

Digital Appendix TRAIN₄Positivity – Development and Pilot Evaluation of a Mobile-Based Training of Positivity Bias at the Level of Action Tendencies

Appendix K5 Testing of Assumptions of Multiple Linear Regression Analyses

Table K5.1

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of PSS-10 (RQ1, Hypothesis 1.1)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DfBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV			.37	✓ (2.97)				✓ (Figure K5.5)	✓ (Figure K5.6)	✓ 2.45
PSS10_diff										
Variables										
Microstressors	✓ (Figure K5.1)				1.12	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Figure K5.2)				✓ 0.52	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Figure K5.3)	✓ ($\alpha = .90$)			✓ 0.40	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Figure K5.4)	✓ ($\alpha = .90$)			✓ 0.98	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; PSS10_diff = difference score of observation pairs (post-pre) of the PSS-10; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.1

Partial Regression Plot Between Microstressors (MIMIS) and Perceived Stress (PSS-10)

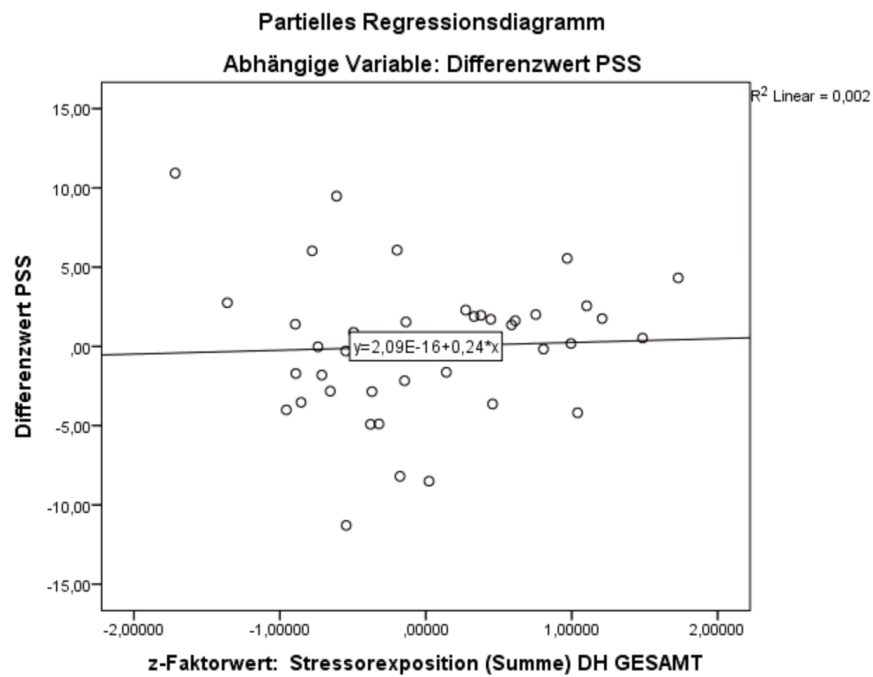


Figure K5.2

Partial Regression Plot Between Macrostressors (LE Checklist) and Perceived Stress (PSS-10)

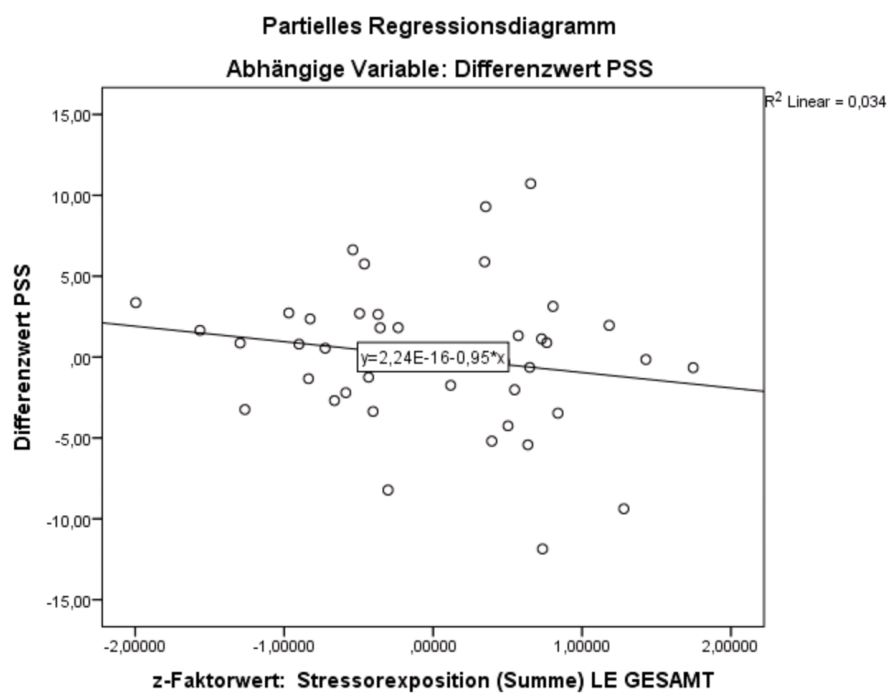


Figure K5.3

Partial Regression Plot Between ASF-E-P and Perceived Stress (PSS-10)

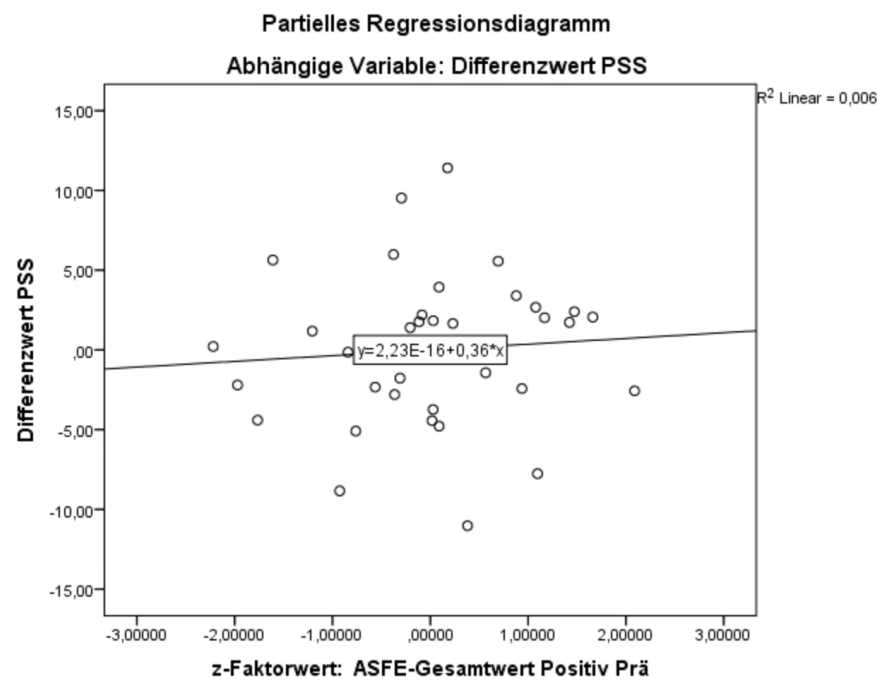


Figure K5.4

Partial Regression Plot Between ASF-E-N and Perceived Stress (PSS-10)

