Doi: https://doi.org/10.1027/1864-9335/a000502

A new measure of the revised reinforcement sensitivity theory: factor structure and validity of the rRST-Q in the PATH through life project

Supplement Methods

Confirmatory factor analysis with no inter-factor correlations using *lavaan*

```
# Model definition:
rst_model_ncor <- 'r_BIS =~ rst2_w5 + rst4_w5 + rst7_w5 + rst8_w5 + rst11_w5
                        + rst21_w5R + rst23_w5 + rst26_w5 + rst28_w5
                        + rst29_w5 + rst30_w5
                    r_BAS =~ rst1_w5 + rst5_w5 + rst12_w5 + rst13_w5
                        + rst18_w5 + rst24_w5 + rst25_w5 + rst31_w5
                    r_FFFS_fr =~ rst3_w5 + rst9_w5R + rst10_w5 + rst14_w5
                    r_FFFS_fl =~ rst6_w5 + rst19_w5 + rst20_w5
                    r_FFFS_fi =~ rst15_w5R + rst16_w5R + rst17_w5 + rst22_w5
                        + rst27_w5
                  # Interfactor correlations
                    r_BIS ~~ 0*r_BAS + 0*r_FFFS_fr + 0*r_FFFS_fl
                        + 0*r_FFFS_fi
                    r_BAS ~~ 0*r_FFFS_fr + 0*r_FFFS_fl + 0*r_FFFS_fi
                    r_FFFS_fr ~~ 0*r_FFFS_fl + 0*r_FFFS_fi
                    r_FFFS_fl ~~ 0*r_FFFS_fi'
# Run CFA model:
fit_rst_model_ncor <- cfa(rst_model_ncor, data = path_w5, ordered =
c("rst2_w5", "rst4_w5", "rst7_w5", "rst8_w5", "rst11_w5", "rst21_w5R",
"rst23_w5", "rst26_w5", "rst28_w5", "rst29_w5", "rst30_w5", "rst1_w5",
"rst5_w5", "rst12_w5", "rst13_w5", "rst18_w5", "rst24_w5", "rst25_w5",
"rst31_w5", "rst15_w5R", "rst16_w5R", "rst17_w5", "rst22_w5", "rst27_w5",
"rst6_w5", "rst19_w5", "rst20_w5", "rst3_w5", "rst9_w5R", "rst10_w5",
"rst14_w5"), parameterization = "theta", mimic = "Mplus")
# Show fit measures:
summary(fit_rst_model_ncor, fit.measures = TRUE)
```

Doi: https://doi.org/10.1027/1864-9335/a000502

Confirmatory factor analysis with restricted factor correlations to subscales using *lavaan*

```
# Model definition:
rst_model_cons <- 'r_BIS =~ rst2_w5 + rst4_w5 + rst7_w5 + rst8_w5 + rst11_w5
                        + rst21_w5R + rst23_w5 + rst26_w5 + rst28_w5
                        + rst29_w5 + rst30_w5
                    r_BAS =~ rst1_w5 + rst5_w5 + rst12_w5 + rst13_w5
                        + rst18_w5 + rst24_w5 + rst25_w5 + rst31_w5
                    r_FFFS_fr =~ rst3_w5 + rst9_w5R + rst10_w5 + rst14_w5
                    r_FFFS_fl =~ rst6_w5 + rst19_w5 + rst20_w5
                    r_FFFS_fi =~ rst15_w5R + rst16_w5R + rst17_w5 + rst22_w5
                        + rst27_w5
                  # Interfactor correlations
                    r_BIS ~~ 0*r_BAS + 0*r_FFFS_fr + 0*r_FFFS_fl
                        + 0*r_FFFS_fi
                    r_BAS ~~ 0*r_FFFS_fr + 0*r_FFFS_fl + 0*r_FFFS_fi
                    r_FFFS_fr ~~ r_FFFS_fl + r_FFFS_fi
                    r_FFFS_fl ~~ r_FFFS_fi'
# Run CFA model:
fit_rst_model_cons <- cfa(rst_model_cons, data = path_w5, ordered =
c("rst2_w5", "rst4_w5", "rst7_w5", "rst8_w5", "rst11_w5", "rst21_w5R",
"rst23_w5", "rst26_w5", "rst28_w5", "rst29_w5", "rst30_w5", "rst1_w5",
"rst5_w5", "rst12_w5", "rst13_w5", "rst18_w5", "rst24_w5", "rst25_w5",
"rst31_w5", "rst15_w5R", "rst16_w5R", "rst17_w5", "rst22_w5", "rst27_w5",
"rst6_w5", "rst19_w5", "rst20_w5", "rst3_w5", "rst9_w5R", "rst10_w5",
"rst14_w5"), parameterization = "theta", mimic = "Mplus")
# Show fit measures:
summary(fit_rst_model_cons, fit.measures = TRUE)
```

