

# Package ‘discnorm’

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**Type** Package

**Title** Test for Discretized Normality in Ordinal Data

**Version** 0.1.1

**Description** Tests whether multivariate ordinal data may stem from discretizing a multivariate normal distribution.

The test is described by Foldnes and Grønneberg (2019) <[doi:10.1080/10705511.2019.1673168](https://doi.org/10.1080/10705511.2019.1673168)>.

**License** GPL (>= 2)

**Encoding** UTF-8

**Suggests** knitr, rmarkdown

**VignetteBuilder** knitr

**Imports** lavaan, arules, sirt, MASS, pbivnorm

**RoxygenNote** 7.1.1

**NeedsCompilation** no

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**Repository** CRAN

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bootTest	<i>Bootstrap test for discretized normality</i>
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**Description**

bootTest is a bootstrap test for whether an ordinal dataset is consistent with being a discretization of a multivariate normal dataset.

**Usage**

```
bootTest(my.data, B = 1000, verbose = TRUE)
```

**Arguments**

my.data	A dataset containing ordinal data. Must contain only integer values.
B	Number of bootstrap samples.
verbose	If true, bootstrap progress is printed to the console.

**Value**

p-value associated with the underlying normality hypothesis.

**References**

Njål Foldnes & Steffen Grønneberg (2019) Pernicious Polychorics: The Impact and Detection of Underlying Non-normality, Structural Equation Modeling: A Multidisciplinary Journal, DOI: 10.1080/10705511.2019.1673168

**Examples**

```
set.seed(1)
norm.data <- MASS::mvrnorm(300, m=rep(0,3),
  Sigma=cov(MASS::mvrnorm(15, mu=rep(0,3), Sigma=diag(3))))
disc.data <- apply(norm.data,2, cut,
  breaks = c(-Inf, 0,1, Inf), labels=FALSE)# normal data discretized
pvalue <- bootTest(disc.data, B=500)
#no support for underlying non-normality
```

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