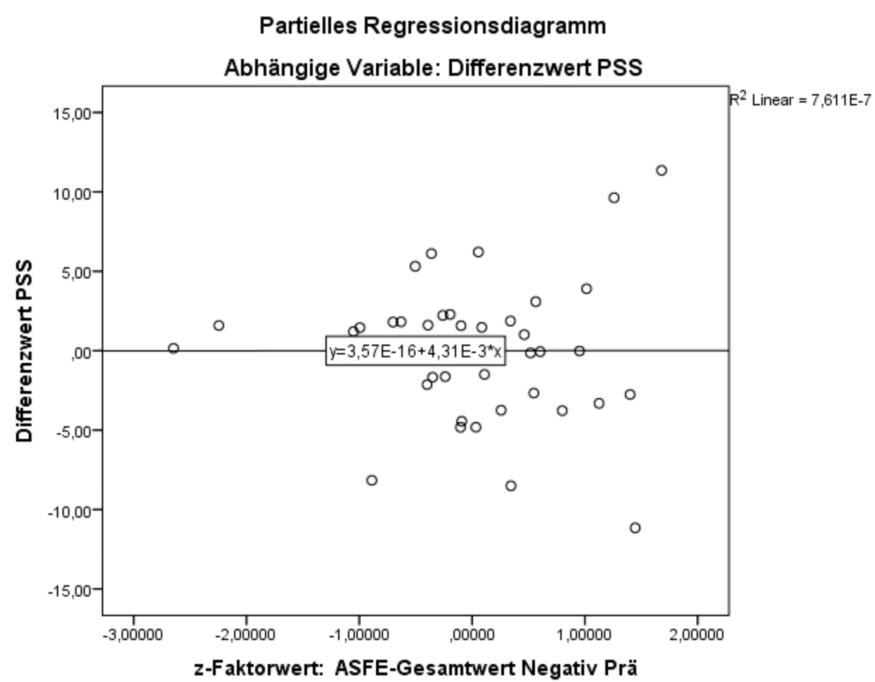


Figure K5.5

Residual Plot PSS-10

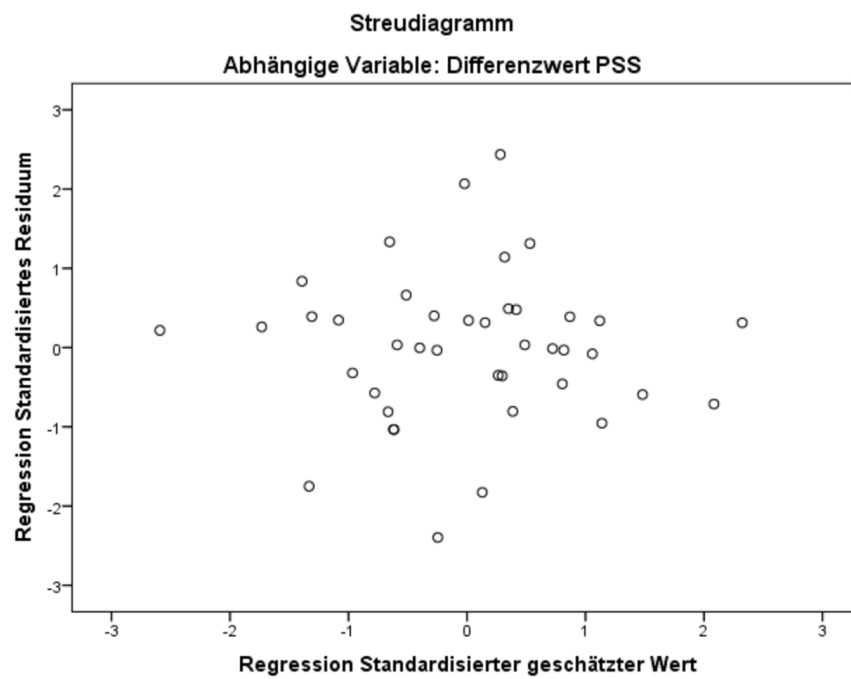


Figure K5.6

P-P-Plot PSS-10

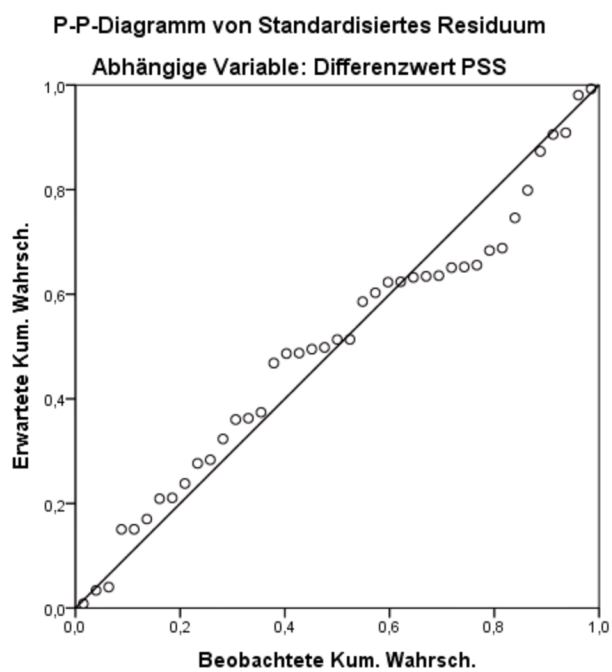


Table K5.2

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of AAT-CS (RQ2, Hypothesis 2.1)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV			.40	✓ (2.76)				✓ (Figure K5.11)	✓ (Figure K5.12)	✓ 1.50
AATCS_diff										
Variables										
Microstressors	✓ (Figure K5.7)				✓ 0.98	✓ 1.65	✓ 0.61			
Macrostressors	✓ (Figure K5.8)				✓ 0.90	✓ 1.39	✓ 0.72			
ASF-E-P	✓ (Figure K5.9)	✓ ($\alpha = .90$)			✓ 0.55	✓ 1.04	✓ 0.97			
ASF-E-N	✓ (Figure K5.10)	✓ ($\alpha = .90$)			1.42	✓ 1.28	✓ 0.78			

Note. DV = dependent variable; AATCS_diff = difference score of observation pairs (post-pre) of the AAT Compatibility Score; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.7

Partial Regression Plot Between Microstressors (MIMIS) and Implicit Action Tendencies (AAT-CS)

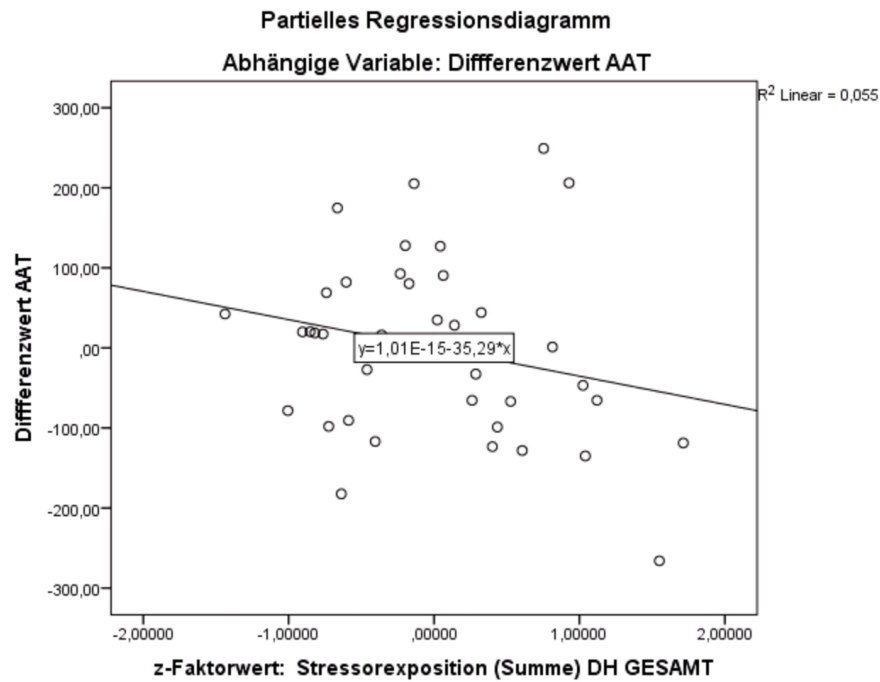


Figure K5.8

Partial Regression Plot Between Macrostressors (LE Checklist) and Implicit Action Tendencies (AAT-CS)

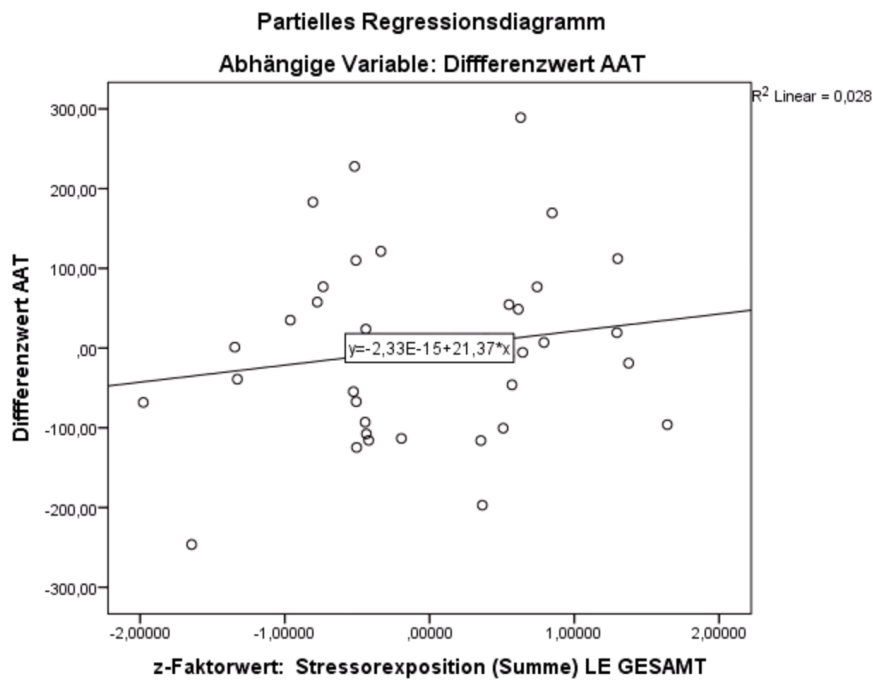


Figure K5.9

Partial Regression Plot Between ASF-E-P and Implicit Action Tendencies (AAT-CS)

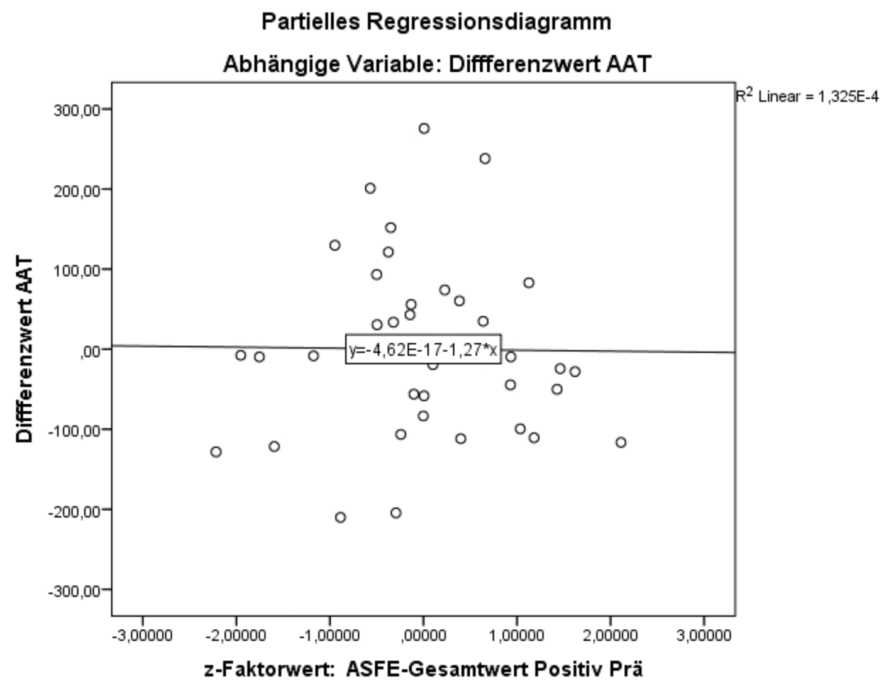


Figure K5.10

Partial Regression Plot Between ASF-E-N and Implicit Action Tendencies (AAT-CS)

