
* CR_MDS_FrailtyIndex_45items.

* Construction of a Frailty Index.

* Last updated: 13 Jan 2014.

* Protocol of Searle et al. 2008 "A standard procedure for creating a frailty index" BMC Geriatrics.

* Convert values of included health deficits to indicate worsening condition - Range of 0 to 1.

Psych sub-scale

IF (T0_PW_NERV = 6) FI_nerv=0.

IF (T0_PW_NERV = 5) FI_nerv=0.2.

IF (T0_PW_NERV = 4) FI_nerv=0.4.

IF (T0_PW_NERV = 3) FI_nerv=0.6.

IF (T0_PW_NERV = 2) FI_nerv=0.8.

IF (T0_PW_NERV = 1) FI_nerv=1.

EXECUTE.

IF (T0_PW_BLUE = 6) FI_blue=0.

IF (T0_PW_BLUE = 5) FI_blue=0.2.

IF (T0_PW_BLUE = 4) FI_blue=0.4.

IF (T0_PW_BLUE = 3) FI_blue=0.6.

IF (T0_PW_BLUE = 2) FI_blue=0.8.

IF (T0_PW_BLUE = 1) FI_blue=1.

EXECUTE.

IF (T0_PW_DOWN = 6) FI_down=0.

IF (T0_PW_DOWN = 5) FI_down=0.2.
IF (T0_PW_DOWN = 4) FI_down=0.4.
IF (T0_PW_DOWN = 3) FI_down=0.6.
IF (T0_PW_DOWN = 2) FI_down=0.8.
IF (T0_PW_DOWN = 1) FI_down=1.
EXECUTE.

IF (T0_PW_CALM = 6) FI_calm=1.
IF (T0_PW_CALM = 5) FI_calm=0.8.
IF (T0_PW_CALM = 4) FI_calm=0.6.
IF (T0_PW_CALM = 3) FI_calm=0.4.
IF (T0_PW_CALM = 2) FI_calm=0.2.
IF (T0_PW_CALM = 1) FI_calm=0.
EXECUTE.

IF (T0_PW_HAPPY = 6) FI_happy=1.
IF (T0_PW_HAPPY = 5) FI_happy=0.8.
IF (T0_PW_HAPPY = 4) FI_happy=0.6.
IF (T0_PW_HAPPY = 3) FI_happy=0.4.
IF (T0_PW_HAPPY = 2) FI_happy=0.2.
IF (T0_PW_HAPPY = 1) FI_happy=0.
EXECUTE.

EQ-5D+C

IF (T0_EQ5MO = 1) FI_EQ_mob=0.
IF (T0_EQ5MO = 2) FI_EQ_mob=0.5.

IF (T0_EQ5MO = 3) FI_EQ_mob=1.

EXECUTE.

IF (T0_EQ5SC = 1) FI_EQ_selfcare=0.

IF (T0_EQ5SC = 2) FI_EQ_selfcare=0.5.

IF (T0_EQ5SC = 3) FI_EQ_selfcare=1.

EXECUTE.

IF (T0_EQ5ACT= 1) FI_EQ_act=0.

IF (T0_EQ5ACT = 2) FI_EQ_act=0.5.

IF (T0_EQ5ACT = 3) FI_EQ_act=1.

EXECUTE.

IF (T0_EQ5PAIN= 1) FI_EQ_pain=0.

IF (T0_EQ5PAIN = 2) FI_EQ_pain=0.5.

IF (T0_EQ5PAIN = 3) FI_EQ_pain=1.

EXECUTE.

IF (T0_EQ5ANX= 1) FI_EQ_mood=0.

IF (T0_EQ5ANX = 2) FI_EQ_mood=0.5.

IF (T0_EQ5ANX = 3) FI_EQ_mood=1.

EXECUTE.

IF (T0_EQ5C= 1) FI_EQ_cog=0.

IF (T0_EQ5C = 2) FI_EQ_cog=0.5.

IF (T0_EQ5C = 3) FI_EQ_cog=1.

EXECUTE.

Social functioning and self-reported health

IF (T0_SOCFUNC = 5) FI_SocFunc=0.

IF (T0_SOCFUNC = 4) FI_SocFunc=0.25.

IF (T0_SOCFUNC = 3) FI_SocFunc=0.50.

IF (T0_SOCFUNC = 2) FI_SocFunc=0.75.

IF (T0_SOCFUNC = 1) FI_SocFunc=1.

EXECUTE.