Doi: https://doi.org/10.1027/1864-9335/a000502

Confirmatory factor analysis with free inter-factor correlations using *lavaan*

```
# Model definition:
rst_model_free <- 'rBIS =~ rst2_w5 + rst4_w5 + rst7_w5 + rst8_w5 + rst11_w5
                        + rst21_w5R + rst23_w5 + rst26_w5 + rst28_w5
                        + rst29_w5 + rst30_w5
                   rBAS =~ rst1_w5 + rst5_w5 + rst12_w5 + rst13_w5
                        + rst18_w5 + rst24_w5 + rst25_w5 + st31_w5
                   rFFFS_fi =~ rst15_w5R + rst16_w5R + rst17_w5 + rst22_w5
                        + rst27_w5
                   rFFFS_fl =~ rst6_w5 + rst19_w5 + rst20_w5
                   rFFFS_fr =~ rst3_w5 + rst9_w5R + rst10_w5 + rst14_w5a
                 # Interfactor correlations
                   rBIS ~~ rBAS + rFFFS_fi + rFFFS_fl + rFFFS_fr
                   rBAS ~~ rFFFS_fi + rFFFS_fl + rFFFS_fr
                   rFFFS_fi ~~ rFFFS_fl + rFFFS_fr
                   rFFFS_fl ~~ rFFFS_fr'
# Run CFA model:
fit_rst_model_free <- cfa(rst_model_free, data = path_w5, ordered =
c("rst2_w5", "rst4_w5", "rst7_w5", "rst8_w5", "rst11_w5", "rst21_w5R",
"rst23_w5", "rst26_w5", "rst28_w5", "rst29_w5", "rst30_w5", "rst1_w5",
"rst5_w5", "rst12_w5", "rst13_w5", "rst18_w5", "rst24_w5", "rst25_w5",
"rst31_w5", "rst15_w5R", "rst16_w5R", "rst17_w5", "rst22_w5", "rst27_w5",
"rst6_w5", "rst19_w5", "rst20_w5", "rst3_w5", "rst9_w5R", "rst10_w5",
"rst14_w5"), parameterization = "theta", missing = "pairwise", mimic =
"Mplus")
# Show fit measures:
summary(fit_rst_model_free, fit.measures = TRUE)
```

Doi: https://doi.org/10.1027/1864-9335/a000502

Confirmatory factor analysis with free inter-factor correlations and single r-FFFS scale using *lavaan*

```
# Model definition:
rst_model_fffs <- 'r_BIS =~ rst2_w5 + rst4_w5 + rst7_w5 + rst8_w5 + rst11_w5
                        + rst21_w5R + rst23_w5 + rst26_w5 + rst28_w5
                        + rst29_w5 + rst30_w5
                   r_BAS =~ rst1_w5 + rst5_w5 + rst12_w5 + rst13_w5
                        + rst18_w5 + rst24_w5 + rst25_w5 + rst31_w5
                   r_FFFS =~ rst3_w5 + rst9_w5R +    rst10_w5 + rst14_w5
                        + rst6_w5 + rst19_w5 + rst20_w5 + rst15_w5R
                        + rst16_w5R + rst17_w5 + rst22_w5 + rst27_w5
                 # Interfactor correlations
                   r_BIS ~~ r_BAS + r_FFFS
                   r_BAS ~~ r_FFFS'
# Run CFA model:
fit_rst_model_fffs <- cfa(rst_model_fffs, data = w5_rstR, ordered =
c("rst2_w5", "rst4_w5", "rst7_w5", "rst8_w5", "rst11_w5", "rst21_w5R",
"rst23_w5", "rst26_w5", "rst28_w5", "rst29_w5", "rst30_w5", "rst1_w5",
"rst5_w5", "rst12_w5", "rst13_w5", "rst18_w5", "rst24_w5", "rst25_w5",
"rst31_w5", "rst15_w5R", "rst16_w5R", "rst17_w5", "rst22_w5", "rst27_w5",
"rst6_w5", "rst19_w5", "rst20_w5", "rst3_w5", "rst9_w5R", "rst10_w5",
"rst14_w5"), parameterization = "theta", mimic = "Mplus")
# Show fit measures:
summary(fit_rst_model_fffs, fit.measures = TRUE)
```

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Multiple-groups confirmatory factor analysis gender invariance using *lavaan*