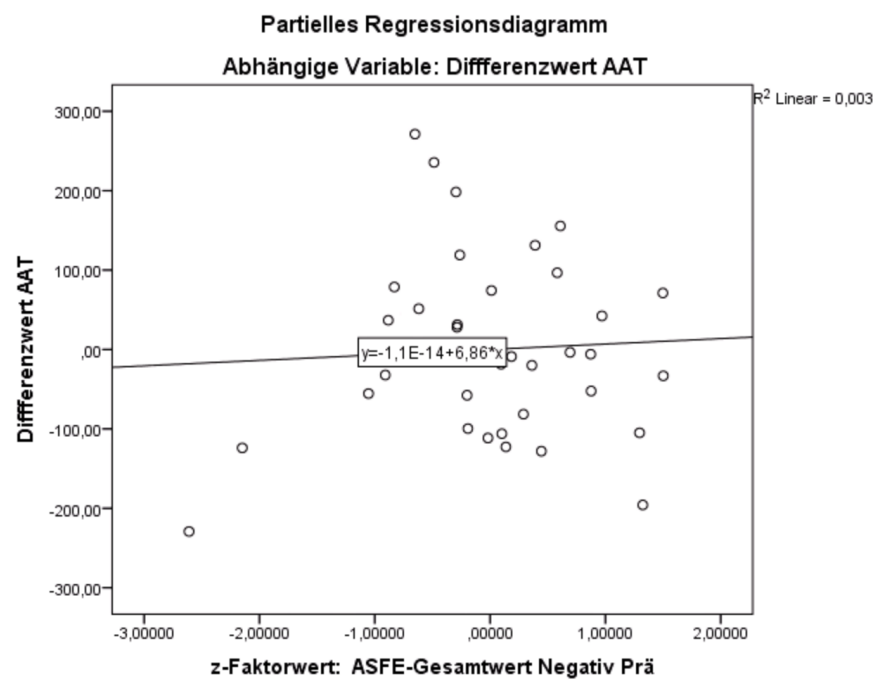


Figure K5.11

Residual Plot AAT-CS

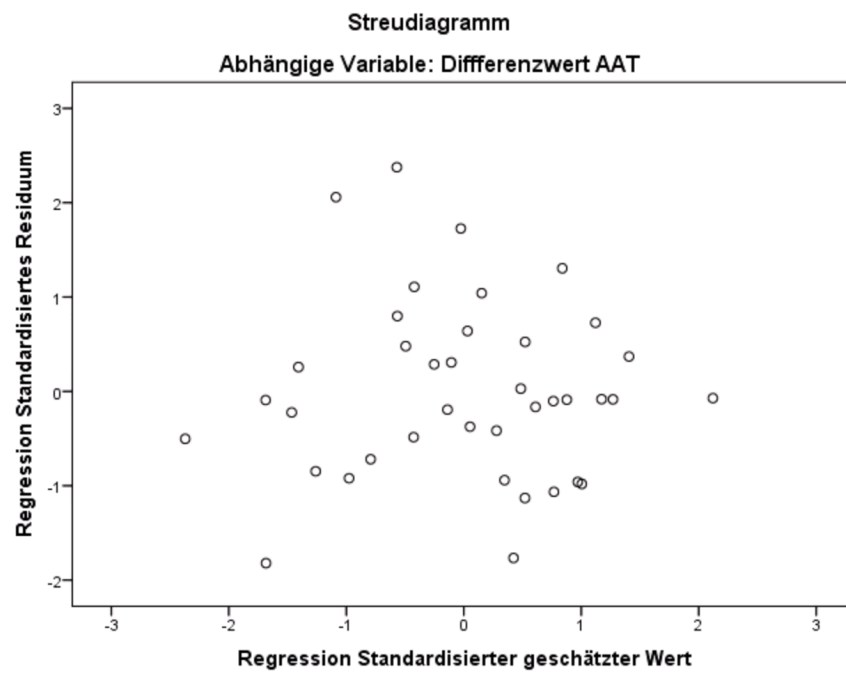


Figure K5.12

P-P-Plot AAT-CS

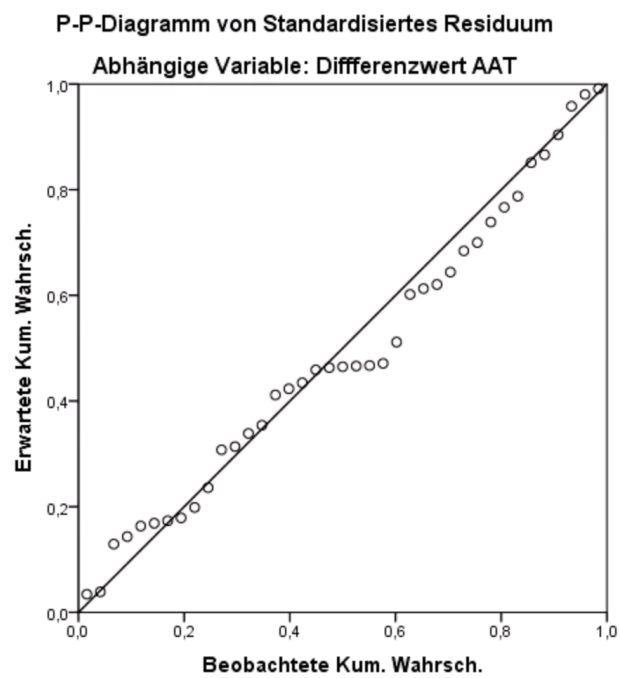


Table K5.3

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of the GHQ-28 (Stressor Exposure as Only Predictor; RQ3)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV GHQ28_diff			.34	3.23				✓ (Figure K5.15)	✓ (Figure K5.16)	✓ 2.24
Variables										
Microstressors	✓ (Figure K5.13)				1.54	✓ 1.21	✓ 0.82			
Macrostressors	✓ (Figure K5.14)				✓ 0.59	✓ 1.21	✓ 0.82			

Note. DV = dependent variable; GHQ28_diff = difference score of observation pairs (post-pre) of the GHQ-28; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with two predictors: values > .15 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.13

Partial Regression Plot Between Microstressors (MIMIS) and Mental Health (GHQ-28)

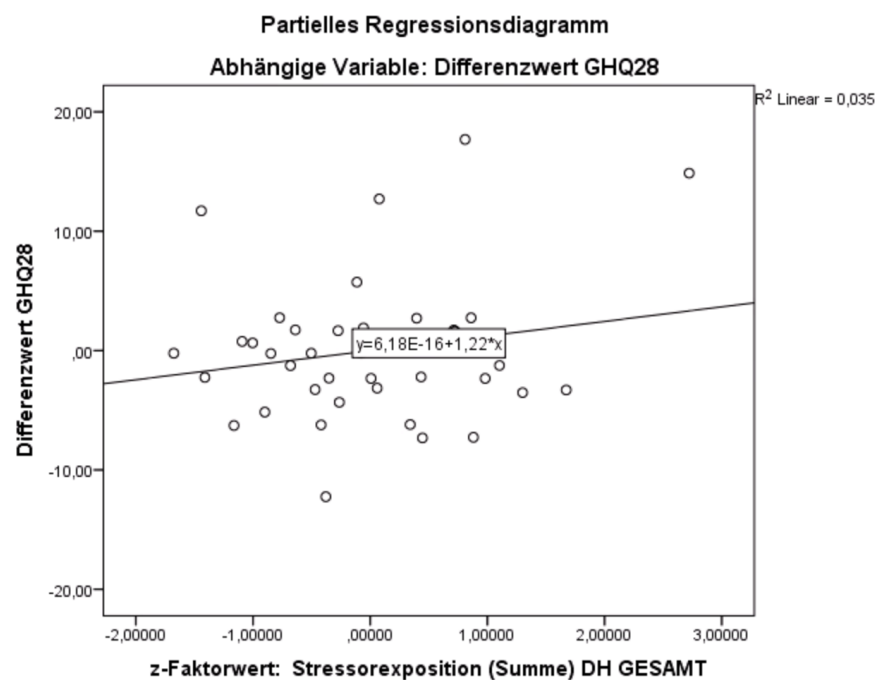


Figure K5.14

Partial Regression Plot Between Macrostressors (LE Checklist) and Mental Health (GHQ-28)