IF (T0_HEALTH1 = 5) FI_Health1=1.

IF (T0_HEALTH1 = 4) FI_Health1=0.75.

IF (T0_HEALTH1 = 3) FI_Health1=0.50.

IF (T0_HEALTH1 = 2) FI_Health1=0.25.

IF (T0_HEALTH1 = 1) FI_Health1=0.

EXECUTE.

IF (T0_HEALTH2 = 5) FI_Health2=1.

IF (T0_HEALTH2 = 4) FI_Health2=0.75.

IF (T0_HEALTH2 = 3) FI_Health2=0.50.

IF (T0_HEALTH2 = 2) FI_Health2=0.25.

IF (T0_HEALTH2 = 1) FI_Health2=0.

EXECUTE.

Compute FI.

First determine the number of missing values.

```
COMPUTE Missing_number_FI=NMISS(TO_MORB1, TO_MORB2, TO_MORB3, TO_MORB4, TO_MORB5,  
TO_MORB6, TO_MORB7,
```

```
TO_MORB8, TO_MORB9, TO_MORB10, TO_MORB11, TO_MORB13, TO_MORB14, TO_MORB15,  
TO_MORB16, TO_MORB17,
```

```
TO_KATZ_BATH, TO_KATZ_DRES, TO_KATZ_BRUSH, TO_KATZ_TOIL,
```

```
TO_KATZ_CONT, TO_KATZ_TRANSFER, TO_KATZ_WALK, TO_KATZ_EAT, TO_KATZ_TEL,  
TO_KATZ_TRAVEL, TO_KATZ_SHOP ,
```

```
TO_KATZ_FEED, TO_KATZ_HH, TO_KATZ_MED, TO_KATZ_FIN, FI_nerv, FI_blue, FI_down, FI_calm,  
FI_happy,
```

```
FI_EQ_mob, FI_EQ_selfcare, FI_EQ_act, FI_EQ_pain, FI_EQ_mood, FI_EQ_cog, FI_SocFunc,  
FI_Health1, FI_Health2).
```

```
EXECUTE.
```

Calculate the total number of deficits accrued.

```
COMPUTE Frailty_total = sum (TO_MORB1, TO_MORB2, TO_MORB3, TO_MORB4, TO_MORB5,  
TO_MORB6, TO_MORB7,
```

```
TO_MORB8, TO_MORB9, TO_MORB10, TO_MORB11, TO_MORB13, TO_MORB14, TO_MORB15,  
TO_MORB16, TO_MORB17,
```

```
TO_KATZ_BATH, TO_KATZ_DRES, TO_KATZ_BRUSH, TO_KATZ_TOIL,
```

```
TO_KATZ_CONT, TO_KATZ_TRANSFER, TO_KATZ_WALK, TO_KATZ_EAT, TO_KATZ_TEL,  
TO_KATZ_TRAVEL, TO_KATZ_SHOP ,
```

```
TO_KATZ_FEED, TO_KATZ_HH, TO_KATZ_MED, TO_KATZ_FIN, FI_nerv, FI_blue, FI_down, FI_calm,  
FI_happy,
```

```
FI_EQ_mob, FI_EQ_selfcare, FI_EQ_act, FI_EQ_pain, FI_EQ_mood, FI_EQ_cog, FI_SocFunc,  
FI_Health1, FI_Health2).
```

```
EXECUTE.
```

Examine different methods to address missing.

Complete case analysis - all deficits must be present (no missing values).

WARNING --> Results in high levels of missing values.

DO IF

Missing_number_FI = 0.

COMPUTE FI_complete_case=Frailty_total/45.

END IF.

EXECUTE.

Establish a minimum number of permissible missing deficits.

***NB! Previous research has identified improved predicative validity with inclusion of 30 deficits (see Searle et al. 2008 above).

Adjustment of base for missing data.

IF (Missing_number_FI <= 15) FI_corrected=

Frailty_total/(45-Missing_number_FI).

EXECUTE.

Dichotomize the frailty index.

***No established threshold, cut-offs generally made at either 0.25 or 0.20 (see Searle et al. 2008 above) ***.

IF (FI_corrected ge 0.25) FI_binary_25cut=1.

IF (FI_corrected lt 0.25) FI_binary_25cut=0.

EXECUTE.

IF (FI_corrected ge 0.2) FI_binary_20cut=1.

IF (FI_corrected lt 0.2) FI_binary_20cut=0.

EXECUTE.