

# Package ‘profileR’

May 9, 2026

**Title** Profile Analysis of Multivariate Data in R

**Type** Package

**Description** A suite of multivariate methods and data visualization tools to implement profile analysis and cross-validation techniques described in Davison & Davenport (2002) <[DOI:10.1037/1082-989X.7.4.468](https://doi.org/10.1037/1082-989X.7.4.468)>, Bulut (2013), and other published and unpublished resources. The package includes routines to perform criterion-related profile analysis, profile analysis via multidimensional scaling, moderated profile analysis, profile analysis by group, and a within-person factor model to derive score profiles.

**Version** 0.3-5

**Date** 2018-4-10

**Author** Okan Bulut <[okanbulut84@gmail.com](mailto:okanbulut84@gmail.com)>, Christopher David Desjardins <[cddesjardins@gmail.com](mailto:cddesjardins@gmail.com)>

**Maintainer** Christopher David Desjardins <[cddesjardins@gmail.com](mailto:cddesjardins@gmail.com)>

**Depends** ggplot2, RColorBrewer, reshape, lavaan, R (>= 3.0.0)

**License** GPL (>= 2)

**LazyData** true

**RoxygenNote** 6.0.1

**NeedsCompilation** no

**Repository** CRAN

**Date/Publication** 2018-04-19 20:57:36 UTC

## Contents

|                            |   |
|----------------------------|---|
| profileR-package . . . . . | 2 |
| anova.critpat . . . . .    | 3 |
| bacc2001 . . . . .         | 3 |
| cpa . . . . .              | 4 |
| EEGS . . . . .             | 5 |
| interest . . . . .         | 6 |
| IPMMc . . . . .            | 7 |

|                           |           |
|---------------------------|-----------|
| leisure . . . . .         | 8         |
| mod_data . . . . .        | 8         |
| mpa . . . . .             | 9         |
| nutrient . . . . .        | 10        |
| pams . . . . .            | 10        |
| paos . . . . .            | 11        |
| pbg . . . . .             | 12        |
| pcv . . . . .             | 13        |
| plot.critpat . . . . .    | 15        |
| plot.prof . . . . .       | 15        |
| pr . . . . .              | 16        |
| print.critpat . . . . .   | 17        |
| profileplot . . . . .     | 17        |
| PS . . . . .              | 18        |
| spouse . . . . .          | 19        |
| summary.critpat . . . . . | 20        |
| wprifm . . . . .          | 20        |
| <b>Index</b>              | <b>22</b> |

---

|                  |   |
|------------------|---|
| profileR-package | <i>Profile Analysis of Multivariate Data in R</i> |
|------------------|---|

---

## Description

The package profileR provides a set of multivariate methods and data visualization tools to implement profile analysis and cross-validation techniques described in Davison & Davenport (2002), Bulut (2013), and other resources. This package includes routines to perform criterion-related profile analysis, profile analysis via multidimensional scaling, moderated profile analysis, profile analysis by group, and a within-person factor model to derive score profiles.

## Author(s)

Okan Bulut <okanbulut84@gmail.com>

Christopher David Desjardins <cddesjardins@gmail.com>

## References

- Bulut, O. (2013). *Between-person and within-person subscore reliability: Comparison of unidimensional and multidimensional IRT models*. (Doctoral dissertation). University of Minnesota. University of Minnesota, Minneapolis, MN. (AAT 3589000).
- Davison, M. L., & Davenport, E. C. (2002). Identifying criterion-related patterns of predictor scores using multiple regression. *Psychological Methods*, 7(4), 468-484.
- Davison, M. L., Kim, S-K., & Close, C. W. (2009). Factor analytic modeling of within person variation in score profiles. *Multivariate Behavioral Research*, 44, 668-87.

---

|               |                     |
|---------------|---------------------|
| anova.critpat | <i>Anova Tables</i> |
|---------------|---------------------|

---

**Description**

Computes an analysis of variance table for a criterion-related profile analysis

**Usage**

```
## S3 method for class 'critpat'
anova(object, ...)
```

**Arguments**

|        |   |
|--------|---|
| object | an object containing the results returned by a model fitting cpa. |
| ...    | additional objects of the same type.                              |

**See Also**

[cpa](#)

---

|          |   |
|----------|---|
| bacc2001 | <i>Baccalaureate and Beyond Longitudinal Study 2000</i> |
|----------|---|

---

**Description**

Simulated data based on the Baccalaureate and Beyond Longitudinal Study 2000/2001 based on the values presented in Tables 1 and 2 in Davison & Davenport (unpublished).