Response level 1 ("strongly disagree") for item 24 from the rBAS scale was only observed in three females. Thus to run gender invariance, level 1 responses were collapsed to level 2 ("disagree") in a new variable (rst24_w5C, below). This model with collapsed item 24 had virtually identical fit measures to the model with free inter-factor correlations (χ^2 = 2830.71, degrees of freedom = 424, Comparative fit index = 0.947, Tucker-Lewis index = 0.942, Root mean square error of approximation (90% confidence interval) = 0.067 (0.065-0.070)).

```
# Model definition:
rst_model_col24 <- 'rBIS =~ rst2_w5 + rst4_w5 + rst7_w5 + rst8_w5 + rst11_w5
                        + rst21_w5R + rst23_w5 + rst26_w5 + rst28_w5
                        + rst29_w5 + rst30_w5
                    rBAS =~ rst1_w5 + rst5_w5 + rst12_w5 + rst13_w5
                        + rst18_w5 + rst24_w5C + rst25_w5 + rst31_w5
                    rFFFS_fi =~ rst15_w5R + rst16_w5R + rst17_w5 + rst22_w5
                        + rst27_w5
                    rFFFS_fl =~ rst6_w5 + rst19_w5 + rst20_w5
                    rFFFS_fr =~ rst3_w5 + rst9_w5R +  rst10_w5 + rst14_w5
                  # Interfactor correlations
                    rBIS ~~ rBAS + rFFFS_fi + rFFFS_fl + rFFFS_fr
                    rBAS ~~ rFFFS_fi + rFFFS_fl + rFFFS_fr
                    rFFFS_fi ~~ rFFFS_fl + rFFFS_fr
                    rFFFS_fl ~~ rFFFS_fr'
# Check model fit with collapsed item:
fit_rst_model_col24 <- cfa(rst_model_col24, data = path_w5, ordered =
c("rst2_w5", "rst4_w5", "rst7_w5", "rst8_w5", "rst11_w5", "rst21_w5R",
"rst23_w5", "rst26_w5", "rst28_w5", "rst29_w5", "rst30_w5", "rst1_w5",
"rst5_w5", "rst12_w5", "rst13_w5", "rst18_w5", "rst24_w5C", "rst25_w5",
"rst31_w5", "rst15_w5R", "rst16_w5R", "rst17_w5","rst22_w5", "rst27_w5",
"rst6_w5", "rst19_w5", "rst20_w5", "rst3_w5", "rst9_w5R", "rst10_w5",
"rst14_w5"), parameterization = "theta", missing = "pairwise", mimic =
"Mplus")
# Show fit measures:
```

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```
summary(fit_rst_model_col24, fit.measures = TRUE)

# Measurement invariance model 1: configural invariance
sex.fit_rst_model1C <- cfa(rst_model_col24, data = path_w5, ordered =
c("rst2_w5", "rst4_w5", "rst7_w5", "rst8_w5", "rst11_w5", "rst21_w5R",
"rst23_w5", "rst26_w5", "rst28_w5", "rst29_w5", "rst30_w5", "rst1_w5",
"rst5_w5", "rst12_w5", "rst13_w5", "rst18_w5", "rst24_w5C", "rst25_w5",
"rst31_w5", "rst15_w5R", "rst16_w5R", "rst17_w5", "rst22_w5", "rst27_w5",
"rst6_w5", "rst19_w5", "rst20_w5", "rst3_w5", "rst9_w5R", "rst10_w5",
"rst14_w5"), parameterization = "theta", missing = "pairwise", group =
"gender_w5", mimic = "Mplus")
# Show fit measures:
summary(sex.fit_rst_model1C, fit.measures = TRUE)

# Measurement invariance model 2: threshold invariance
sex.fit_rst_model2C <- cfa(rst_model_col24, data = path_w5, ordered =
c("rst2_w5", "rst4_w5", "rst7_w5", "rst8_w5", "rst11_w5", "rst21_w5R",
"rst23_w5", "rst26_w5", "rst28_w5", "rst29_w5", "rst30_w5", "rst1_w5",
"rst5_w5", "rst12_w5", "rst13_w5", "rst18_w5", "rst24_w5C", "rst25_w5",
"rst31_w5", "rst15_w5R", "rst16_w5R", "rst17_w5", "rst22_w5", "rst27_w5",
"rst6_w5", "rst19_w5", "rst20_w5", "rst3_w5", "rst9_w5R", "rst10_w5",
"rst14_w5"), parameterization = "theta", missing = "pairwise", group =
"gender_w5", group.equal = c("thresholds"), mimic = "Mplus")
# Show fit measures:
summary(sex.fit_rst_model2C, fit.measures = TRUE)

# Measurement invariance model 3: loading invariance
sex.fit_rst_model3C <- cfa(rst_model_col24, data = path_w5, ordered =
c("rst2_w5", "rst4_w5", "rst7_w5", "rst8_w5", "rst11_w5", "rst21_w5R",
"rst23_w5", "rst26_w5", "rst28_w5", "rst29_w5", "rst30_w5", "rst1_w5",
"rst5_w5", "rst12_w5", "rst13_w5", "rst18_w5", "rst24_w5C", "rst25_w5",
"rst31_w5", "rst15_w5R", "rst16_w5R", "rst17_w5", "rst22_w5", "rst27_w5",
"rst6_w5", "rst19_w5", "rst20_w5", "rst3_w5", "rst9_w5R", "rst10_w5",
"rst14_w5"), parameterization = "theta", missing = "pairwise", group =
"gender_w5", group.equal = c("thresholds", "loadings"), mimic = "Mplus")
```

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```
# Show fit measures:
summary(sex.fit_rst_model3C, fit.measures = TRUE)
```

