Der Startbildschirm

Um einen Überblick zu bekommen, welche Möglichkeiten das Programm bietet, rufen Sie FINDER.PDF auf.

Detaillierte Beschreibungen der einzelnen Programme erhält man als PDF durch anklicken der weißen Punkte unter MANUAL.

Jede Berechnung wird in der Windows-Zwischenablage gespeichert und kann daher direkt in in ein Textprogramm oder den Editor kopiert werde.

WinPepi ist Pepi für Windows und

PEPI:
Programs for Epidemiologists is a PEPI package of computer programs for the statistical analysis of data.

WINPEPI - PEPI für Windows

PEPI - Programs for EPIdemiologists
Autor: Prof. J. Abramson

- erste Version (DOS) 1993
- letzte Version 11.65 (Windows) (2016)

COMPARE2	Vergleich von unabhängigen Gruppen
DESCRIBE	Deskriptive Epidemiologie / Statistik
ETCETERA	verschiedene statistische Prozeduren
LOGISTIC	multiple logistische Regression
PAIRSetc	Analyse von matched observations
POISSON	Poisson - Regression
WHATIS	Taschenrechner und andere Hilfen

WINPEPI programs offer more options than most users will ever need, and will usually display more results than are needed. IGNORE THE OPTIONS AND RESULTS YOU DON'T REQUIRE.

WINPEPI - PEPI für Windows

- Kostenfreier Download von winpepisetup.exe unter: **brixtonhealth.com**

- Datei winpepisetup.exe in ein Verzeichnis oder auf einen Stick kopieren.

- „Ausführen" von winpepisetup.exe installiert das Programm auf der Festplatte.

- WINPEPI - Icon auf den Desktop oder / und auf der Taskleiste anheften.

- Modul auswählen, Programm auswählen, einige Optionen befinden sich auch in der oberen Menüleiste

- vor Dateneingabe evtl. noch bestimmte Optionen auswählen

- Manuelle Dateneingabe oder „copy and paste". Für kopierte Daten gelten bestimmte Voraussetzungen.

- Bei Ausführung als Administrator werden Ergebnisse in pepi.txt gespeichert. Diese Möglichkeit muss man nicht nutzen.

- Ergebnisse werden auch im Clipboard von Windows automatisch gespeichert und können daher direkt in ein Textprogramm oder EDITOR kopiert werden.

WINPEPI - PEPI für Windows

- Für jedes Modul existiert ein Manual als PDF - Datei.
- WinPepi - Finder ist ein Inhaltsverzeichnis mit Suchfunktion zum Auffinden von gewünschten Programmen und Modulen, erhältlich durch Anklicken von: „View an index ...." im Startmenü.

Modul DESCRIBE
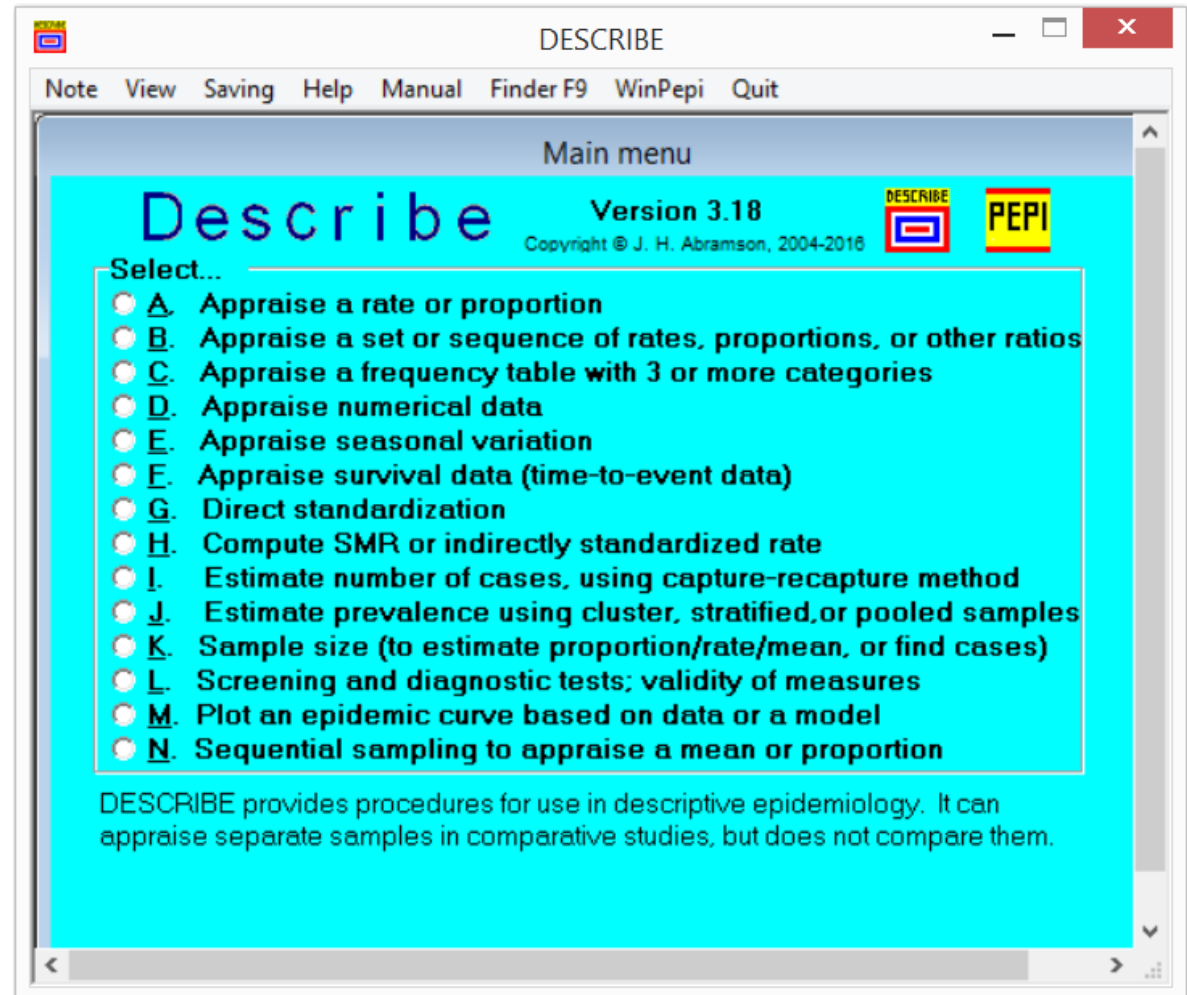
Set or sequence of rates or proportions or other ratios