**Usage**

```
bacc2001
```

**Format**

A data frame with 1080 rows and 4 variables:

**stem** Are you a STEM major? 1: yes; 0: no

**major** College major

**gpa** GPA

**satq** SAT quantitative

**satv** SAT verbal

**Source**

<https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2003174>

cpa

*Criterion-Related Profile Analysis***Description**

Implements the criterion-related profile analysis described in Davison & Davenport (2002).

**Usage**

```
cpa(formula, data, k = 100, na.action = "na.fail", family = "gaussian",
    weights = NULL)
```

**Arguments**

|           |  |
|-----------|--|
| formula   | An object of class <code>formula</code> of the form <code>response ~ terms</code> .                          |
| data      | An optional data frame, list or environment containing the variables in the model.                           |
| k         | Corresponds to the scalar constant and must be greater than 0. Defaults to 100.                              |
| na.action | How should missing data be handled? Function defaults to failing if missing data are present.                |
| family    | A description of the error distribution and link function to be used in the model. See <code>family</code> . |
| weights   | An option vector of weights to be used in the fitting process.   |

**Details**

The `cpa` function requires two arguments: criterion and predictors. The function returns the criterion-related profile analysis described in Davison & Davenport (2002). Missing data are presently handled by specifying `na.action = "na.omit"`, which performs listwise deletion and `na.action = "na.fail"`, the default, which causes the function to fail. The following S3 generic functions are available: `summary()`, `anova()`, `print()`, and `plot()`. These functions provide a summary of the analysis (namely,  $R^2$  and the level and pattern components); perform ANOVA of the  $R^2$  for the pattern, the level, and the overall model; provide output similar to `lm()`, and plots the pattern effect.

**Value**

An object of class `critpat` is returned, listing the following components:

- `lvl.comp` - the level component
- `pat.comp` - the pattern component
- `b` - the unstandardized regression weights
- `bstar` - the mean centered regression weights
- `xc` - the scalar constant times `bstar`
- `k` - the scale constant
- `Covpc` - the pattern effect

- `Ypred` - the predicted values
- `r2` - the proportion of variability attributed to the different components
- `F.table` - the associated F-statistic table
- `F.statistic` - the F-statistics
- `df` - the df used in the test
- `pvalue` - the p-values for the test

## References

Davison, M., & Davenport, E. (2002). Identifying criterion-related patterns of predictor scores using multiple regression. *Psychological Methods*, 7(4), 468-484. DOI: 10.1037/1082-989X.7.4.468.

## See Also

[pcv](#)

## Examples

```
## Not run:
data(IPMMc)
mod <- cpa(R ~ A + H + S + B, data = IPMMc)
print(mod)
summary(mod)
plot(mod)
anova(mod)

## End(Not run)
```

---

EEGS

*Entrance Examination for Graduate Studies*

---

## Description

The EEGS is a subset of the Entrance Examination for Graduate Studies. There are three subscores in EEGS: Quantitative 1, Quantitative 2, and Verbal. In order to show the utility of subscore reliability method in this package, each subtest was separated into two parallel forms.

## Format

**Form1\_Q1** First form of Quantitative 1  
**Form2\_Q1** Second form of Quantitative 1  
**Form1\_Q2** First form of Quantitative 2  
**Form2\_Q2** Second form of Quantitative 2  
**Form1\_V** First form of Verbal  
**Form2\_V** Second form of Verbal

---

 interest

*Fabricated cognitive, personality, and vocational interest inventory*


---

### Description

The data come from a fabricated cognitive, personality, and vocational interested inventory. This data set can be used to demonstrate regression and structural equation modeling.

