A study conducted in Dunedin, New Zealand investigated whether wearing socks over shoes could help people to walk confidently down an icy footpath. Volunteers were randomly assigned either to wear socks over their usual footwear or to simply wear their usual footwear, as they walked down an icy footpath. An observer recorded whether or not the participant appeared to be walking confidently.

1. Is this an observational study or an experiment? Explain briefly.

2. Identify the explanatory and response variables.

3. Does this study make use of random sampling, random assignment, both, or neither?

For questions #4-5, answer YES or NO to indicate whether it provides a good reason for why the researchers used randomness as they did.

4. To give all walkers in New Zealand the same chance of being selected for the study

5. To produce groups that were as similar as possible in all respects before the explanatory variable was imposed