Back to main menu

Appraises a set of rates or proportions or ratios of two counts, measured at points along a scale (usually a time scale). These points are scored 1, 2, 3 etc, which makes them equally spaced. Optionally, change the scores; calendar years (1999, 2003, etc.) can be used as scores. Numerators (e.g. nos of cases of a disease) or proportions or rates may be entered. The denominators may be "counts" (numbers of individuals) or person-time denominators.

Options...

Probit analysis

ENTER VALUES HERE, IN THE CORRECT ORDER. Press <Ent> or <Space> after each entry; and <Esc> to erase a line. Data can be "pasted": press F2 for help.

Enter:
- ● Numerators
- ○ Proportions
- ○ Rates per . . .   1000

- ● 'Count' denominators for rates/proportions
- ○ 'Count' denominators for other ratios
- ○ Person-time denominators

- ● Use the default scores
- ○ Enter new scores

☐ Option: To just compare the data, ENTER THEM IN ANY ORDER.

Score	Numerator	Denominator
1	23	100
2	22	100
3	45	100
4	56	100
5	78	100
6		
7		
8		
9		

New data   Repeat   Run   Print or save

Cochran-Armitage test for linear trend:
  chi-sq = 83.85 (DF: 1)   P = 0.000 [5.3E-20]
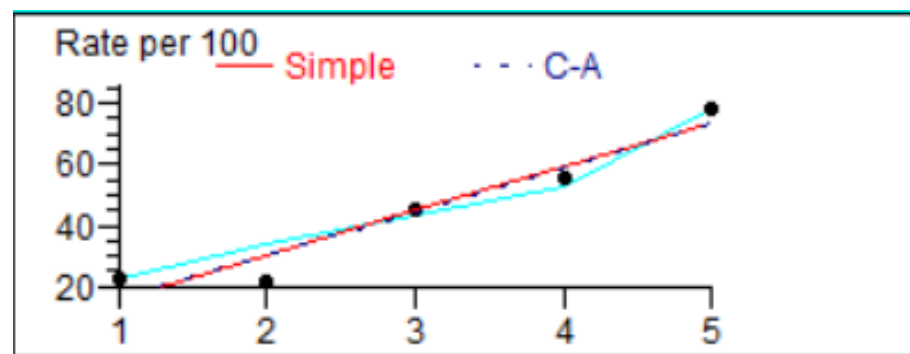Test for departure from linear trend:
  chi-sq = 6.03 (DF: 3)   P = 0.110
Test for any variation:
  total chi-sq = 89.88 (DF: 4)   P = 0.000 [1.3E-18]

Mantel test for trend:
  chi-sq = 83.68 (DF: 1)   P = 0.000 [5.8E-20]

Rate per 100 — Simple · · · C-A

5

Use a cluster sample

Back to main menu

Estimates prevalence (or any other proportion) from observations in a cluster or stratified sample or in pooled samples. The clusters may be clusters of subjects or of observations made made on each subject. The presence of the attribute under study is called a "hit". A pooled sample contains material from a number of individuals, which is then tested for (e.g.) a disease agent.

