random.

  (i) What is the probability that the person selected will be someone who reported taking at least 3 naps per week? You can leave your answer as an unreduced fraction.

  (ii) What is the probability that the person selected will be someone who has experienced a CVD event given that the person reported taking at least 3 naps per week? You can leave your answer as an unreduced fraction.

Let p_F = the proportion of people who have experienced a CVD event among those in the population who would report frequent napping (at least 3 naps per week) and let p_I = the proportion of people who have experienced a CVD event among those in the population who would report infrequent napping (2 or fewer naps per week). A 95% confidence interval for $p_F - p_I$ is (0.0062, 0.0435).

(c) One condition for constructing this confidence interval is that the number of people who experienced a CVD event and the number of people who did not experience a CVD event in each of the two groups is at least 10. Explain why it is necessary for this condition to be satisfied.

(d) Interpret the confidence interval.

(e) Even though all the values in the confidence interval are positive, a cause-and-effect relationship between napping and CVD cannot be established from this study due to possible confounding. Identify a potential confounding variable in this context. Justify your answer.