### Usage

interest

### Format

A data frame with 250 rows and 33 variables:

**gender** 1 is female and 2 is male

**educ** Years of education

**age** Age, in years

**vocab** Vocabulary test

**reading** Reading comprehension

**sentcomp** Sentence completion

**mathmtcs** Mathematics

**geometry** Geometry

**analyrea** Analytical reasoning

**socdom** Social dominance

**sociabty** Sociability

**stress** Stress reaction

**worry** Worry scale

**impulsve** Impulsivity

**thrillsk** Thrill-seeking

**carpentr** Carpentry

**forestr** Forest ranger

**morticin** Mortician

**policemn** Police

**fireman** Fireman

**salesrep** Sales representative

**teacher** Teacher

**busexec** Business executive

**stockbrk** Stock broker

**artist** Artist  
**socworkr** Social worker  
**truckdvr** Truck driver  
**doctor** Doctor  
**clergymn** Clergyman  
**lawyer** Lawyer  
**actor** Actor  
**archtct** Architect  
**landscpr** Landscaper

### Source

<http://psych.colorado.edu/~carey/Courses/PSYC7291/ClassDataSets.htm>

---

IPMMc

*Inventory of Personality and Mood Manifestation*

---

### Description

The IPMMc data frame has 6 rows and 5 columns. See Davison and Davenport (2002) for more information.

### Format

This data frame contains the following columns:

**A** Anxiety

**H** Hypochondriasis

**S** Schizophrenia

**B** Bipolar Disorder

**R** The Neurotic versus Psychotic Criterion Variable, where Neurotic (= 1) or Psychotic (= 0)

### Source

Davison, M. L., & Davenport, E. C. (2002). Identifying criterion-related patterns of predictor scores using multiple regression. *Psychological Methods*, 7(4), 468-484.

### References

Davison, M. L., & Davenport, E. C. (2002). Identifying criterion-related patterns of predictor scores using multiple regression. *Psychological Methods*, 7(4), 468-484.

---

|         |                                  |
|---------|----------------------------------|
| leisure | <i>Leisure Activity Rankings</i> |
|---------|----------------------------------|

---

### Description

The leisure dataset includes leisure activity rankings for three different groups: politicians, administrators, and belly-dancers. Rankings are provided in four categories: Reading, Dancing, Watching TV, and Skiing. See Tabachnik and Fidell (1996) for more details.

### Source

Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics* (3rd ed.). New York: Harper Collins.

### Examples

```
## Not run:  
data(leisure)  
  
## End(Not run)
```

---

|          |  |
|----------|--|
| mod_data | <i>Moderated profile analysis dummy data</i> |
|----------|--|

---

### Description

Randomly generated data to test the mpa function.

### Format

This data frame contains the following columns:

**dv** Dependent variable  
**pred1** Predictor variable 1  
**pred2** Predictor variable 2  
**mod** The moderator variable

### Source

This data set was randomly generated to demonstrate how to use the mpa function.

### See Also

[mpa](#)

---

mpa *Moderated Profile Analysis*

---

**Description**

Implements the moderated profile analysis approach developed by Davison & Davenport (unpublished)

**Usage**

```
mpa(formula, data, moderator, k = 100, na.action = "na.fail")
```

**Arguments**

|           |   |
|-----------|---|
| formula   | An object of class <code>formula</code> of the form <code>response ~ terms</code> .           |
| data      | An optional data frame, list or environment containing the variables in the model.            |
| moderator | Name of the moderator variable.   |
| k         | Corresponds to the scalar constant and must be greater than 0. Defaults to 100.               |
| na.action | How should missing data be handled? Function defaults to failing if missing data are present. |

**Details**

The function returns the criterion-related moderated profile analysis described in Davison & Davenport (unpublished). Missing data are presently handled by specifying `na.action = "na.omit"`, which performs listwise deletion and `na.action = "na.fail"`, the default, which causes the function to fail. The following S3 generic functions are not yet available but will be in future implementations. `summary()`, `anova()`, `print()`, and `plot()`. These functions provide a summary of the analysis (namely, R2 and the level and pattern components); perform ANOVA of the R2 for the pattern, the level, and the overall model; provide output similar to `lm()`, and plots the pattern effect. **WORKS ONLY WITH TWO GROUPS!**

**Value**

A list containing the following components:

- `call` - The model call
- `output` - The output from the moderated criterion-related profile analysis
- `f.table` - The corrected F-table for assessing differences in patterns.
- `moder.model` - The standard moderated regression model

**References**

Davison, M., & Davenport, E. (unpublished). Comparing Criterion-Related Patterns of Predictor Variables across Populations Using Moderated Regression.