SELECT...
- J1. Cluster sample: equal-sized clusters
- ● J2. Cluster sample: different-sized clusters
- J3. Stratified sample
- J4. Pooled samples

Enter data for each cluster (left-hand box) OR for groups of clusters (right-hand box). Press <Enter> or <Space> after each entry.

(Optional:) Size of population: 4000

Display of results ● per 1000 / ○ proportions

	Cluster size	No. of hits
1	56	12
2	34	23
3	56	34
4	78	35
5	78	12
6		

Cluster size No. of hits Frequency

If frequency = 1, just press <Entr> or <Space> again. Press <Esc> to delete a line. Pasting data: press F2 for help.

New data **Repeat** **Run** **Print or save**

Sample size

Back to main menu

Estimates sample size for a given type of study, ---> for a simple random, stratified, or cluster sample. For a stratified sample, enter the assumed rate, proportion, or S.D. in each stratum, and the size of the stratum in the population. For a cluster sample, equal-sizes are assumed; enter the estimated design effect or rate of homogeneity. "Prevalence rate" = cases per (e.g.) 1,000. "Acceptable error" or "acceptable difference" = half the total width of the desired confidence interval. Press <Ent> or <Space> after entries, <Esc> to erase.

STUDY AIM:
- ○ Estimating a proportion
- ○ Estimating a prevalence rate
- ● Estimating a mean
- ○ Finding a given number of cases

- ● Simple random sample
- ○ Stratified random sample
- ○ Cluster sample

Confidence level (%): 95
Assumed S.D. in population: 3
and acceptable error: 0.18 units
or Coefficient of variation: ___ %
and acceptable error: ___ % of mean

(Optional) Population size: 8000

OPTION: Allow for loss of ___ % of subjects

New data **Repeat** **Run** **Print or save**

Prevalence = 384.1 per 1000.

By Cochran's procedure:
90% C.I. = 184.3 to 583.9 per 1000.
95% C.I. = 123.9 to 644.3 per 1000.
99% C.I. = 0.0 to 815.6 per 1000.
S.E. = 93.7 per 1000.
Design effect = 12.09

By method of Fleiss et al.:
90% C.I. = 246.2 to 522.0 per 1000.
95% C.I. = 219.8 to 548.4 per 1000.
99% C.I. = 168.2 to 600.0 per 1000.
S.E.= 83.8 per 1000.
Design effect = 9.70

Rate of homogeneity
(intraclass correlation coefficient) = 0.187
Finite population correction = 0.924
Mean cluster size   = 60.400
Adjusted mean cluster size = 59.278

Fleiss entspricht Handberechnung

Sample size

Print, copy, or save graph   **Back to main menu**

Required sample size

STUDY AIM:
- ○ Estimating a proportion
- ○ Estimating a prevalence rate
- ● Estimating a mean
- ○ Finding a given number of cases

2000 –
1000 –
0 –
  2   3   4   5   6
True S.D.

To estimate a mean (simple random sample):
Confidence level = 95%
Acceptable difference = 0.18
Assumed S.D. = 3
Size of population = 8000
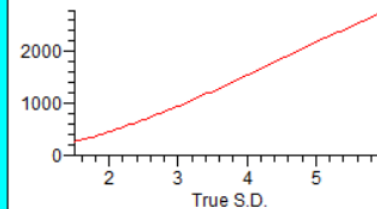
GRAPHS
Click on line to read the values. For more accuracy, zoom: <Ctrl>-click and mark a rectangle . <Ctrl>-click to unzoom. To print, use the "Print, copy or save" button. If a graph is copied to the clipboard it will overwrite the clipboard's contents. If a graph is saved, the file should be renamed

REQUIRED SAMPLE SIZE = 944

New data **Repeat** **Run** **Print or save**

Screening and diagnostic tests: appraisal or use

For tests/measures that point to a disease (or other attribute)   **Back to main menu**

YES-NO TESTS
- ⦿ Appraisal or use [L1]
- ○ Comparison/use of 2 tests [L2]
- ○ Meta-analysis [L3]

TESTS WITH A RANGE OF RESULTS
- ○ Appraisal or use [L4]
- ○ Comparison of 2 tests (A and B) [L5]

☐ (Option) Compute posttest probabilities from likelihood ratio.

"Prevalence" = assumed prevalence in target group, i.e. pretest probability.

