

# Butt lengths differ by area deprivation level: A field study to explore intensive smoking

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## Abstract

We collected cigarette butts in a range of residential areas, to assess differences in the length of unburnt tobacco in the butts, and in proportions of roll-your-own (RYO) cigarettes. Two high, two medium, and two low deprivation areas, as classified by deciles of the New Zealand Deprivation Index, were selected for the Wellington region. Collected butts were systematically classified and measured. A mixed model of analysis, treating location clusters nested within deprivation level areas as a random effect, was used to assess differences in mean length of unburnt tobacco in the butts. A total of 6,262 cigarette butts and separate filters were collected, of which 3,509 (56.0%) were measurable manufactured cigarette butts, 1,069 were unmeasurable manufactured butts, 1,450 were RYO butts, and 236 were RYO filters. The RYO butts were not measured because of the extent of their degradation. The unburnt tobacco lengths in manufactured cigarette butts were significantly shorter in the most deprived areas, relative to the least deprived areas ( $p = .035$ ). Deformed manufactured cigarette butts (i.e., that potentially were stubbed out) showed the same pattern ( $p = .011$  between the most and least deprived areas). We found no significant difference between deprivation areas in the proportion of RYO material found. The shorter mean unburnt tobacco length in the most deprived areas is consistent with more intensive smoking among smokers in those areas. This finding is consistent with other evidence of increased price sensitivity among poorer smokers, and with basic economic theory. Further evidence on observed smoking behavior in the field is necessary to better interpret these preliminary findings.

## Recommended Citation

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**Link To PDF:** <http://www.ncbi.nlm.nih.gov/pubmed/18569769>