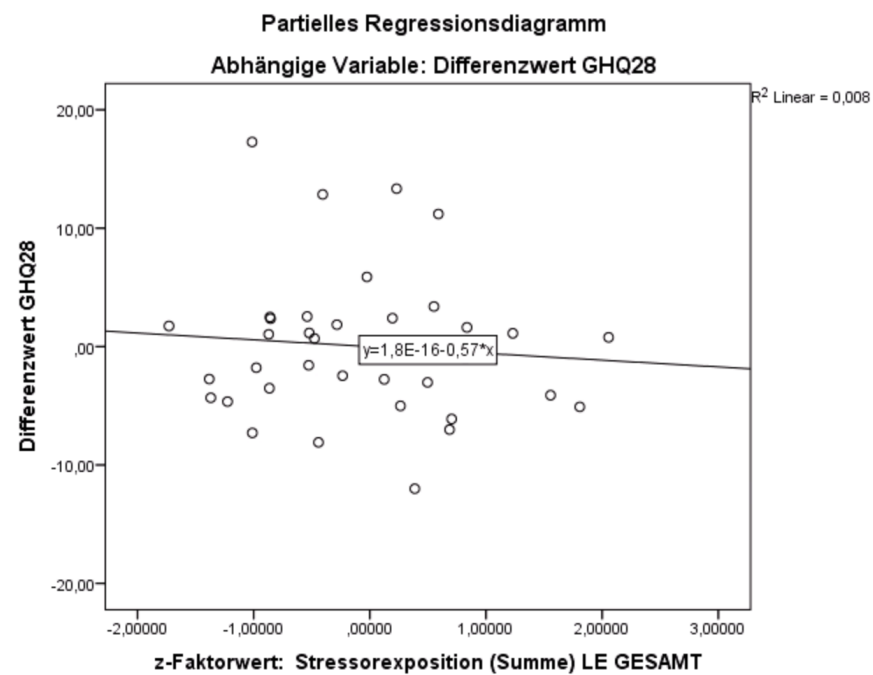


Figure K5.15

Residual Plot GHQ-28

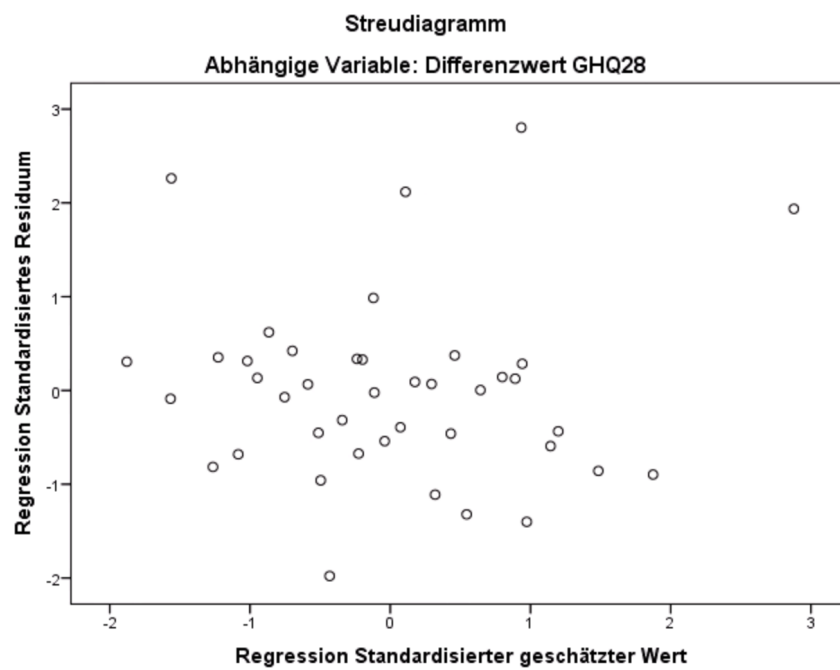


Figure K5.16

P-P-Plot GHQ-28

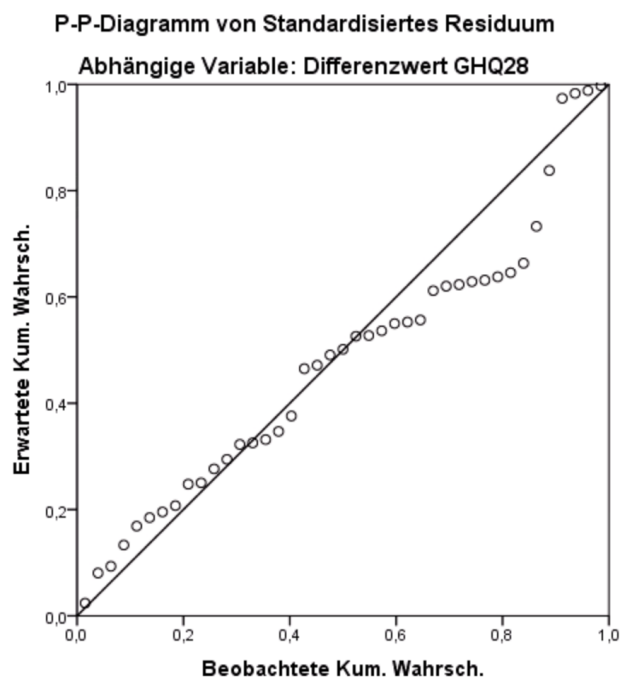


Table K5.4

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of GHQ-28 (RQ3)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV			.37	3.24				✓ (Figure K5.21)	✓ (Figure K5.22)	✓ 2.20
GHQ28_diff										
Variables										
Microstressors	✓ (Figure K5.17)				1.26	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Figure K5.18)				1.11	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Figure K5.19)	✓ ($\alpha = .90$)			✓ 0.53	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Figure K5.20)	✓ ($\alpha = .90$)			1.82	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; GHQ28_diff = difference score of observation pairs (post-pre) of the GHQ-28; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.17

Partial Regression Plot Between Microstressors (MIMIS) and Mental Health (GHQ-28)

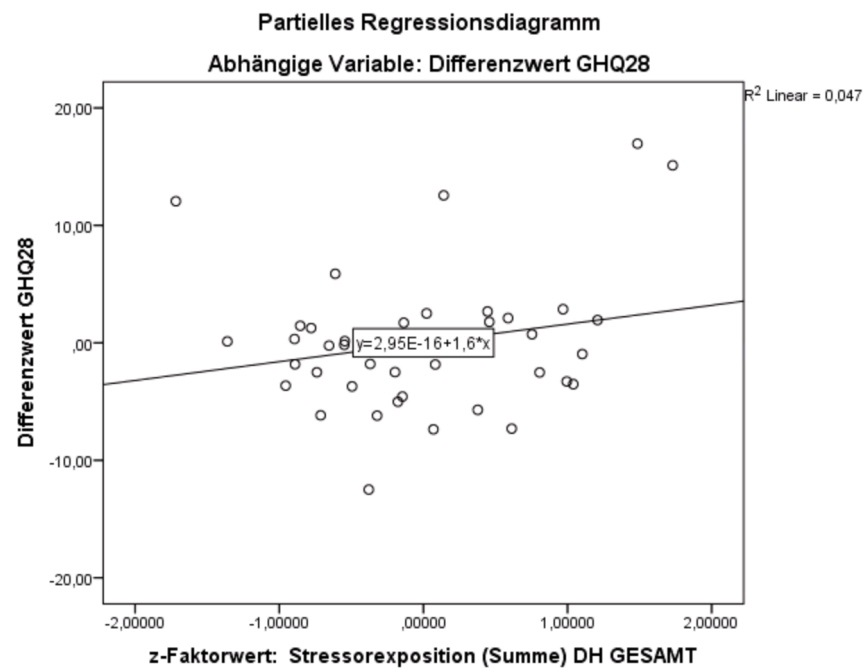


Figure K5.18

Partial Regression Plot Between Macrostressors (LE Checklist) and Mental Health (GHQ-28)

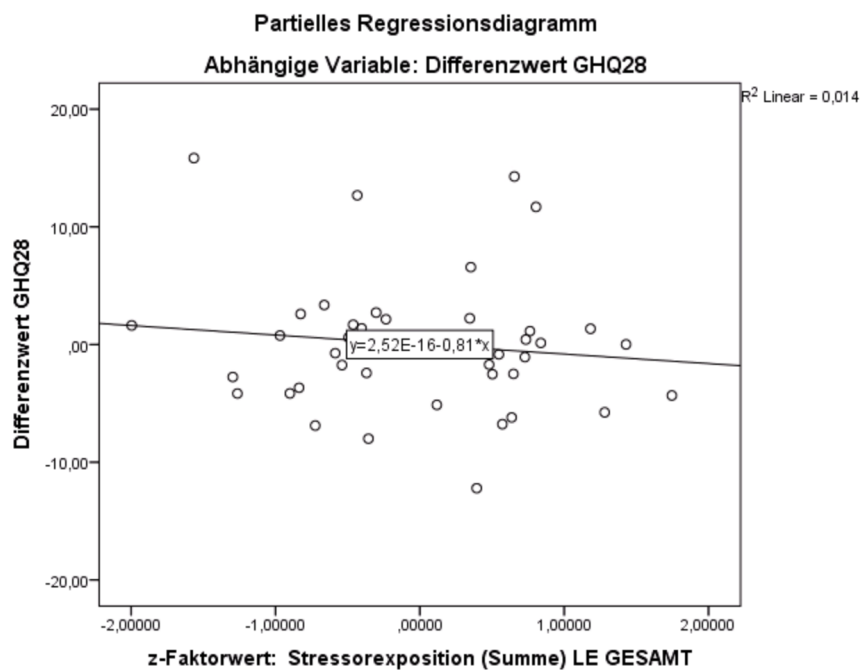


Figure K5.19

Partial Regression Plot Between ASF-E-P and Mental Health (GHQ-28)

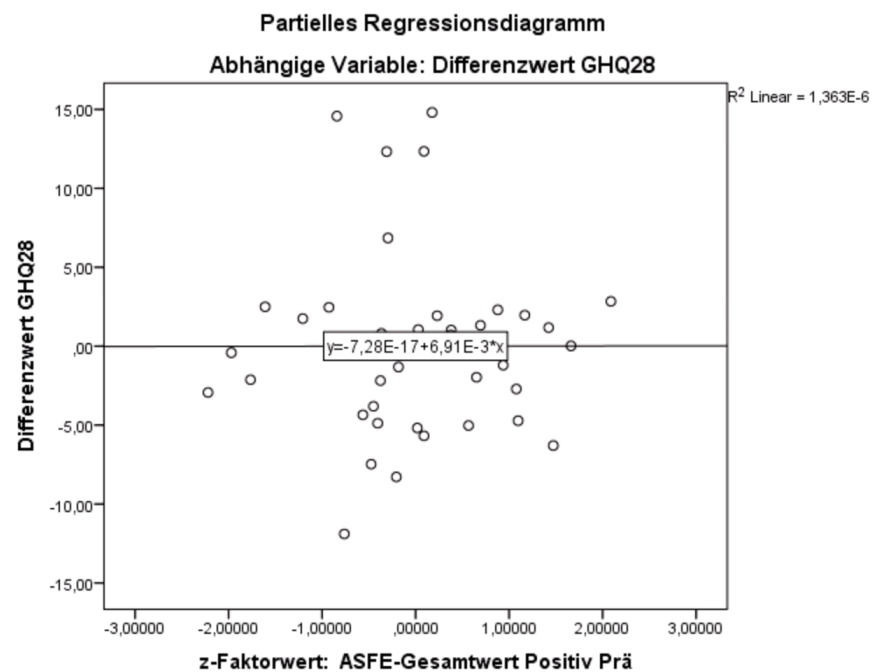


Figure K5.20

Partial Regression Plot Between ASF-E-N and Mental Health (GHQ-28)