Enter sensitivity %: [ ]   specificity %: [ ]

(Optional) Sizes of "diseased" sample: [ ]   and "not diseased" sample: [ ]

or enter numbers: Diseased, test +ve: [ ]   Diseased, test -ve: [ ]

Not diseased, test +ve: [ ]   Not diseased, test -ve: [ ]

or enter odds ratio: [ ]   Diseased: [ ]   Not diseased: [ ]   +ve tests: [ ]

To get post-test probabilities and other findings [with graph]
- ○ Enter prevalence in target population (pretest probability)
- ○ Estimate prevalence from the data entered above
- ⦿ Neither (posttest probabilities and graph not needed)

Press <Ent> or <Space> after each entry, <Esc> to delete.

☐ (Option) Estimate prevalence from frequency of +ve results: [ ]

New data   Repeat   **Run**   Print or save

Histologie

Test		K+	K-	
	T+	20	63	83
	T-	80	837	917
		100	900	

Sensitivity   = 20.00% 90% C.I. = 13.00 to 28.58%
                   95% C.I. = 13.34 to 28.88%
Specificity   = 93.00% 90% C.I. = 91.20% to 94.54%
                   95% C.I. = 91.14% to 94.49%
False positive rate = 7.00%   90% C.I. = 5.46 to 8.80%
                   95% C.I. = 5.51 to 8.86%
False negative rate = 80.00% 90% C.I. = 71.42% to 87.00%
                   95% C.I. = 71.12% to 86.66%
Youden's index   = 0.13   90% C.I. = 0.06 to 0.20
                   95% C.I. = 0.05 to 0.21
Area under ROC curve= 56.5%   90% C.I. = 53.1 to 59.9%
                   95% C.I. = 52.5 to 60.5%
Likelihood ratio:
 For positive test   = 2.86   90% C.I. = 1.94 to 4.20
                   95% C.I. = 1.81 to 4.52
For negative test   = 0.86   90% C.I. = 0.79 to 0.94
                   95% C.I. = 0.78 to 0.95

WINPEPI - PEPI für Windows

Modul COMPARE2
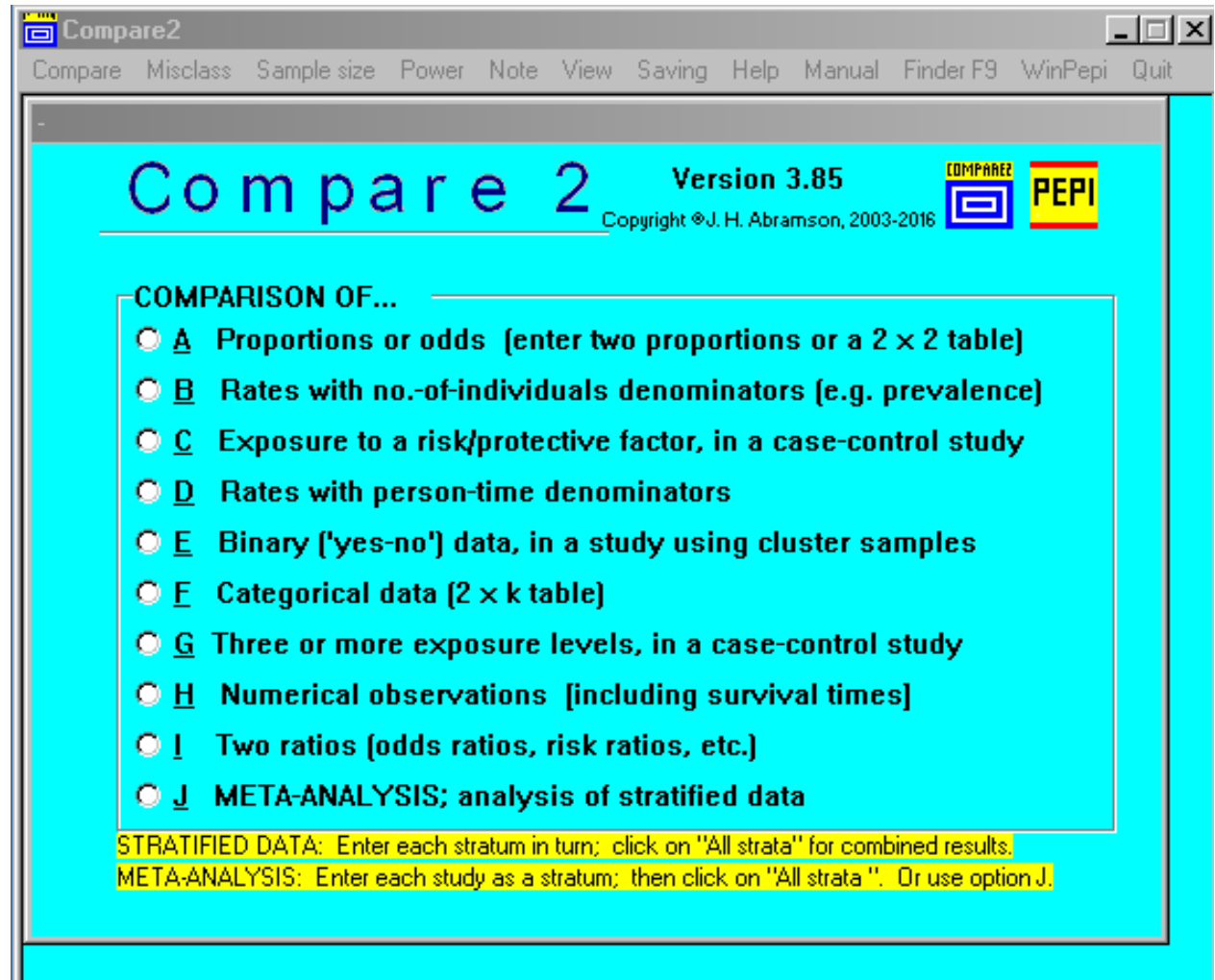
Comparison of two proportions or odds