**See Also**[cpa](#)**Examples**

```
## Not run:
data(mod_data)
mod <- mpa(gpa ~ satv * major + satq * major, moderator = "major", data = bacc2001)
summary(mod$output)
mod$f.table
summary(mod$moder.model)

## End(Not run)
```

---

|          |                                   |
|----------|-----------------------------------|
| nutrient | <i>USDA Women's Health Survey</i> |
|----------|-----------------------------------|

---

**Description**

In 1985, the United States Department of Agriculture (USDA) commissioned a study of women's nutrition. Nutrient intake was measured for a random sample of 737 women aged 25-50 years. Five nutritional components were measured: calcium, iron, protein, vitamin A and vitamin C.

**Format**

**calcium** Calcium amount  
**iron** Iron amount  
**protein** Protein amount  
**a** Vitamin A amount  
**c** Vitamin C amount

---

|      |  |
|------|--|
| pams | <i>Profile Analysis via Multidimensional Scaling</i> |
|------|--|

---

**Description**

The pams function implements profile analysis via multidimensional scaling as described by Davison, Davenport, and Bielinski (1995) and Davenport, Ding, and Davison (1995).

**Usage**

```
pams(data, dim)
```

**Arguments**

|      |  |
|------|--|
| data | A data matrix or data frame; rows represent individuals, columns represent scores; missing scores are not allowed. |
| dim  | Number of dimensions to be extracted from the data.  |

**Details**

The pams function computes similarity/dissimilarity indices based on Euclidean distances between the scores provided in the data, and then extracts dimensional coordinates for each score using multidimensional scaling. A weight matrix, level parameters, and fit measures are computed for each subject in the data.

**Value**

- `dimensional.configuration` - A matrix that provides prototypical profiles of dimensions extracted from the data.
- `weights.matrix` - A matrix that includes the subject correspondence weights for all dimensions, level parameters, and the subject fit measure which is the proportion of variance in the subject's actual profiles accounted for by the prototypical profiles.

**References**

Davenport, E. C., Ding, S., & Davison, M. L. (1995). PAMS: SAS Template.  
Davison, M. L., Davenport, E. C., & Bielinski, J. (1995). PAMS: SPSS Template.

**See Also**

[cpa](#), [pr](#)

**Examples**

```
## Not run:  
data(PS)  
result <- pams(PS[,2:4], dim=2)  
result  
  
## End(Not run)
```

---

paos

*Profile Analysis for One Sample with Hotelling's T-Square*

---

**Description**

The paos function implements profile analysis for one sample using Hotelling's T-square.

**Usage**

```
paos(data, scale = TRUE)
```

**Arguments**

|       |   |
|-------|---|
| data  | A data matrix or data frame; rows represent individuals, columns represent variables. |
| scale | If TRUE (default), variables are standardized by dividing their standard deviations.  |

**Details**

The paos function runs profile analysis for one sample based on the Hotelling's T-square test and tests the two hypothesis. First, the null hypothesis that all the ratios of the variables in the data are equal to 1. After rejecting the first hypothesis, a secondary null hypothesis that all of the ratios of the variables in the data equal to one another (not necessarily equal to 1) is tested.

**Value**

A summary table is returned, listing the following two hypothesis:

- Hypothesis 1 - Ratios of the means of the variables over the hypothesized mean are equal to 1.
- Hypothesis 2 - All of the ratios are equal to each other.

**See Also**

[cpa](#), [pr](#)

**Examples**

```
## Not run:
data(nutrient)
paos(nutrient, scale=TRUE)

## End(Not run)
```

---

pbg

*Profile Analysis by Group: Testing Parallelism, Equal Levels, and Flatness*

---

**Description**

The pbg function implements three hypothesis tests. These tests are whether the profiles are parallel, have equal levels, and are flat across groups defined by the grouping variable. If parallelism is rejected, the other two tests are not necessary. In that case, flatness may be assessed within each group, and various within- and between-group contrasts may be analyzed.