Doi: https://doi.org/10.1027/1864-9335/a000502

Supplement Table E1

Reuter and Montag's rRST-Q item description

rBIS
2. I'm often glad if someone makes decisions for me.
4. I often doubt if my efforts will pay off.
7. If I have the choice between two appealing options, I have difficulty deciding on one.
8. My friends think of me as an indecisive person.
11. I find it hard to bear uncertainty.
21. I don't have problems deciding on a dish in a restaurant.
23. I often don't know what I want.
26. When faced with two unpleasant alternatives, it is difficult for me to decide on the lesser of two evils.
28. I often feel torn between two options.
29. I worry greatly before a difficult or important test.
30. I usually carefully weigh up the options before making important decisions.
rBAS
1. I'm a spontaneous person.
5. Most of the time I have a thirst for action.
12. I often take risks.
13. I'm easily inspired by new things.
18. Whoever dares wins.
24. I get fired up when I see the chance to achieve something.
25. I am an outgoing person.
31. When offered a good opportunity, I take it without hesitating.
FFFS: Fight
15. Most of the time, I cannot defend myself if I am criticized.
16. To avoid worse things happening, I would rather give in.
17. Attack is the best form of defence.
22. I am a rather quick-witted person.
27. In general, I stand up for myself.
FFFS: Flight
6. When faced with danger, I tend to flee.
19. I usually avoid confrontations.
20. When an unpleasant event is inevitable, I'm thrown into a state of panic.
FFFS: Freezing
3. I often feel paralysed when in a dangerous situation.
9. I usually approach unpleasant tasks without hesitation.
10. I will gladly let unpleasant tasks slip by.
14. I like sitting unpleasant things out.

Note: rBIS: Revised behavioural inhibition system, rBAS: Revised behavioural approach/activation system, FFFS: Fight-flight-freeze system.

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Supplement Table E2

Carver and White's BIS/BAS item description

BIS
1. I have very few fears compared to my friends.
2. Criticism or scolding hurts me quite a bit.
3. I feel pretty worried or upset when I think or know somebody is angry at me.
4. If I think something unpleasant is going to happen I usually get pretty "worked-up".
5. I feel worried when I think I have done poorly at something important.
6. Even if something bad is about to happen to me, I rarely experience fear or nervousness.
7. I worry about making mistakes.
BAS: Drive
8. I go out of my way to get things I want.
9. When I want something I usually go all-out to get it.
10. If I see a chance to get something I want I move on it right away.
11. When I go after something, I use a "no holds barred" approach.
BAS: Fun-seeking
12. I'm always willing to try something new if I think it will be fun.
13. I will often do things for no other reason than that they might be fun.
14. I often act on the spur of the moment.
15. I crave excitement and new sensations.
BAS: Reward responsiveness
16. When I'm doing well at something, I love to keep at it.
17. When I get something I want, I feel excited and energised.
18. When I see an opportunity for something I like I get excited right away.
19. When good things happen to me, it affects me greatly.
20. It would excite me to win a contest.

Note. BIS: Behavioural inhibition system, BAS: Behavioural approach/activation system.

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Supplement Table E3

Model specifications for measurement invariance

	Model		
	Configural	**Threshold**	**Loading**
Intercepts	0	0	0
Residual Variances	1	1*	1*
Factor Variances	Free	Free	Free
Factor Means	0	0*	0*
Thresholds	Free	Equal	Equal
Loadings	Free	Free	Equal

Note. Free: Freely estimated measure. 0: Measure set to 0. 1: Measure set to 1. 0*: Factor means were set to 0 in males, and freely estimated in females. 1*: Residual variances were set to 1 in males, and freely estimated in females. Equal: Measure constrained to be equal among genders. Factor variances are freely estimated since latent factor metric has been set using marker variables.

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Supplement Results

Supplement Table E4

Loading structure and inter-factor correlations of rRST-Q

		Estimate	*SE*
rBIS	**item 2**	**1**	**0**
	item 4	1.163	.104
	item 7	1.483	.127
	item 8	1.896	.163
	item 11	.781	.081
	item 21†	.778	.076
	item 23	1.812	.151
	item 26	1.556	.137
	item 28	1.829	.160
	item 29	1.312	.112
	item 30	.095	.055
rBAS	**item 1**	**1**	**0**
	item 5	1.054	.096
	item 12	1.076	.098
	item 13	.751	.080
	item 18	.491	.061
	item 24	1.092	.107
	item 25	1.313	.125
	item 31	.780	.075
FFFS: Fight	**item 15†**	**1**	**0**
	item 16†	.987	.067
	item 17	.118	.032
	item 22	.491	.041
	item 27	.928	.075
FFFS: Flight	**item 6**	**1**	**0**
	item 19	1.072	.080
	item 20	1.528	.113
FFFS: Freeze	**item 3**	**1**	**0**
	item 9†	.438	.056
	item 10	.520	.063
	item 14	.359	.049
Inter-factor correlations			
rBIS	r-BAS	-.160	.021
	Fight	-.483	.046
	Flight	.352	.032
	Freeze	.538	.059
rBAS	Fight	.499	.048
	Flight	-.270	.030
	Freeze	-.328	.049
FFFS: Fight	Flight	-.759	.059
	Freeze	-.859	.094
FFFS: Flight	Freeze	.868	.083

Note. rBIS: Revised behavioural inhibition system, rBAS: revised behavioural approach/activation system, FFFS: Fight-flight-freeze system, *SE*: Standard error. Please refer

Doi: https://doi.org/10.1027/1864-9335/a000502

to Supplement Table 1 for item description. Bolded items represent marker variables. †: Reverse-coded item.