Back to "Comparison of..." menu

Analyzes any simple 2 × 2 contingency table.

☐ Equivalence ☐ Noninferiority ☐ Include missing data in analysis.

OPTION: To derive a risk ratio from an odds ratio (odds A : odds B) of [   ]
enter the risk (proportion) in group B: [   ]   Then press "Run".   [   ] %

The groups to be compared are A and B, and the categories are Yes and No.
For each group (A and B) enter boxes 1 and 2, or 1 and 4, or 3 and 4.

	Box 1 Yes (number)	Box 2 No (number)	Box 3 Yes (proportion)	Box 4 Denominator
A:	647	622	0.5099	1269
B:	2	27	0.0690	29

Run

Stratified data: Enter each stratum separately. If the strata have a natural order, enter them in that order. Press <Esc> to delete a line

A: Raucher   Box 1: Lungenkrebs
B: Nichtraucher   Box 2: Kontrollen

Quelle: M. Bland: An Introduction to Medical Statistics.
Oxford University Press 2015, S. 33

Proportions (of "Yes"): A, 0.5099 in B, 0.0690
Risk (of "Yes") in population: 50.00% (calculated).
Exposed to risk factor: 97.77% (calculated).
                    If inverse sampling was used,
                    see results at end of output.

Exact tests:
  Fisher's P:
    One-tailed: P = 0.000 [6.4E-7] or 1.000
    Two-tailed: P = 0.000 [1.2E-6]
"N - 1" chi-square   = 22.027 P = 0.000 [2.7E-6]
Pearson's chi-square   = 22.044 P = 0.000 [2.7E-6]
  with Yates's correction = 20.316 P = 0.000 [6.6E-6]

ODDS RATIO (A:B) = 14.04 [reciprocal = 0.07]
  Fisher's exact confidence intervals:
    90%: 4.09 to 83.10
    95%: 3.50 to 122.19
    99%: 2.62 to 286.73
  Mid-P exact confidence intervals:
    90%: 4.61 to 60.16
    95%: 3.89 to 87.86
    99%: 2.86 to 204.28
  Wald confidence intervals:
    90%: 4.19 to 47.04
    95%: 3.33 to 59.30
    99%: 2.11 to 93.25

Phi, Cramer's V = = 0.13
Pearson's contingency coefficient = 0.13
Sakuda's adjusted contingency coefficient = 0.18

Case-control study

Back to "Comparison of..." menu

For comparing the proportions exposed to a risk/protective factor.
Not appropriate if cases and controls are matched.

OPTIONAL: For the attributable/prevented fraction, enter the
%age exposed to the factor in the population [or this stratum] -------> ☐ %

☐ Check here for a CASE-COHORT study (with controls representing the source ☐ %

Enter the numbers of cases and controls in the two categories of the
dependent variable (designated as Exposed and Not exposed).

	Exposed	Not exposed	Total
Cases:	647	2	649
Controls:	622	27	649

Run

Stratified data: Enter each stratum separately. If the strata have a natural order, enter them in that order. Press <Esc> to delete a line

Exposed: Raucher   Cases: Lungenkrebs
Not exp.: Nichtraucher   Contr.: Kontrollen

Quelle: M. Bland: An Introduction to Medical Statistics.
Oxford University Press 2015, S. 33

```
ODDS RATIO (cases:controls) = 14.04  [reciprocal = 0.07]
  Fisher's exact confidence intervals:
    90%:  4.09 to 83.10
    95%:  3.50 to 122.19
    99%:  2.62 to 286.73
  Mid-P exact confidence intervals:
    90%:  4.61 to 60.16
    95%:  3.89 to 87.86
    99%:  2.86 to 204.28
  Cornfield's confidence intervals:
    90%:  3.87 to 69.45 (approx. C.I.)
    95%:  3.23 to 85.77 (approx. C.I.)
    99%:  2.33 to 124.80 (approx. C.I.)
  Wald confidence intervals:
    90%:  4.19 to 47.04
    95%:  3.33 to 59.30
    99%:  2.11 to 93.25
```

Comparison of two ratios

Back to "Comparison of..." menu

Enter two odds ratios, risk ratios, or other ratios, with their confidence intervals.