**Usage**

```
pbg(data, group, original.names = FALSE, profile.plot = FALSE)
```

**Arguments**

|                             |  |
|-----------------------------|--|
| <code>data</code>           | A matrix or data frame with multiple scores; rows represent individuals, columns represent subscores. Missing subscores have to be inserted as NA.   |
| <code>group</code>          | A vector or data frame that indicates a grouping variable. It can be either numeric or character (e.g., male-female, A-B-C, 0-1-2). The grouping variable must have the same length of x. Missing values are not allowed in y. |
| <code>original.names</code> | Use original column names in x. If FALSE, variables are renamed using v1, v2, ..., vn for subscores and "group" for the grouping variable. Default is FALSE.   |
| <code>profile.plot</code>   | Print a profile plot of scores for the groups. Default is FALSE.   |

**Value**

An object of class `profg` is returned, listing the following components:

- `data.summary` - Means of observed variables by the grouping variable
- `corr.table` - A matrix of correlations among observed variables splitted by the grouping variable
- `profile.test` - Results of F-tests for testing parallel, coincidental, and level profiles across two groups.

**See Also**

[pr](#), [profileplot](#)

**Examples**

```
## Not run:
data(spouse)
mod <- pbg(data=spouse[,1:4], group=spouse[,5], original.names=TRUE, profile.plot=TRUE)
print(mod) #prints average scores in the profile across two groups
summary(mod) #prints the results of three profile by group hypothesis tests

## End(Not run)
```

**Description**

Implements the cross-validation described in Davison & Davenport (2002).

**Usage**

```
pcv(formula, data, seed = NULL, na.action = "na.fail",
     family = "gaussian", weights = NULL)
```

**Arguments**

|           |   |
|-----------|---|
| formula   | An object of class <a href="#">formula</a> of the form response ~ terms.  |
| data      | An optional data frame, list or environment containing the variables in the model.                              |
| seed      | Should a seed be set? Function defaults to a random seed.   |
| na.action | How should missing data be handled? Function defaults to failing if missing data are present.                   |
| family    | A description of the error distribution and link function to be used in the model. See <a href="#">family</a> . |
| weights   | An option vector of weights to be used in the fitting process.  |

**Details**

The `pcv` function requires two arguments: `criterion` and `predictor`. The `criterion` corresponds to the dependent variable and the `predictor` corresponds to the matrix of predictor variables. The function performs the cross-validation technique described in Davison & Davenport (2002) and an object of class `critpat` is returned. There the following s3 generic functions are available: `summary()`, `anova()`, `print()`, and `plot()`. These functions provide a summary of the cross-validation (namely, `R2`); performs ANOVA of the `R2` based on the split for the level, pattern, and overall; provide output similar to `lm()`; and plot the estimated parameters for the random split. Missing data are presently handled by specifying `na.action = "na.omit"`, which performs listwise deletion and `na.action = "na.fail"`, the default, which causes the function to fail. A seed may also be set for reproducibility by setting the seed.

**Value**

An object of class `critpat` is returned, listing the following components:

- `R2.full`, test of the null hypothesis that  $R2 = 0$
- `R2.pat`, test that the  $R2_{pattern} = 0$
- `R2.level`, test that the  $R2_{level} = 0$
- `R2.full.lvl`, test that the  $R2_{full} = R2_{level} = 0$
- `R2.full.pat`, test that the  $R2_{full} = R2_{pattern} = 0$

**References**

Davison, M., & Davenport, E. (2002). Identifying criterion-related patterns of predictor scores using multiple regression. *Psychological Methods*, 7(4), 468-484. DOI: 10.1037/1082-989X.7.4.468.

**See Also**

[cpa](#), [print.critpat](#), [summary.critpat](#), [anova.critpat](#), [plot.critpat](#)

---

|              |                                       |
|--------------|---------------------------------------|
| plot.critpat | <i>Plot criterion-related profile</i> |
|--------------|---------------------------------------|

---

**Description**

Plots the criterion-related level and pattern profiles for each observation

**Usage**

```
## S3 method for class 'critpat'  
plot(x, ...)
```

**Arguments**

|     |   |
|-----|---|
| x   | critpat object resulting from cpa                 |
| ... | additional arguments affecting the plot produced. |

**See Also**

[cpa](#)

---

|           |  |
|-----------|--|
| plot.prof | <i>Plots a pattern and level reliability</i> |
|-----------|--|

---

**Description**

Plots the pattern vs. level reliability returned from the pr function of class prof.

**Usage**

```
## S3 method for class 'prof'  
plot(x, ...)
```

**Arguments**

|     |   |
|-----|---|
| x   | an object returned from the pr function |
| ... | additional objects of the same type.    |

**See Also**

[pr](#)

---

pr

*Pattern and Level Reliability via Profile Analysis*

---

### Description

The `pr` function uses subscores from two parallel test forms and computes profile reliability coefficients as described in Bulut (2013).