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Supplement Table E5

Loading structure and inter-factor correlations of rRST-Q excluding items 17 and 30

		Estimate	*SE*
rBIS	**item 2**	**1**	**0**
	item 4	1.168	.104
	item 7	1.481	.127
	item 8	1.897	.163
	item 11	.782	.081
	item 21†	.778	.076
	item 23	1.816	.151
	item 26	1.558	.137
	item 28	1.831	.160
	item 29	1.311	.112
rBAS	**item 1**	**1**	**0**
	item 5	1.050	.096
	item 12	1.073	.098
	item 13	.755	.080
	item 18	.478	.060
	item 24	1.096	.107
	item 25	1.315	.125
	item 31	.782	.075
FFFS: Fight	**item 15†**	**1**	**0**
	item 16†	.988	.067
	item 22	.490	.041
	item 27	.928	.074
FFFS: Flight	**item 6**	**1**	**0**
	item 19	1.067	0.080
	item 20	1.538	0.114
FFFS: Freeze	**item 3**	**1**	**0**
	item 9†	.438	.056
	item 10	.522	.063
	item 14	.360	.049
Inter-factor correlations			
rBIS	r-BAS	-.160	.021
	Fight	-.487	.046
	Flight	.352	.032
	Freeze	.537	.059
rBAS	Fight	.494	.048
	Flight	-.270	.030
	Freeze	-.328	.049
FFFS: Fight	Flight	-.756	.059
	Freeze	-.860	.093
FFFS: Flight	Freeze	.866	.082

Note. rBIS: Revised behavioural inhibition system, rBAS: Revised behavioural approach/activation system, FFFS: Fight-flight-freeze system, *SE*: Standard error. Please refer to Supplement Table 1 for item description. Bolded items represent marker variables. †: Reverse-coded item.

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Supplement Table E6

Loading structure for the fully invariant sex model of rRST-Q

		Estimate	*SE*
rBIS	**item 2**	**1**	**0**
	item 4	1.402	.162
	item 7	1.633	.187
	item 8	2.463	.313
	item 11	.882	.109
	item 21†	.815	.102
	item 23	2.016	.232
	item 26	1.770	.208
	item 28	2.054	.247
	item 29	1.343	.156
rBAS	**item 1**	**1**	**0**
	item 5	1.050	.115
	item 12	.927	.095
	item 13	.717	.082
	item 18	.432	.065
	item 24	1.001	.124
	item 25	1.700	.215
	item 31	.806	.091
FFFS: Fight	**item 15†**	**1**	**0**
	item 16†	.885	.098
	item 22	.066	.031
	item 27	.447	.052
FFFS: Flight	**item 6**	**1**	**0**
	item 19	1.048	.098
	item 20	1.276	.138
FFFS: Freeze	**item 3**	**1**	**0**
	item 9†	.481	.080
	item 10	.630	.103
	item 14	.478	.082

Note. rBIS: Revised behavioural inhibition system, rBAS: Revised behavioural approach/activation system, FFFS: Fight-flight-freeze system, *SE*: Standard error. Please refer to Supplement Table 1 for item description. †: Reverse-coded item.

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Supplement Table E7

Inter-factor correlations for the fully invariant sex model of rRST-Q

		rBIS	rBAS	Fight	Flight	Freeze
Males	**rBIS**	1				
	rBAS	-.14	1			
	Fight	**-.41**	**.48**	1		
	Flight	**.32**	**-.31**	**-.82**	1	
	Freeze	**.43**	**-.30**	**-.78**	**.84**	1
Females	**r-BIS**	1				
	rBAS	-.14	1			
	Fight	**-.43**	**.54**	1		
	Flight	**.32**	**-.27**	**-.81**	1	
	Freeze	**.38**	**-.27**	**-.71**	**.75**	1

Note. rBIS: Revised behavioural inhibition system, rBAS: revised behavioural approach/activation system. Bold font indicates $r \geq .3$.

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Supplement Table E8

Threshold structure for the fully invariant sex model of rRST-Q

		Threshold	Estimate	*SE*
rBIS	Item 2	**t1**	-1.203	.091
	Item 2	**t2**	.431	.047
	Item 2	**t3**	2.052	.158
	Item 4	**t1**	-.875	.077
	Item 4	**t2**	1.173	.071
	Item 4	**t3**	2.929	.163
	Item 7	**t1**	-2.204	.139
	Item 7	**t2**	-.239	.056
	Item 7	**t3**	1.828	.127
	Item 8	**t1**	-1.053	.114
	Item 8	**t2**	1.824	.163
	Item 8	**t3**	3.869	.347
	Item 11	**t1**	-1.700	.097
	Item 11	**t2**	.061	.043
	Item 11	**t3**	1.803	.099
	Item 21†	**t1**	-.917	.067
	Item 21†	**t2**	.560	.046
	Item 21†	**t3**	1.829	.117
	Item 23	**t1**	-1.659	.140
	Item 23	**t2**	1.026	.083
	Item 23	**t3**	3.009	.204
	Item 26	**t1**	-2.179	.142
	Item 26	**t2**	.602	.069
	Item 26	**t3**	3.259	.231
	Item 28	**t1**	-2.505	.173
	Item 28	**t2**	.547	.074
	Item 28	**t3**	2.998	.225
	Item 29	**t1**	-1.937	.119
	Item 29	**t2**	-.100	.051
	Item 29	**t3**	1.500	.099
	Item 30	**t1**	-2.698	.182
	Item 30	**t2**	-1.540	.078
	Item 30	**t3**	.458	.041
rBAS	Item 1	**t1**	-2.227	.138
	Item 1	**t2**	-.058	.055
	Item 1	**t3**	1.944	.130
	Item 5	**t1**	-2.158	.144
	Item 5	**t2**	-.138	.056
	Item 5	**t3**	2.066	.141
	Item 12	**t1**	-1.968	.130
	Item 12	**t2**	.324	.055
	Item 12	**t3**	2.212	.131
	Item 13	**t1**	-3.096	.247
	Item 13	**t2**	-1.212	.082
rBAS	Item 13	**t3**	1.117	.080
	Item 18	**t1**	-1.830	.120