Ratio A: 0.36   95 % confidence interval: 0.273 to 0.458
Ratio B: 0.45   95 % confidence interval: 0.356 to 0.548

Clear   Run

Ratio A: 0.36
  95% C.I.: 0.273 to 0.458
  [S.E of log ratio: 0.132]
Ratio B: 0.45
  95% C.I.: 0.356 to 0.548
  [S.E of log ratio: 0.110]

Ratio (A:B): 0.80
  90% confidence interval = 0.60 to 1.06
  95% confidence interval = 0.57 to 1.12
  99% confidence interval = 0.51 to 1.25

Significance test: P = 0.194

Beispiel: Gruppe A: Prophylaxe   Kariesrisiko 36%
          Gruppe B: keine Prophylaxe   Kariesrisiko 45%

    relatives Risiko: 0,8 (0,57 ; 1,12)
Obwohl das Risiko eines Kariesbefalls in der Prophylaxegruppe deutlich niedriger ist, könnte mit dieser Studie die Wirksamkeit der Prophylaxe nicht belegt werden, da der Unterschied statistisch nicht signifikant ist.
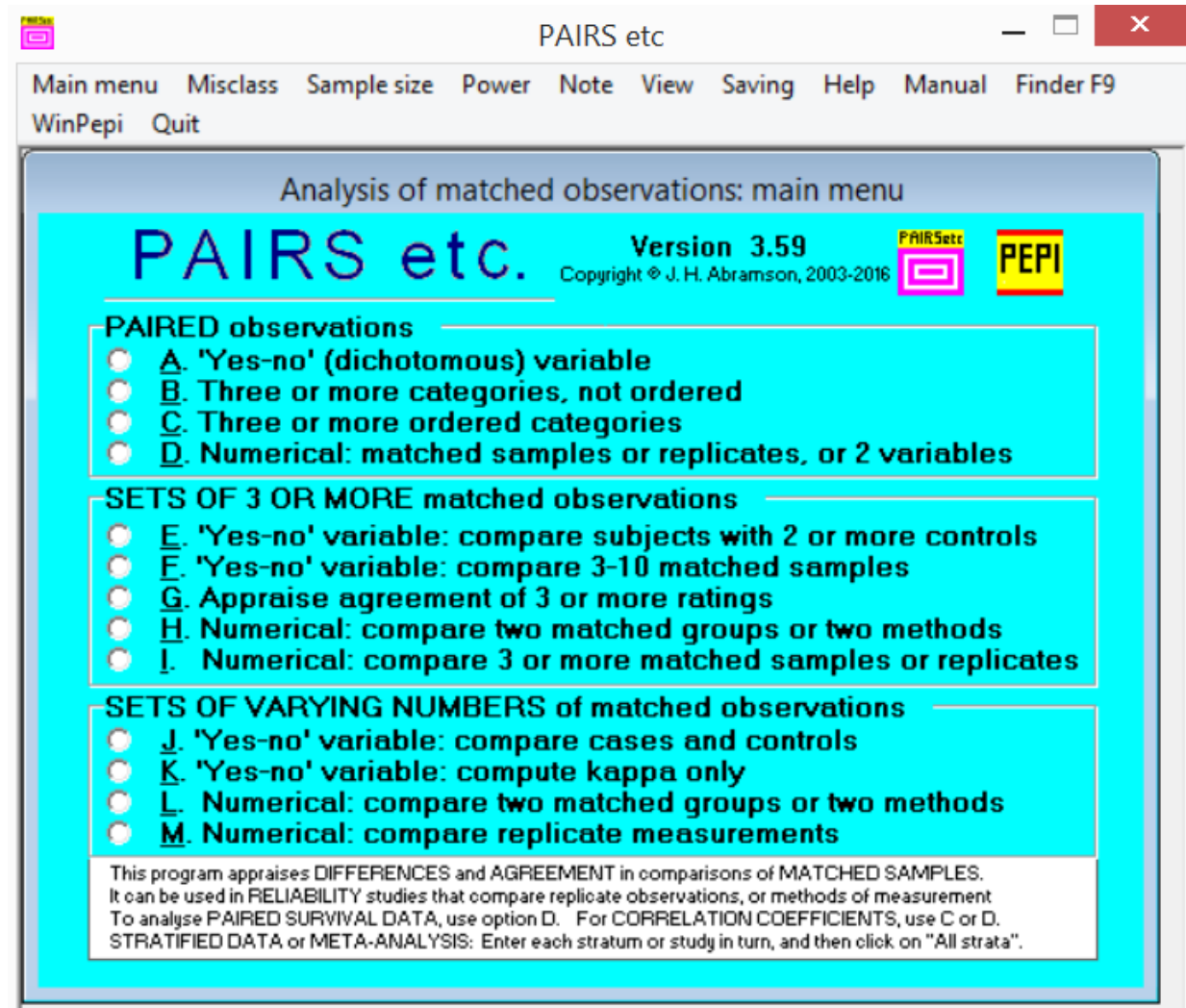
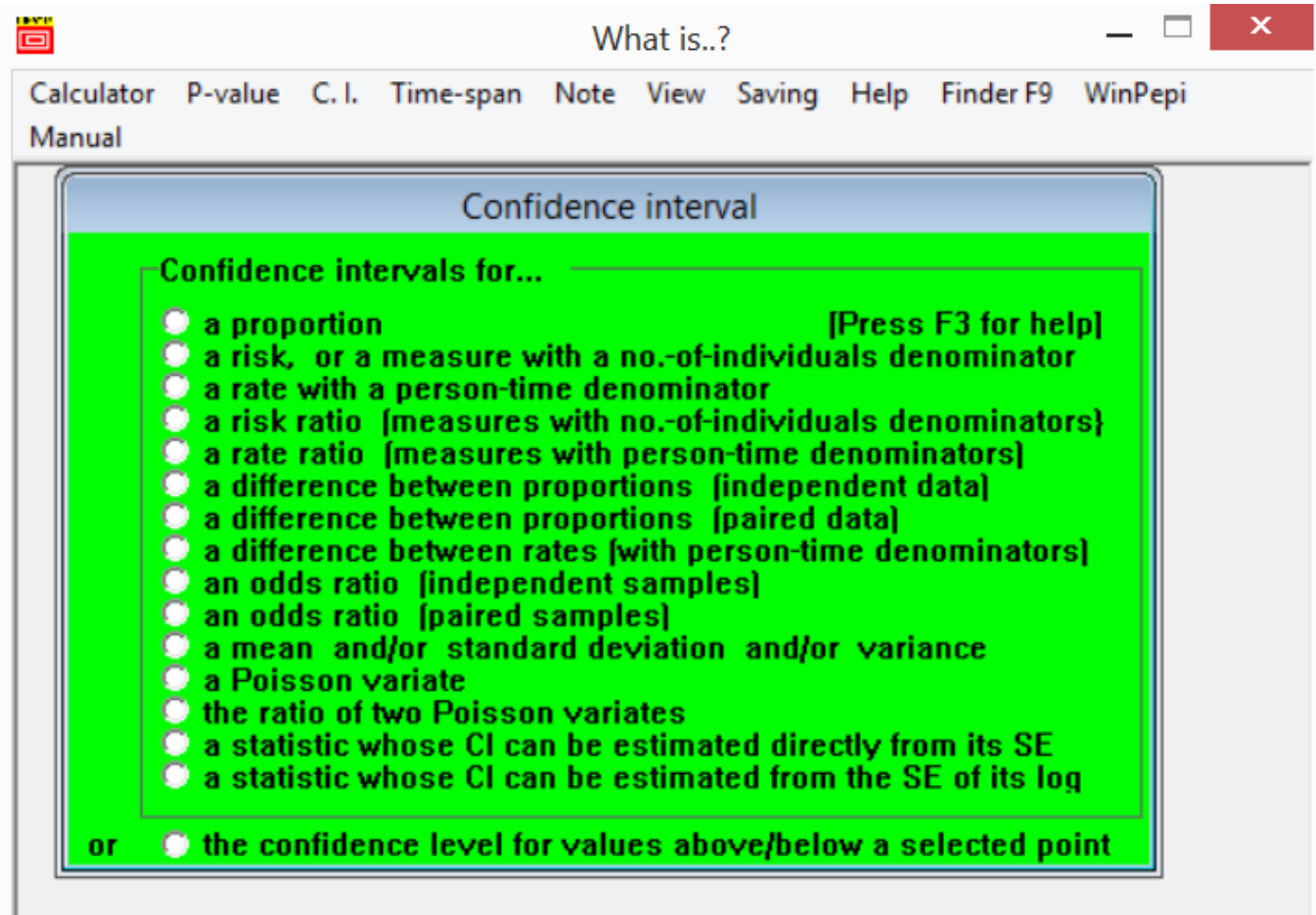# WINPEPI - PEPI für Windows