### Usage

```
pr(form1, form2)
```

### Arguments

`form1, form2` Two data matrices or data frames; rows represent individuals, columns represent subscores. Both forms should have the same individuals and subscores in the same order. Missing subscores have to be inserted as NA.

### Details

Profile pattern and level reliability coefficients are based on the profile analysis approach described in Davison and Davenport (2002) and Bulut (2013). Using the parallel test forms or multiple administration of the same test form, pattern and level reliability coefficients are computed. Pattern reliability is an indicator of variability between the subscores of an examinee and the level reliability is an indicator of the average subscore variation among all examinees. For details, see [Bulut\(2013\)](#)

### Value

An object of class `prof` is returned, listing the following components:

- `reliability` - Within-in person, between-person, and overall subscore reliability
- `pattern.level` - A matrix of all pattern and level values obtained from the subscores

### References

Bulut, O. (2013). *Between-person and within-person subscore reliability: Comparison of unidimensional and multidimensional IRT models*. (Doctoral dissertation). University of Minnesota. University of Minnesota, Minneapolis, MN. (AAT 3589000).

Davison, M. L., & Davenport, E. C. (2002). Identifying criterion-related patterns of predictor scores using multiple regression. *Psychological Methods*, 7(4), 468-484. DOI: 10.1037/1082-989X.7.4.468

### See Also

[plot.prof](#)

**Examples**

```
## Not run:  
data(EEGS)  
result <- pr(EEGS[,c(1,3,5)],EEGS[,c(2,4,6)])  
print(result)  
plot(result)  
## End(Not run)
```

---

|               |   |
|---------------|---|
| print.critpat | <i>Print a criterion-related profile analysis</i> |
|---------------|---|

---

**Description**

Prints the default output from fitting the cpa function.

**Usage**

```
## S3 method for class 'critpat'  
print(x, ...)
```

**Arguments**

|     |  |
|-----|--|
| x   | object of class critpat returned from the cpa function |
| ... | additional objects of the same type.                   |

**See Also**

[cpa](#)

---

|             |                           |
|-------------|---------------------------|
| profileplot | <i>Score Profile Plot</i> |
|-------------|---------------------------|

---

**Description**

The profileplot function creates a profile plot for a matrix or dataframe with multiple scores or subscores using [ggplot](#) function in ggplot2 package.

**Usage**

```
profileplot(form, person.id, standardize = TRUE, interval = 10,  
            by.pattern = TRUE, original.names = TRUE)
```

**Arguments**

|                             |   |
|-----------------------------|---|
| <code>form</code>           | A matrix or dataframe including two or more subscores.  |
| <code>person.id</code>      | A vector that includes person ID values (Optional).   |
| <code>standardize</code>    | If not FALSE, all scores are rescaled with a mean of 0 and standard deviation of 1. Default is TRUE.  |
| <code>interval</code>       | The number of equal intervals from the minimum score to the maximum score. Default is 10. Ignored when <code>by.pattern=FALSE</code> .  |
| <code>by.pattern</code>     | If TRUE, the function creates a profile plot with level and pattern values using <code>ggplot2</code> . Otherwise, the function creates a profile plot showing profile scores of persons using the base graphics in R. Default is TRUE. |
| <code>original.names</code> | Use the original column names in the data. Otherwise, columns are renamed as <code>v1,v2,...</code> . Default is TRUE.  |

**Value**

The `profileplot` functions returns a score profile plot from either [ggplot](#) or the base graphics in R.

**See Also**

[ggplot](#), [PS](#)

**Examples**

```
## Not run:
data(PS)
myplot <- profileplot(PS[,2:4], person.id = PS$Person, by.pattern = TRUE, original.names = TRUE)
myplot

data(leisure)
leis.plot <- profileplot(leisure[,2:4], standardize=TRUE, by.pattern=FALSE)
leis.plot

## End(Not run)
```

---

PS

*A Hypothetical Personality Scale from Davison, Kim, and Close (2009)*

---

**Description**

The PS shows score profiles of six respondents to a hypothetical personality scale. It includes three types of profile patterns: Linearly increasing, inverted V, and linearly decreasing.

