Strategies for handling missing data caused by item nonresponse in environmental monitoring programs

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Abstract

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Keywords: keyword1, keyword2

1. Introduction

- Item nonresponse
- Three types of missingness

2. Background

There are two types of item nonresponse we consider: structural and non-structural. Item nonresponse is structural when the reason that the data are missing is directly related to physical features at a site. When structural nonresponse occurs, the data are "not missing at random", but we have information about the mechanism that causes the missingness. Item nonresponse is non-structural when the reason the data are missing is not directly related to physical features at a site. The approaches for handling structural vs non-structural item nonresponse vary drastically, so it is important the correctly identify the type of nonresponse and apply appropriate analysis techniques.

Structural item nonresponse

3. Applications to National Aquatic Resource Survey Data

4. Discussion

5. Quarto Examples

Here are two sample references: Feynman and Vernon Jr. (1963) Dirac (1953).

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5.1. Equations

Here is an equation:

$$f_X(x) = \left(\frac{\alpha}{\beta}\right)\left(\frac{x}{\beta}\right)^{\alpha-1} e^{-\left(\frac{x}{\beta}\right)^{\alpha}}; \alpha, \beta, x > 0. \tag{1}$$

It is Equation 1.

Inline equations work as well: $\sum_{i=2}^{\infty}\{\alpha_i^{\beta}\}$

5.2. Figures and tables
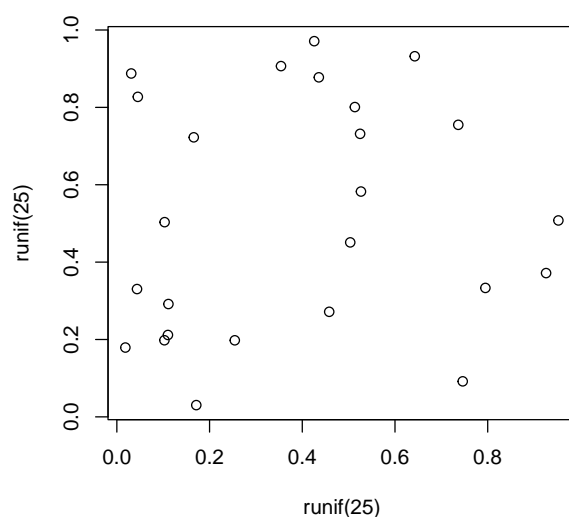
Figure 1 is generated using an R chunk.

Figure 1: A meaningless scatterplot

5.3. Tables coming from R

Tables can also be generated using R chunks, as shown in Table 1 example.

```
knitr::kable(head(mtcars)[,1:4])
```

Table 1: Caption centered above table

	mpg	cyl	disp	hp
Mazda RX4	21.0	6	160	110
Mazda RX4 Wag	21.0	6	160	110
Datsun 710	22.8	4	108	93
Hornet 4 Drive	21.4	6	258	110
Hornet Sportabout	18.7	8	360	175

	mpg	cyl	disp	hp
Valiant	18.1	6	225	105

References

Dirac, P.A.M., 1953. The Lorentz transformation and absolute time. Physica 19, 888–896. doi:10.1016/S0031-8914(53)80099-6.

Feynman, R.P., Vernon Jr., F.L., 1963. The theory of a general quantum system interacting with a linear dissipative system. Annals of Physics 24, 118–173. doi:10.1016/0003-4916(63)90068-X.