Modul Etcetera
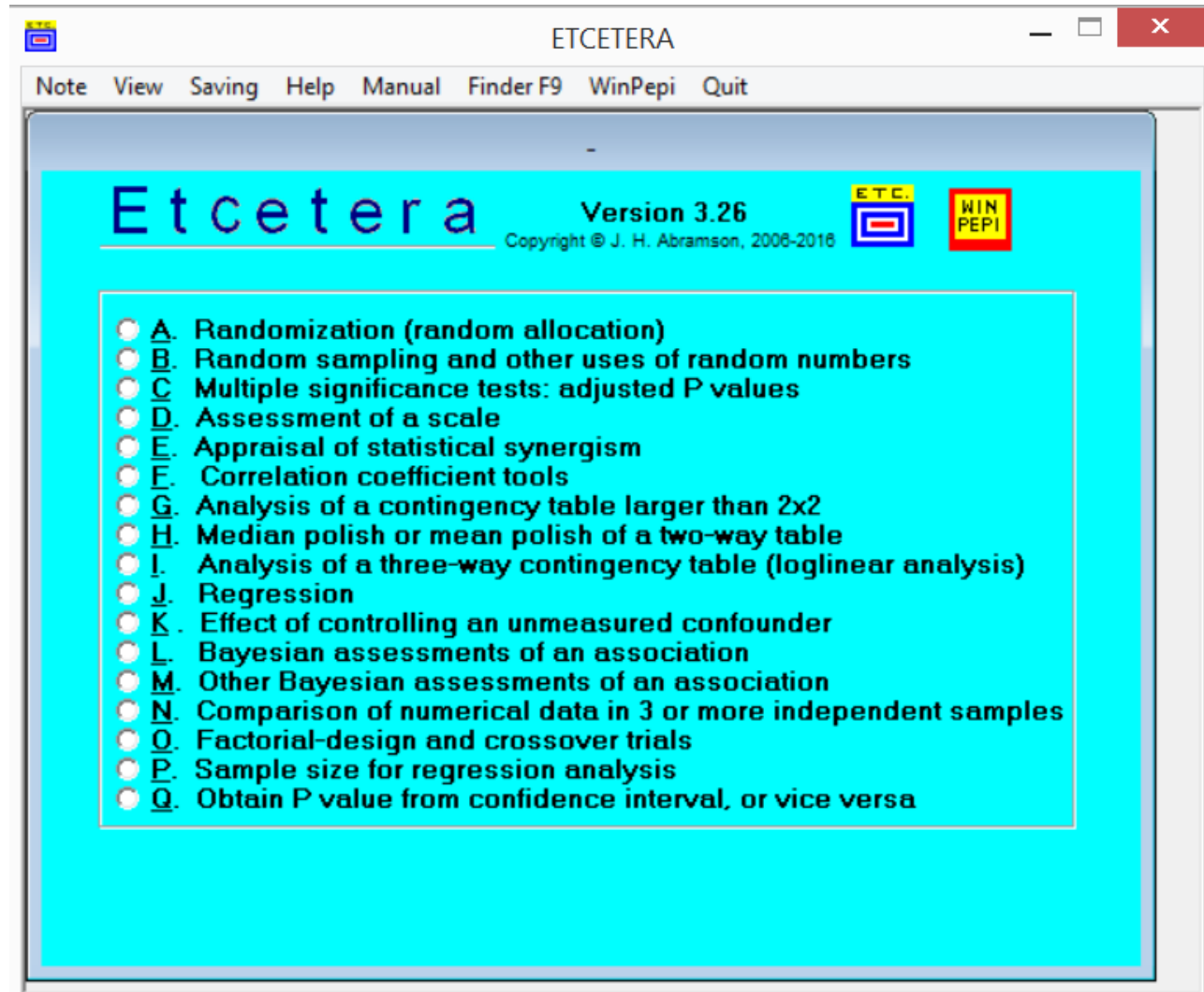
WINPEPI - PEPI für Windows

Modul Pairs etc.

WINPEPI - PEPI für Windows

Modul What is

Umrechnung Prüfgröße ---> p - Wert und umgekehrt

- Starten Sie WinPepi

- Starten Sie WHATIS und klicken Sie in der oberen Leiste auf „P - value"

- Geben Sie unter „What is P if chi-sq." z.B. 1.575 ein (Folie 28, Kap. 4.1) und DF = 3

- Sie erhalten nach „Run" p = 0.665   (Dezimaltrennzeichen ist ".", nicht ",")

Probieren Sie auch die anderen Möglichkeiten.