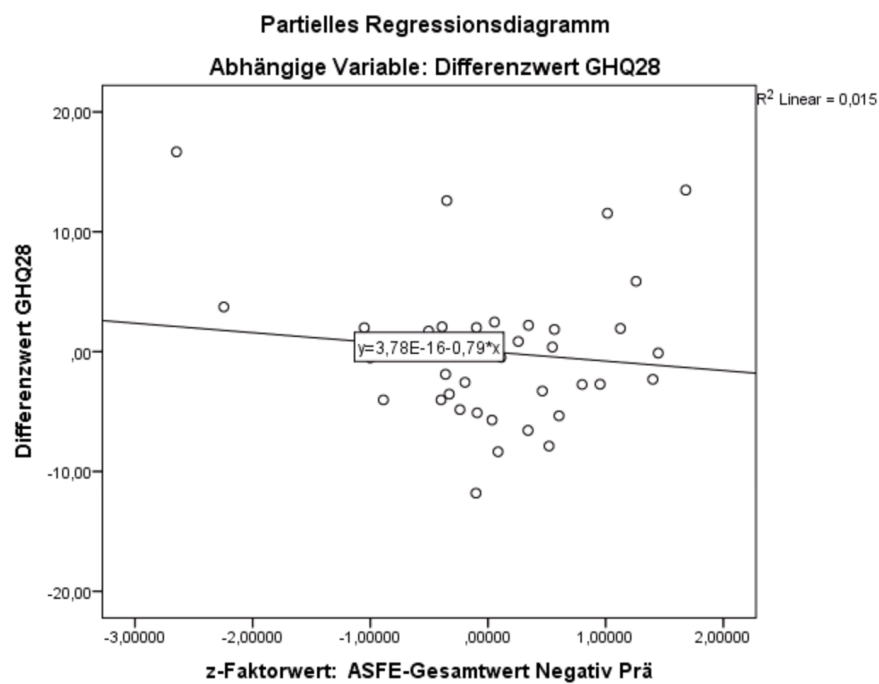


Figure K5.21

Residual Plot GHQ-28

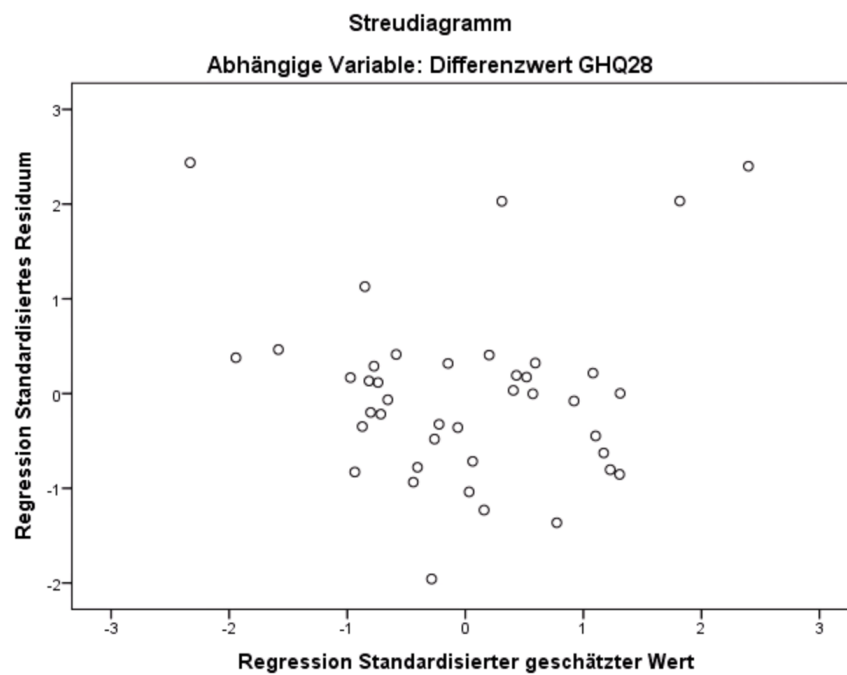


Figure K5.22

P-P-Plot GHQ-28

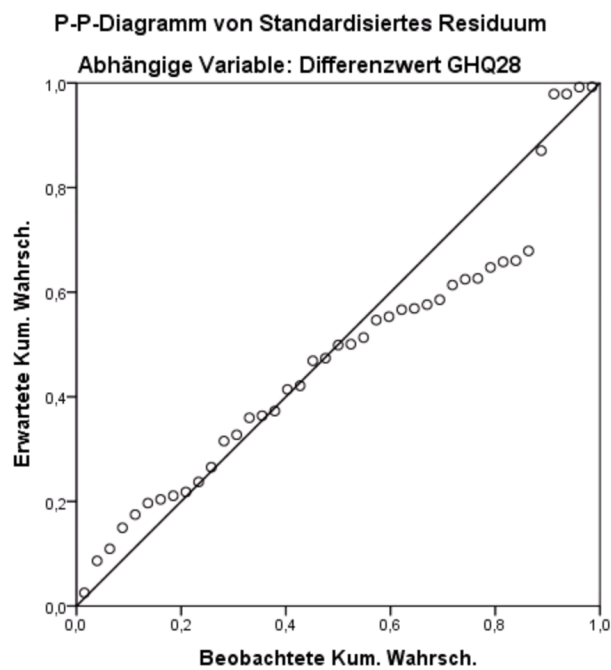


Table K5.5

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of BRS (RQ3)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV BRS_diff			.25	✓ (2.82)				✓ (Figure K5.26)	✓ (Figure K5.27)	1.85
Variables										
Macrostressors	✓ (Figure K5.23)				✓ 0.66	✓ 1.01	✓ 0.99			
ASF-E-P	✓ (Figure K5.24)	✓ ($\alpha = .90$)			1.07	✓ 1.00	✓ 1.00			
ASF-E-N	✓ (Figure K5.25)	✓ ($\alpha = .90$)			✓ 0.55	✓ 1.01	✓ 0.99			

Note. DV = dependent variable; BRS_diff = difference score of observation pairs (post-pre) of the BRS; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .22 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.23

Partial Regression Plot Between Macrostressors (LE Checklist) and Ability to Recover From Stress (BRS)

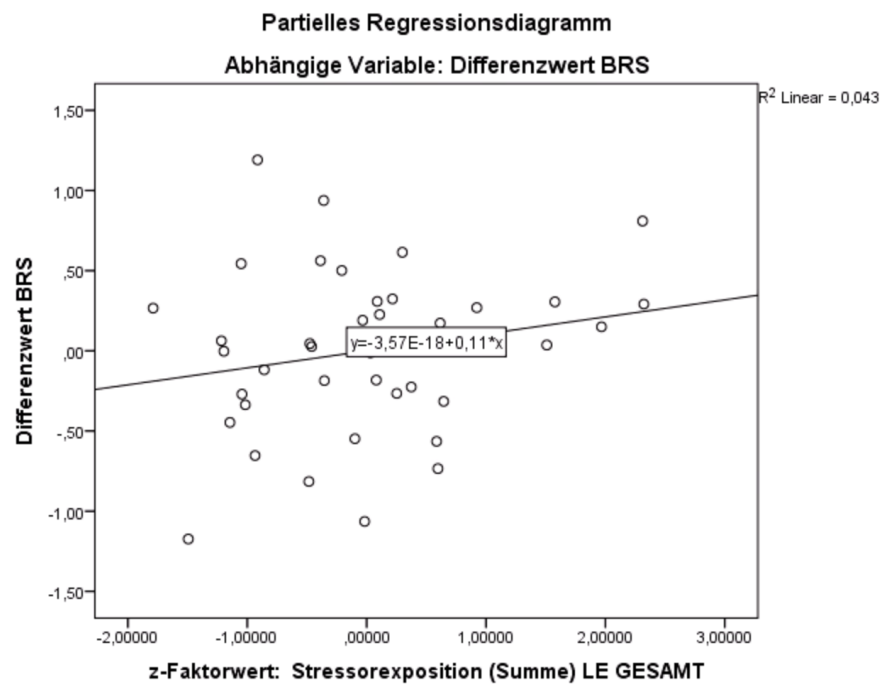


Figure K5.24

Partial Regression Plot Between ASF-E-P and Ability to Recover From Stress (BRS)

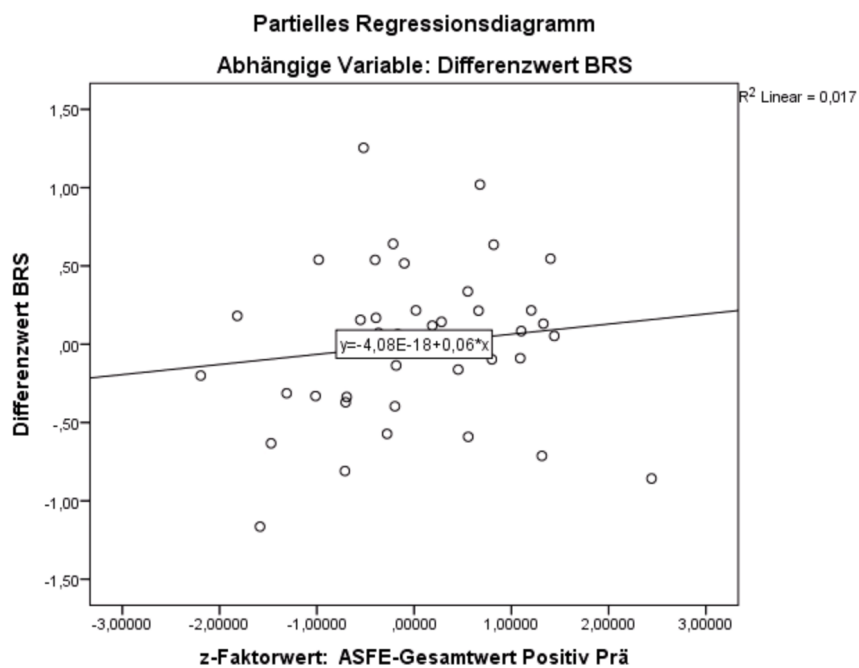


Figure K5.25

Partial Regression Plot Between ASF-E-N and Ability to Recover From Stress (BRS)