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		Threshold	Estimate	*SE*
	Item 18	**t2**	-.069	.039
rBAS	Item 18	**t3**	1.833	.101
	Item 24‡	**t1**	-1.156	.096
	Item 24‡	**t2**	1.334	.109
	Item 25	**t1**	-3.080	.293
	Item 25	**t2**	-.697	.100
	Item 25	**t3**	1.985	.198
	Item 31	**t1**	-2.994	.180
	Item 31	**t2**	-.674	.059
	Item 31	**t3**	1.417	.097
FFFS: Fight	Item 15†	**t1**	-3.310	.275
	Item 15†	**t2**	-1.806	.151
	Item 15†	**t3**	.824	.089
	Item 16†	**t1**	-3.300	.199
	Item 16†	**t2**	-.971	.076
	Item 16†	**t3**	1.149	.101
	Item 17	**t1**	-1.020	.061
	Item 17	**t2**	.766	.047
	Item 17	**t3**	1.949	.095
	Item 22	**t1**	-2.367	.175
	Item 22	**t2**	-.800	.066
	Item 22	**t3**	1.076	.073
	Item 27	**t1**	-3.526	.286
	Item 27	**t2**	-1.918	.146
	Item 27	**t3**	.941	.091
FFFS: Flight	Item 6	**t1**	-1.392	.091
	Item 6	**t2**	.938	.082
	Item 6	**t3**	2.978	.210
	Item 19	**t1**	-2.078	.142
	Item 19	**t2**	-.111	.060
	Item 19	**t3**	1.837	.106
	Item 20	**t1**	-.873	.092
	Item 20	**t2**	1.517	.123
	Item 20	**t3**	2.961	.239
FFFS: Freeze	Item 3	**t1**	-.818	.120
	Item 3	**t2**	1.493	.192
	Item 3	**t3**	3.065	.395
	Item 9†	**t1**	-2.042	.135
	Item 9†	**t2**	-.015	.047
	Item 9†	**t3**	2.062	.126
	Item 10	**t1**	-2.144	.148
	Item 10	**t2**	.340	.057
	Item 10	**t3**	2.464	.159
	Item 14	**t1**	-2.298	.154
	Item 14	**t2**	.048	.051

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	Threshold	Estimate	*SE*
Item 14	**t3**	2.534	.150

Note. rBIS: Revised behavioural inhibition system, rBAS: Revised behavioural approach/activation system, FFFS: Fight-flight-freezing system, *SE*: Standard error. Please refer to Supplement Table 1 for item description. †: Reverse-coded item. ‡ Collapsed item.