**Format**

**Person** Person ID  
**NEU** Neurotic scale score  
**PSY** Psychotic scale score  
**CD** Character disorder scale score

**Source**

Davison, M. L., Kim, S-K., & Close, C. W. (2009). Factor analytic modeling of within person variation in score profiles. *Multivariate Behavioral Research*, 44, 668-87.

**References**

Davison, M. L., Kim, S-K., & Close, C. W. (2009). Factor analytic modeling of within person variation in score profiles. *Multivariate Behavioral Research*, 44, 668-87.

---

 spouse

*Love and Marriage Survey for Spouses*


---

**Description**

The spouse data come from a study of love and marriage. A sample of 30 husbands and their wives were asked to respond to the following questions:

- Question 1: What is the level of passionate love you feel for your partner?
- Question 2: What is the level of passionate love that your partner feels for you?
- Question 3: What is the level of companionate love that you feel for your partner?
- Question 4: What is the level of companionate love that your partner feels for you?

The responses to all four questions are on a five-point Likert scale where 1 indicates "none at all" and 5 indicates "tremendous amount".

**Format**

**item1** Question 1 with a score ranging from 1 to 5.  
**item2** Question 2 with a score ranging from 1 to 5.  
**item3** Question 3 with a score ranging from 1 to 5.  
**item4** Question 4 with a score ranging from 1 to 5.  
**spouse** Spouse type. It is either "Husband" or "Wife"

**Examples**

```
## Not run:
data(spouse)
```

```
## End(Not run)
```

---

|                 |  |
|-----------------|--|
| summary.critpat | <i>Summary of criterion-related profile analysis</i> |
|-----------------|--|

---

**Description**

Provides a summary of the criterion-related profile analysis

**Usage**

```
## S3 method for class 'critpat'
summary(object, ...)
```

**Arguments**

|        |  |
|--------|--|
| object | object of class critpat                              |
| ...    | additional arguments affecting the summary produced. |

**See Also**

[cpa](#)

---

|        |  |
|--------|--|
| wprifm | <i>Within-Person Random Intercept Factor Model</i> |
|--------|--|

---

**Description**

Within-Person Random Intercept Factor Model

**Usage**

```
wprifm(data, scale = FALSE, save_model = FALSE)
```

**Arguments**

|            |  |
|------------|--|
| data       | Data.frame containing the manifest variables.                      |
| scale      | Should the data be scaled? Default = FALSE                         |
| save_model | Should the temporary lavaan model syntax be saved. Default = FALSE |

**Details**

This function performs the within-person random intercept factor model described in Davison, Kim, and Close (2009). For information about this model, please see this reference. This function returns an object of lavaan class and thus any generics defined for lavaan will work on this object. This function provides a simple wrapper for lavaan.

**Value**

an object of class `lavaan`

**References**

Davison, M., Kim, S.-K., Close, C. (2009). Factor analytic modeling of within person variation in score profiles. *Multivariate Behavioral Research*, 44(5), 668 - 687. DOI: 10.1080/00273170903187665

**Examples**

```
data <- HolzingerSwineford1939[,7:ncol(HolzingerSwineford1939)]
wprifm(data, scale = TRUE)
```

# Index

- \* **datasets**
  - EEGS, 5
  - IPMMc, 7
  - leisure, 8
  - mod\_data, 8
  - nutrient, 10
  - PS, 18
  - spouse, 19
- \* **dataset**
  - bacc2001, 3
  - interest, 6
- \* **methods**
  - pcv, 13
  - pr, 16
- \* **method**
  - cpa, 4
  - mpa, 9
- \* **package**
  - profileR-package, 2
- anova.critpat, 3, 14
- bacc2001, 3
- cpa, 3, 4, 10–12, 14, 15, 17, 20
- EEGS, 5
- family, 4, 14
- formula, 4, 9, 14
- ggplot, 17, 18
- interest, 6
- IPMMc, 7
- leisure, 8
- mod\_data, 8
- mpa, 8, 9
- nutrient, 10
- pams, 10
- paos, 11
- pbg, 12
- pcv, 5, 13
- plot.critpat, 14, 15
- plot.prof, 15, 16
- pr, 11–13, 15, 16
- print.critpat, 14, 17
- profileplot, 13, 17
- profileR-package, 2
- PS, 18, 18
- spouse, 19
- summary.critpat, 14, 20
- wprifm, 20