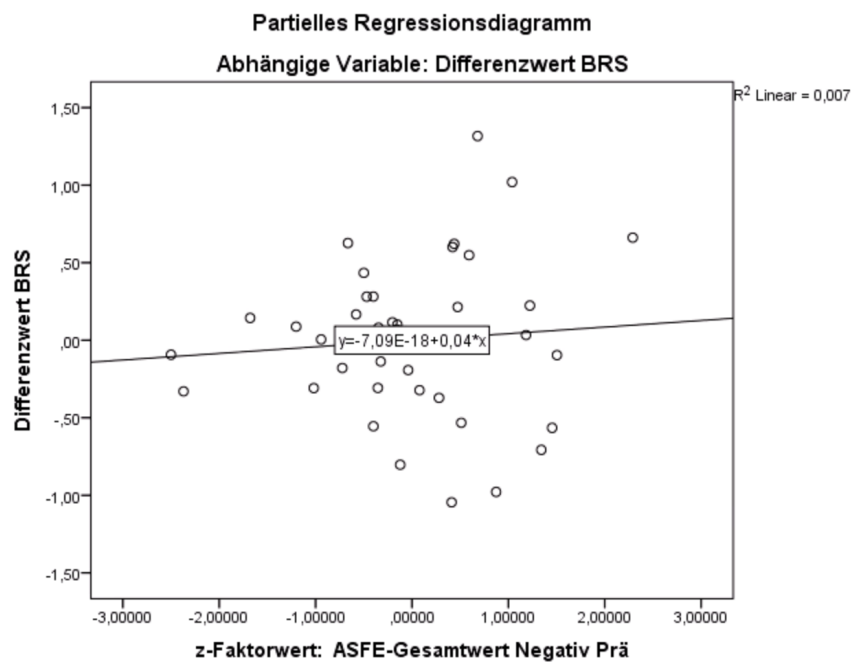


Figure K5.26

Residual Plot BRS

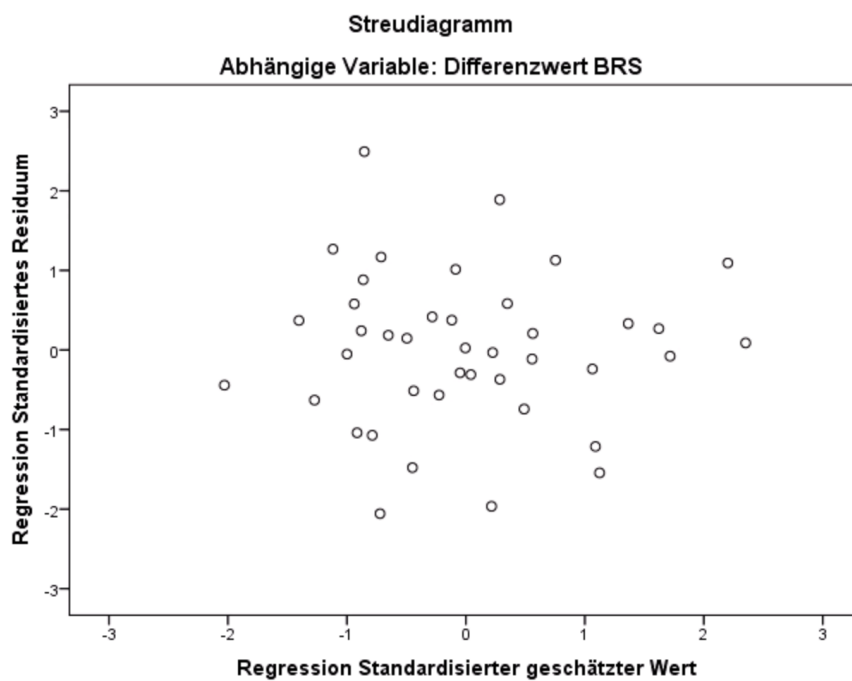


Figure K5.27

P-P-Plot BRS

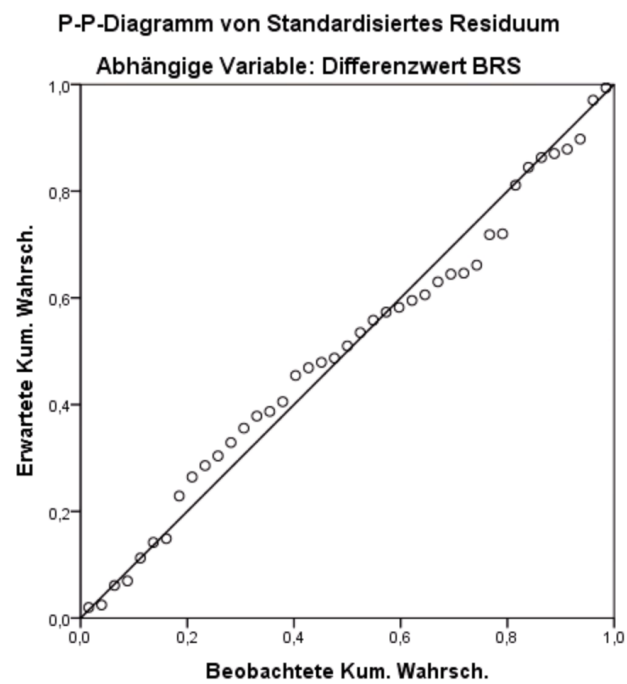


Table K5.6

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of WHO-5 (RQ3)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV			.37	✓ (2.35)				✓ (Figure K5.32)	✓ (Figure K5.33)	✓ 1.60
WHO5_diff										
Variables										
Microstressors	✓ (Figure K5.28)				✓ 0.71	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Figure K5.29)				✓ 0.43	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Figure K5.30)	✓ ($\alpha = .90$)			✓ 0.61	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Figure K5.31)	✓ ($\alpha = .90$)			✓ 0.50	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; WHO5_diff = difference score of observation pairs (post-pre) of the WHO-5; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.28

Partial Regression Plot Between Microstressors (MIMIS) and Well-Being (WHO-5)

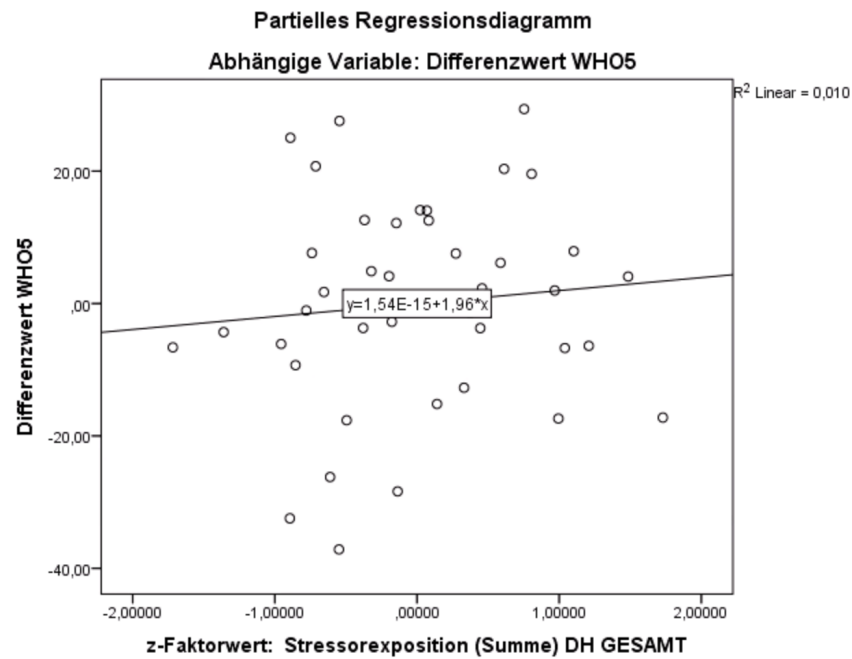


Figure K5.29

Partial Regression Plot Between Macrostressors (LE Checklist) and Well-Being (WHO-5)

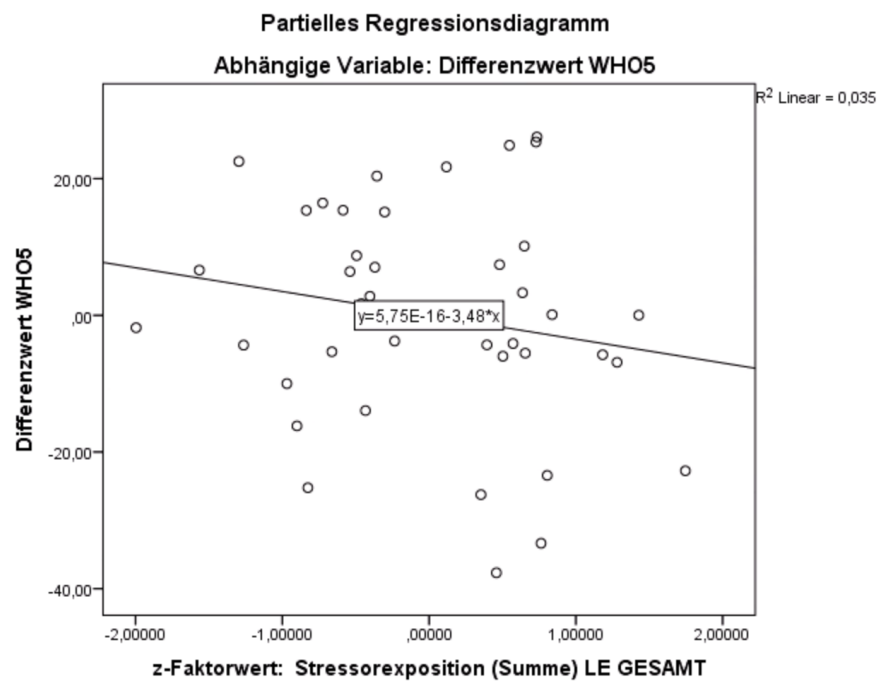


Figure K5.30

Partial Regression Plot Between ASF-E-P and Well-Being (WHO-5)

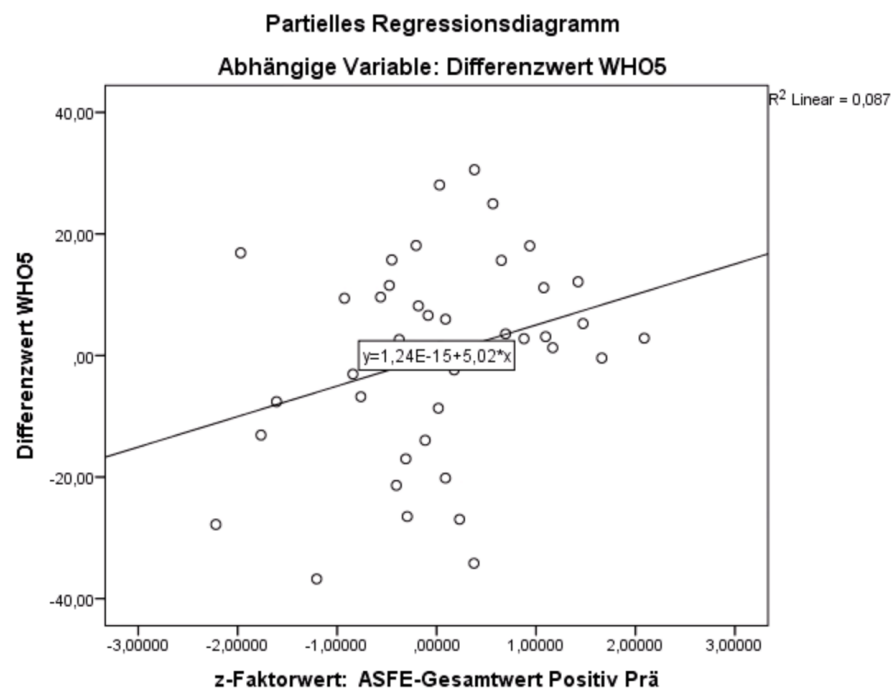


Figure K5.31

Partial Regression Plot Between ASF-E-N and Well-Being (WHO-5)