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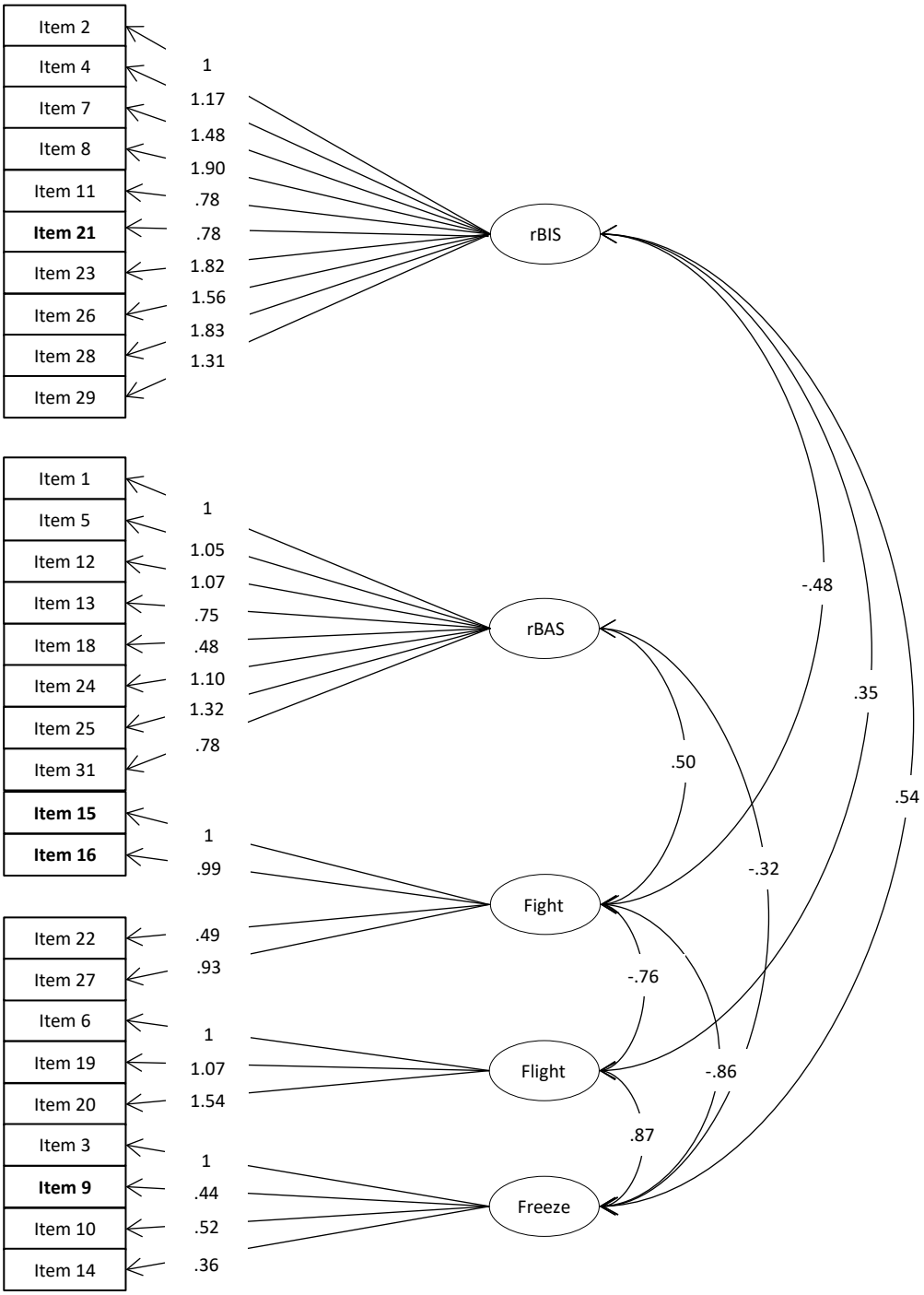
Supplement Figure E1

Confirmatory factor analysis of rRST-Q excluding items 17 and 30



n =1,259
χ² ***p*** < .0001
CFI = .96
TLI = .95
RMSEA **(90% *CI*) =** .066 (.063-.068)

Doi: https://doi.org/10.1027/1864-9335/a000502

Note. rBIS: Revised behavioural inhibition system, rBAS: Revised behavioural approach/activation system, *n*: Sample size, χ^2: Chi-square value, *CFI*: Comparative fit index, *TLI*: Tucker-Lewis index, *RMSEA*: Root mean square error of approximation, *CI*: Confidence interval. Inter-factor correlations ± < .32 have been omitted. Items in bold font are reverse-coded.

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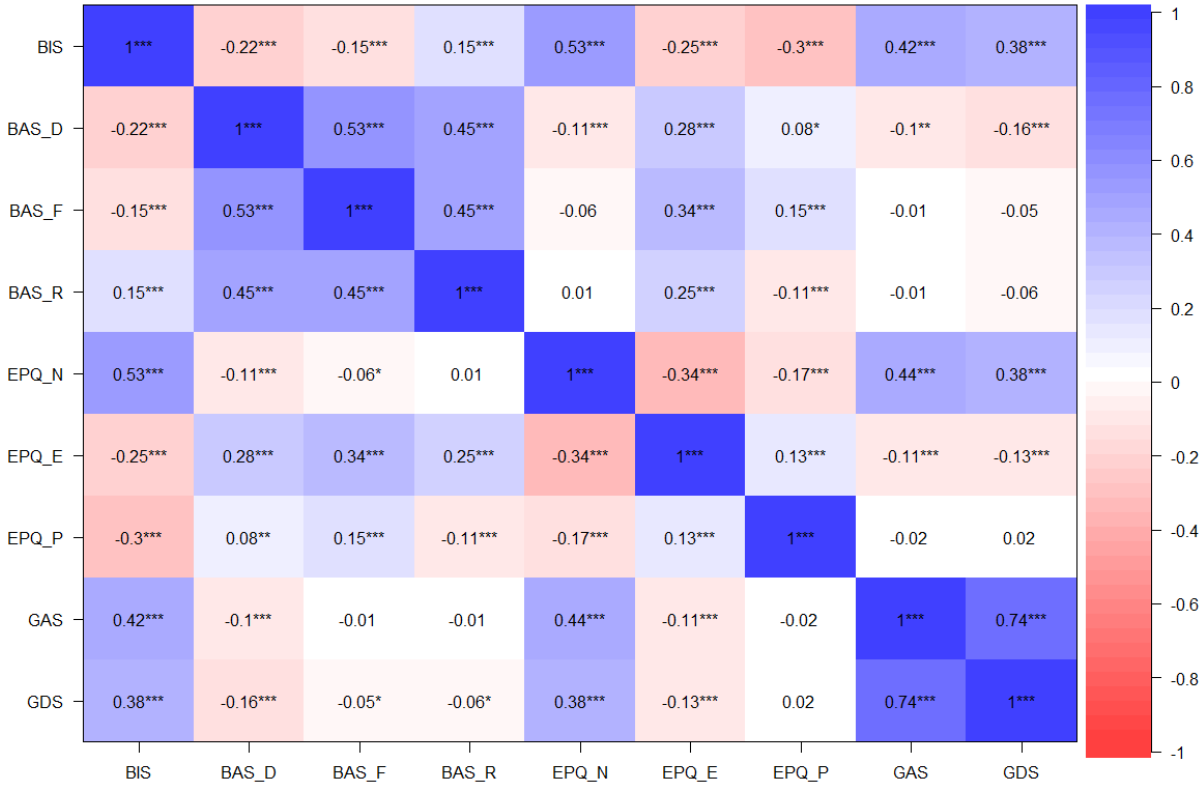
Supplement Figure E2

