The Effect of Distance on Bacteria Growth From Hot Air Drying Machines

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The purpose of conducting the experiment was to evaluate the effect of distance on bacteria growth from hot air-drying machines. The rationale stems from researchers such as John Ross from Harvard Health Blog that concluded that most of the bacterial splatter from the hand dryers had derived from the washroom air. The experiment was conducted at two locations for accurate data collection. A total of 60 petri dishes for the following independent variables, control(paper towels), 5 in., and 1 ft were used. The participants' hands were washed and dried according to the independent variable and swabbed. Data collection was based on the colony count from the petri dishes. The data supported the following hypothesis, if the distance between the recipient's hands from the hot-air drying machine increases then the number of bacteria colonies will decrease. The data exhibited 3 major trends, the first being the independent variable 5in had a significantly higher colony count by about 3 times compared to the other independent variables. The second trend includes variable control and 1ft having an average colony count under 50. Lastly, the independent variable 1ft had the best performance in which it had the lowest average colony count out of the 3 levels for both locations. It can be concluded that as more environmentally friendly alternatives increase, hot air drying machines become common in public spaces. Despite this, it is counterproductive by spreading bacteria onto the recipient's hand.