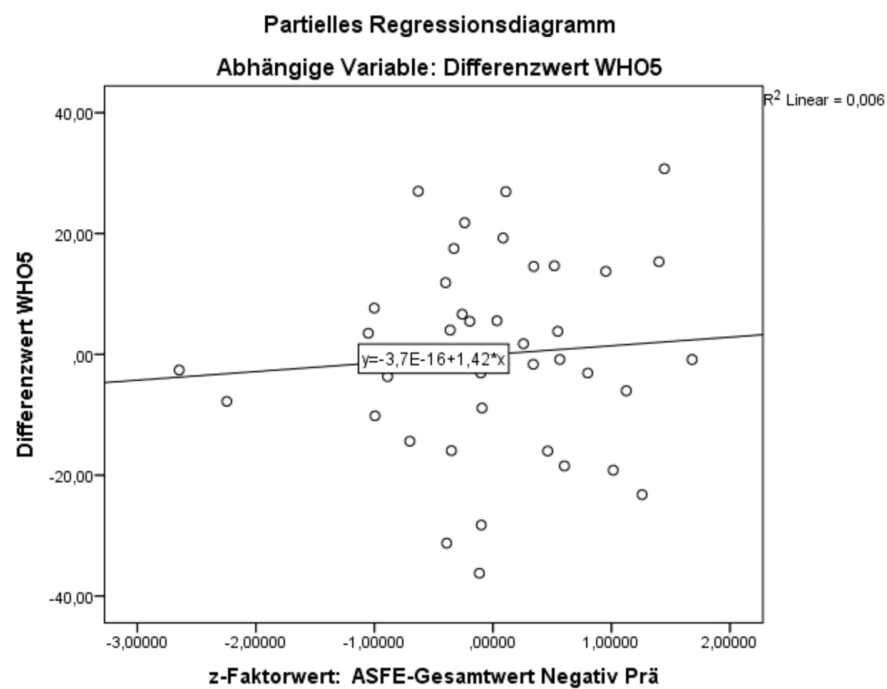


Figure K5.32

Residual Plot WHO-5

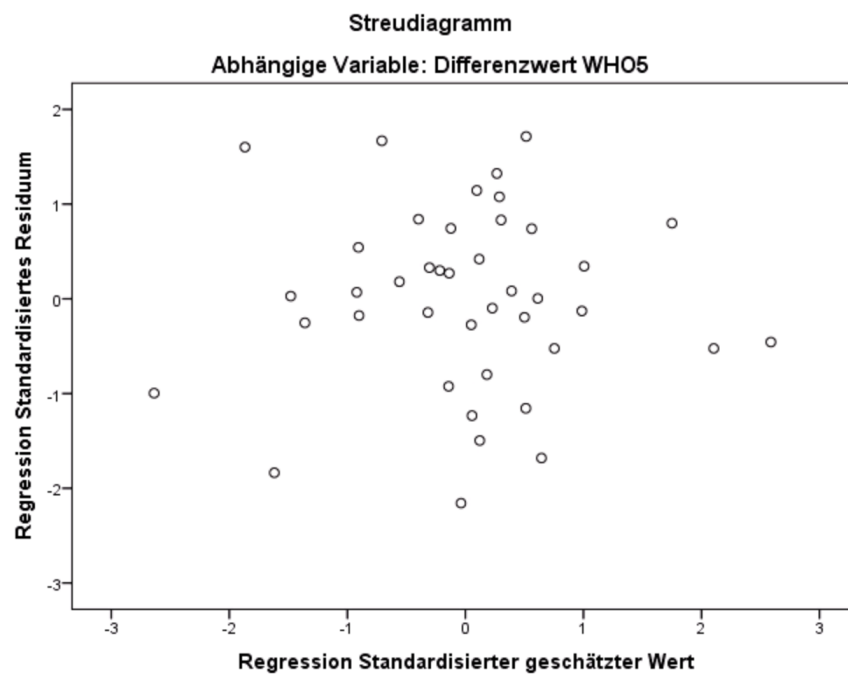


Figure K5.33

P-P-Plot WHO-5

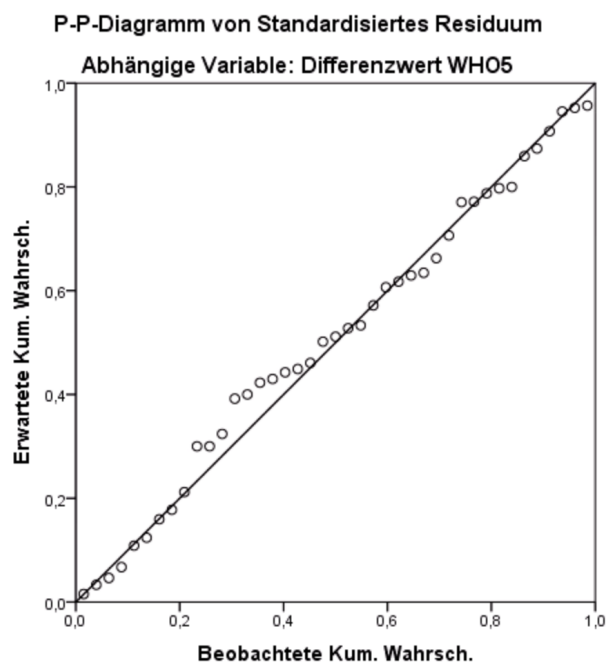


Table K5.7

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of the Reappraisal Subscale of ERQ (RQ5)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV			.37	3.67				✓ (Figure K5.38)	✓ (Figure K5.39)	✓ 2.04
ERQ_reapp_diff										
Variables										
Microstressors	✓ (Figure K5.34)				✓ 0.57	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Figure K5.35)				✓ 0.44	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Figure K5.36)	✓ ($\alpha = .90$)			✓ 0.70	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Figure K5.37)	✓ ($\alpha = .90$)			✓ 0.51	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; ERQ_reapp_diff = difference score of observation pairs (post-pre) of the ERQ reappraisal subscale; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.34

Partial Regression Plot Between Microstressors (MIMIS) and Reappraisal Subscale of ERQ

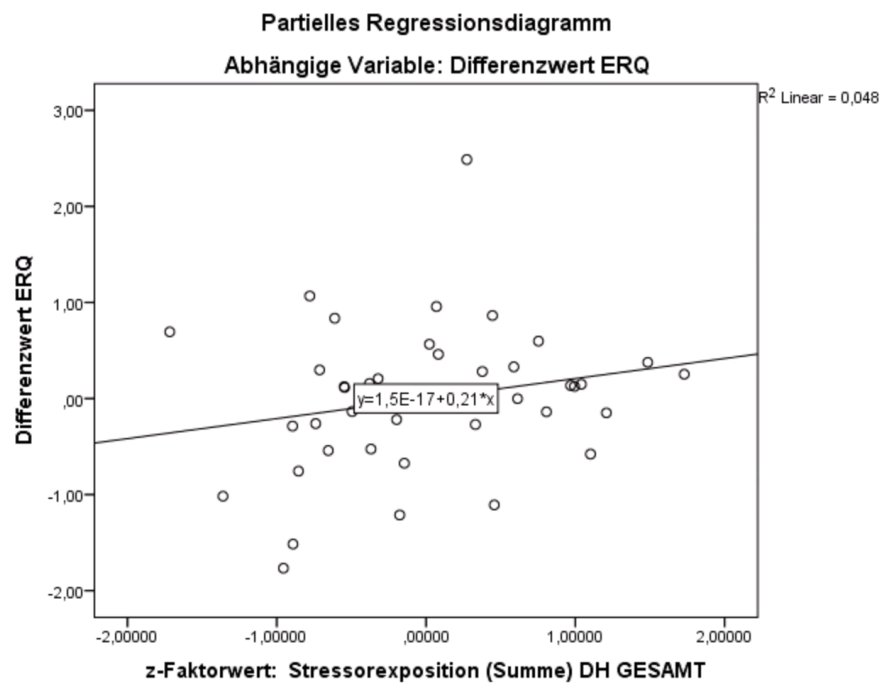


Figure K5.35

Partial Regression Plot Between Macrostressors (LE Checklist) and Reappraisal Subscale of ERQ

