1 Introduction

This is the first paragraph of the document. This is the first paragraph of the document. This is the first paragraph of the document. This is the first paragraph of the document.

There are two sections: Section 2 has a lot of math and Section 3 references the table and figures.

2 Next section

In Section 1, we saw that...

2.1 A subsection

Here is some math stuff. This is the simple linear regression model for pairs (x_j, Y_j), $j = 1, \ldots, n$, with intercept β_0 and slope β_1:

$$Y_j = \beta_0 + \beta_1 x_j + \epsilon_j, \tag{1}$$

where ϵ_j is a normally-distributed random deviation with mean 0 and variance σ^2; that is,

$$\epsilon_j \sim \mathcal{N}(0, \sigma^2) \text{ for all } j.$$

This model can be written alternatively in matrix form. Let

$$\boldsymbol{Y} = \begin{pmatrix} Y_1 \\ Y_2 \\ \vdots \\ Y_n \end{pmatrix}, \quad \boldsymbol{X} = \begin{pmatrix} 1 & x_1 \\ 1 & x_2 \\ \vdots & \vdots \\ 1 & x_n \end{pmatrix},$$

$\boldsymbol{\beta} = (\beta_0, \beta_1)^T$, and $\boldsymbol{\epsilon} = (\epsilon_1, \epsilon_2, \ldots, \epsilon_n)^T$. Then (1) can be expressed more concisely as

$$\boldsymbol{Y} = \boldsymbol{X}\boldsymbol{\beta} + \boldsymbol{\epsilon}. \tag{2}$$

Thus, (2) implies that $\boldsymbol{Y} \sim \mathcal{N}(\boldsymbol{X}\boldsymbol{\beta}, \sigma^2\boldsymbol{I})$, where $\boldsymbol{I}$ is an $(n \times n)$ identity matrix.

3 Another section

In this section we refer to Table 1, the single-panel Figure 1, and the two-panel Figure 2.

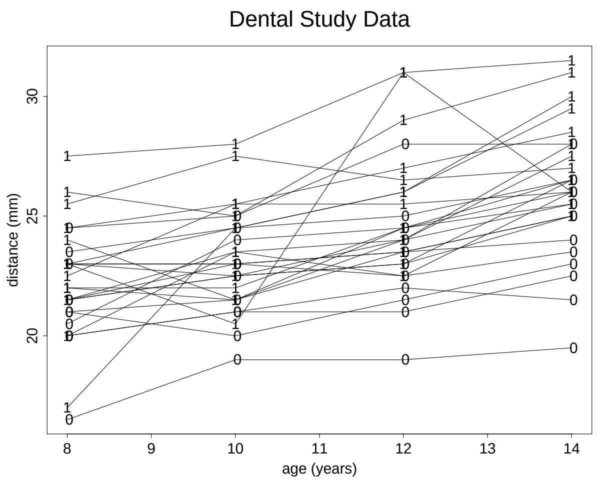
References

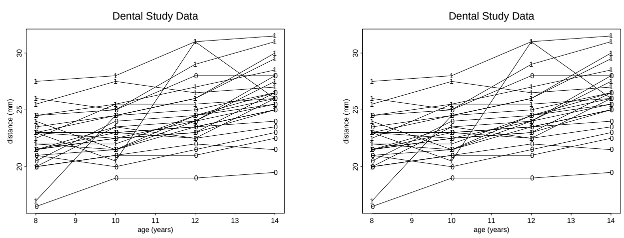
Stefanski LA, Luo X, Boos DD (2006). Tuning variable selection procedures by adding noise. *Technometrics*, **48**, 165–175.

	Results	
Parameter	Bias	SE
β_0	0.030	0.12
β_1	0.002	0.07

Table 1: *Results of the simulation.*

Figure 1: *The dental data of Pothoff and Roy.*





(a) (b)

Figure 2: (a) The dental data of Pothoff and Roy. (b) The dental data of Pothoff and Roy, again.