Correlation heat-map of original BIS/BAS, EPQ-R, and GADS

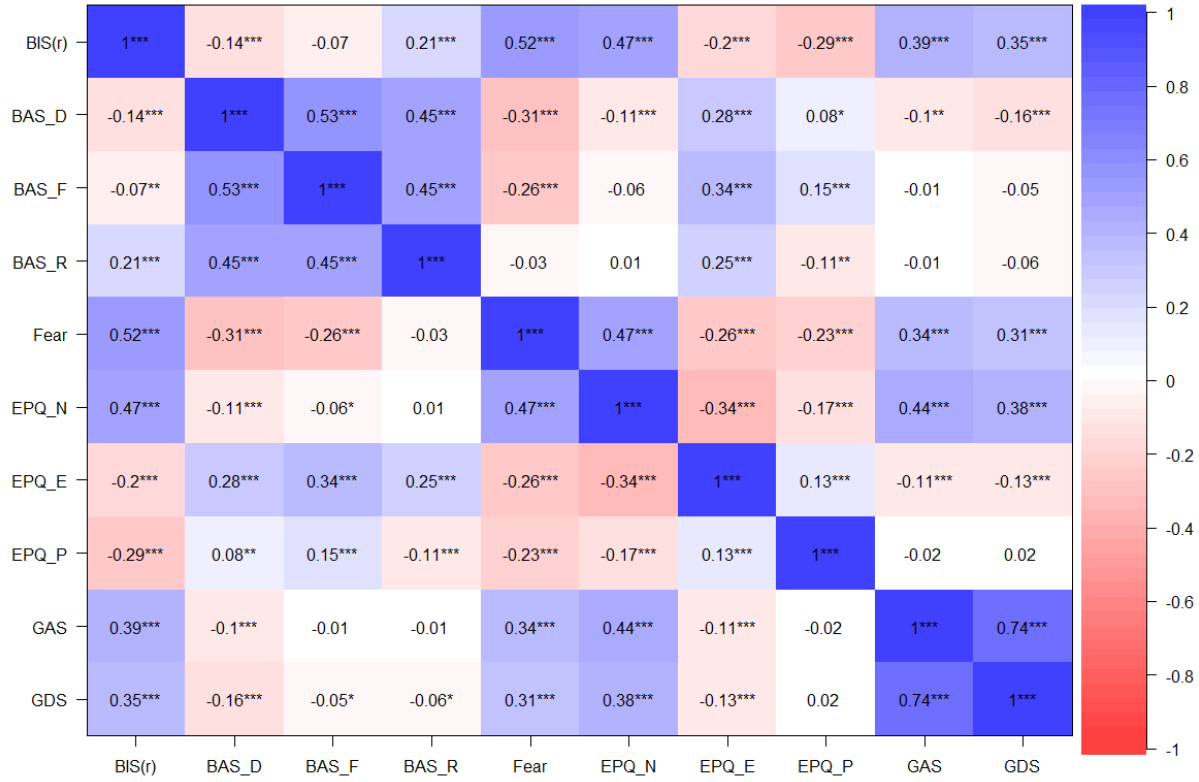


Note. BIS: Behavioural inhibition system, BAS: Behavioural approach/activation system, BAS_D: Drive, BAS_F: Fun-seeking, BAS_R: Reward responsiveness, EPQ: Eysenck personality questionnaire, EPQ_N: Neuroticism, EPQ_E: Extraversion, EPQ_P: Psychoticism, GAS: Goldberg anxiety, GDS: Goldberg depression. Far right bar shows value of correlation. *: $p \leq .05$, **: $p \leq .01$, ***: $p \leq .001$

Doi: https://doi.org/10.1027/1864-9335/a000502

Supplement Figure E3

Correlation heat-map of revised BIS/BAS/FFFS fear, EPQ-R, and GADS



Note. BIS(r): Behavioural inhibition system (revised), BAS: Behavioural approach/activation system, BAS_D: Drive, BAS_F: Fun-seeking, BAS_R: Reward responsiveness, Fear: Fight-flight-freeze fear, EPQ: Eysenck personality questionnaire, EPQ_N: Neuroticism, EPQ_E: Extraversion, EPQ_P: Psychoticism, GAS: Goldberg anxiety, GDS: Goldberg depressions. Far right bar shows value of correlation. *: $p \leq .05$, **: $p \leq .01$, ***: $p \leq .001$