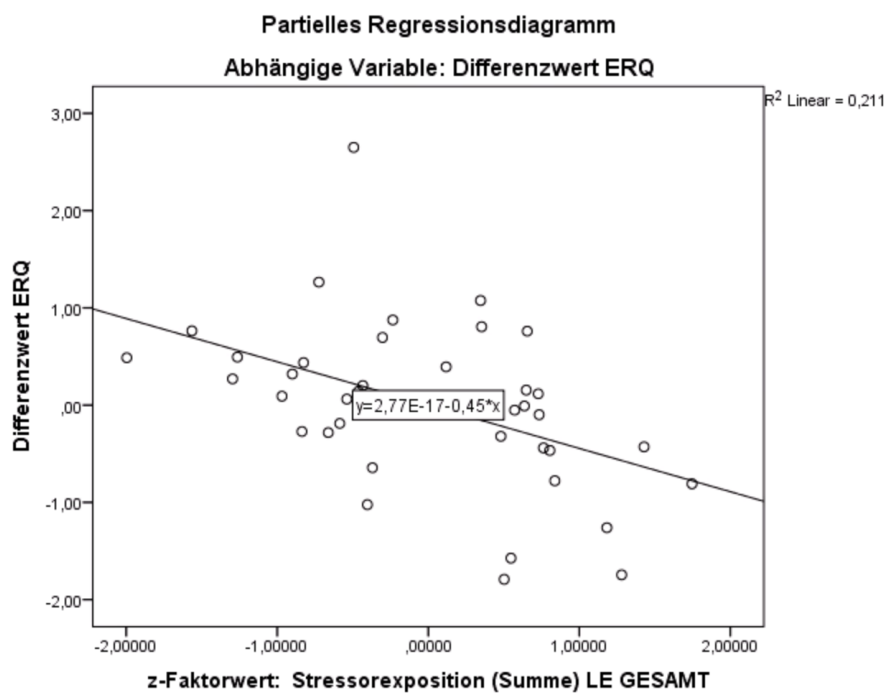


Figure K5.36

Partial Regression Plot Between ASF-E-P and Reappraisal Subscale of ERQ

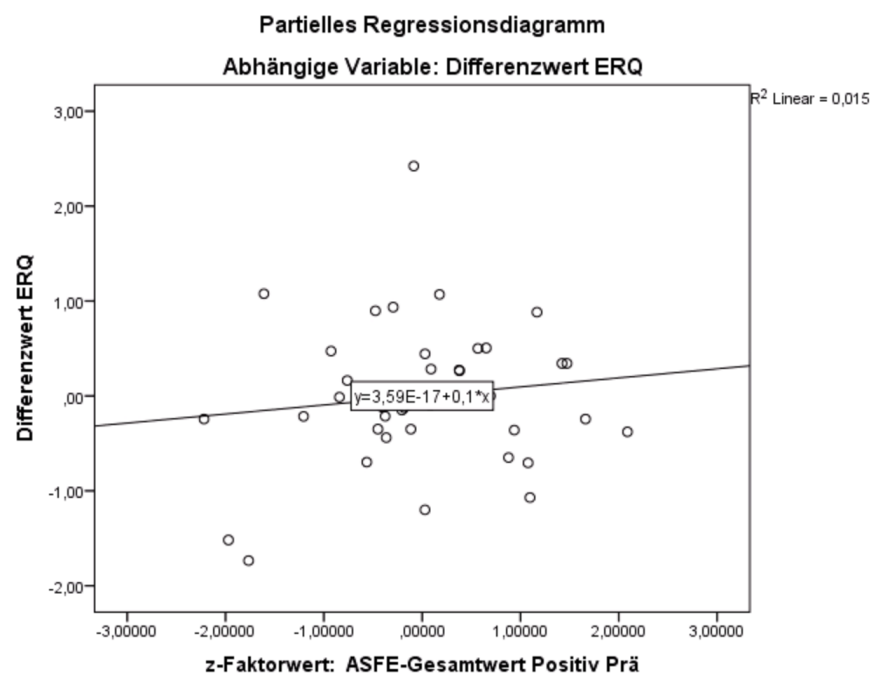


Figure K5.37

Partial Regression Plot Between ASF-E-N and Reappraisal Subscale of ERQ

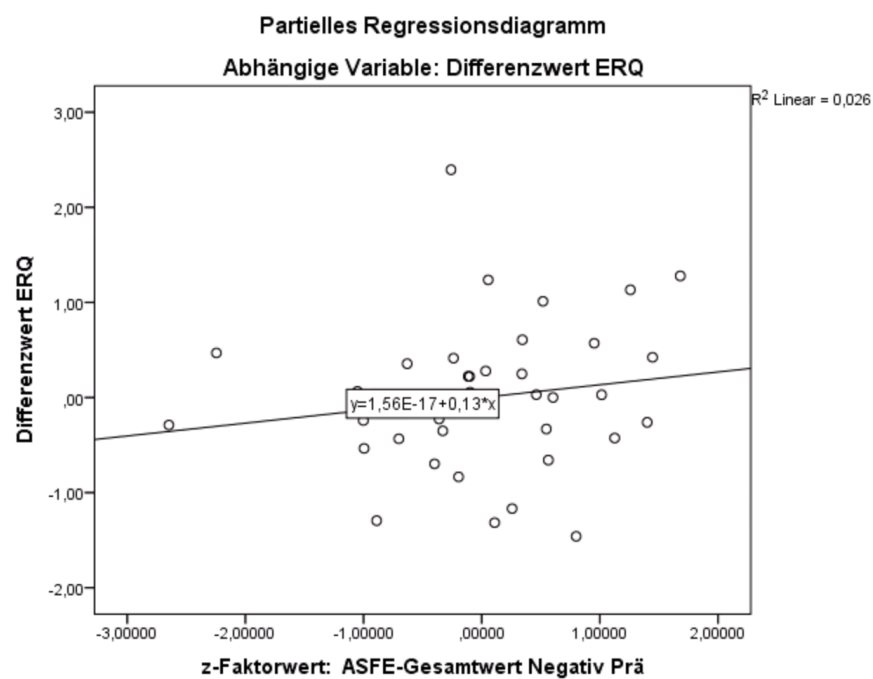


Figure K5.38

Residual Plot ERQ

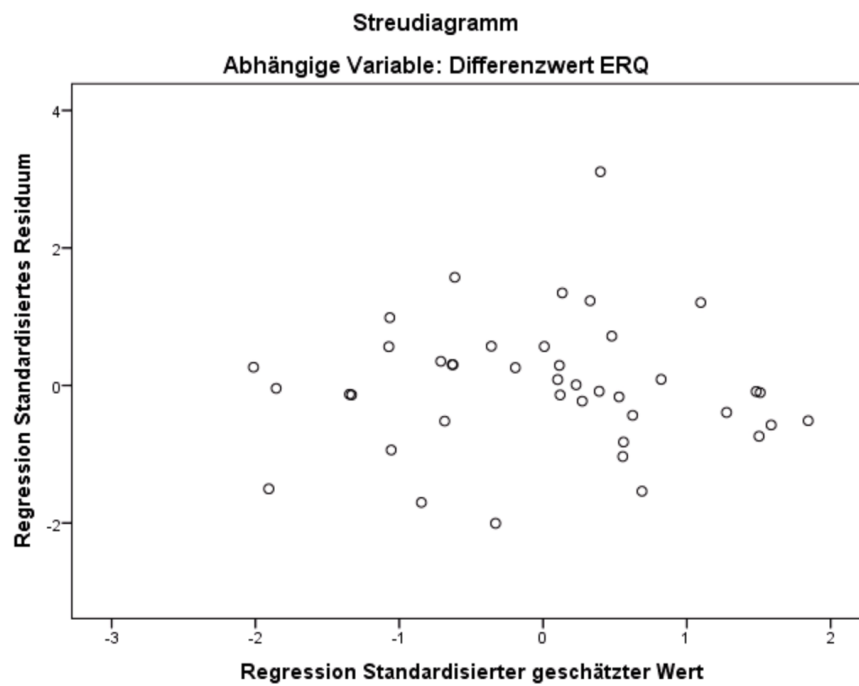


Figure K5.39

P-P-Plot ERQ

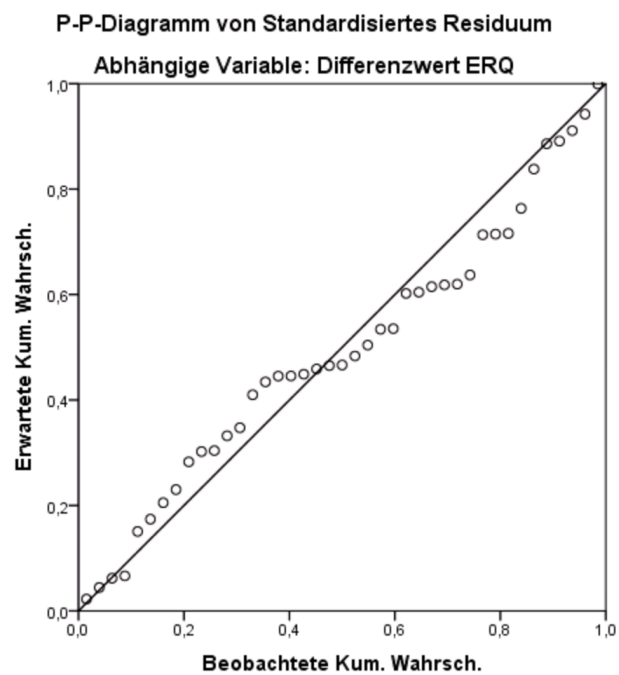


Table K5.8

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of the Positive Reappraisal Subscale of CERQ (RQ5)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV			.37	✓ 2.44				✓ (Figure K5.44)	✓ (Figure K5.45)	✓ 2.09
CERQ_reapp_diff										
Variables										
Microstressors	✓ (Figure K5.40)				✓ 0.44	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Figure K5.41)				✓ 0.58	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Figure K5.42)	✓ ($\alpha = .90$)			✓ 0.65	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Figure K5.43)	✓ ($\alpha = .90$)			✓ 0.40	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; CERQ_reapp_diff = difference score of observation pairs (post-pre) of the CERQ positive reappraisal subscale; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.40

Partial Regression Plot Between Microstressors (MIMIS) and Positive Reappraisal Subscale of CERQ

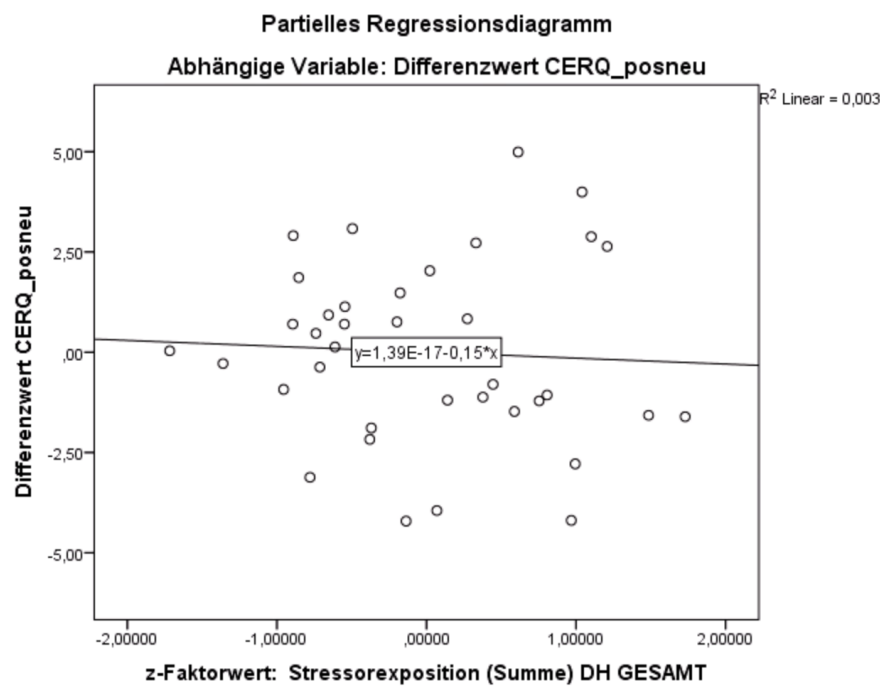


Figure K5.41

Partial Regression Plot Between Macrostressors (LE Checklist) and Positive Reappraisal Subscale of CERQ

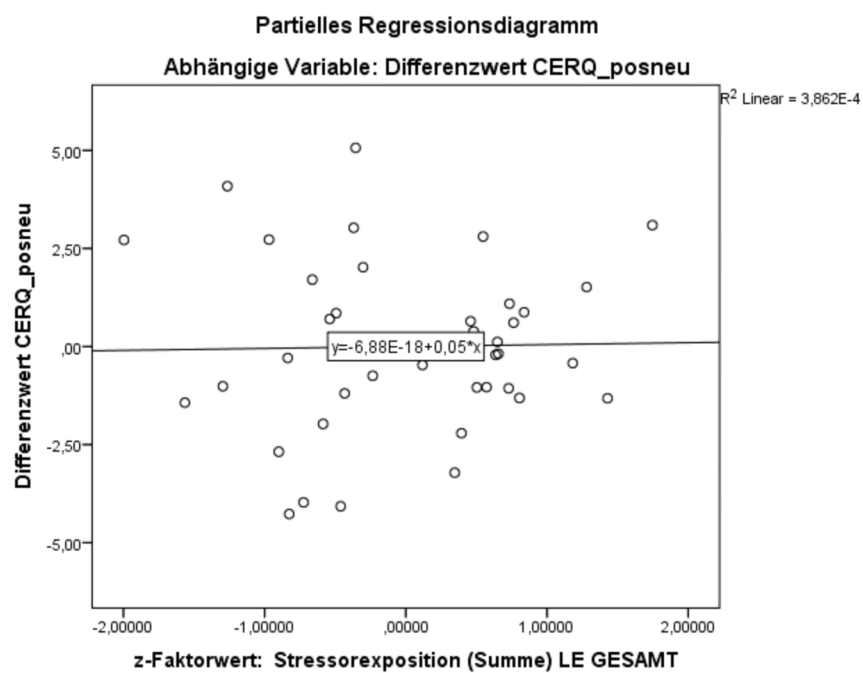


Figure K5.42

Partial Regression Plot Between ASF-E-P and Positive Reappraisal Subscale of CERQ

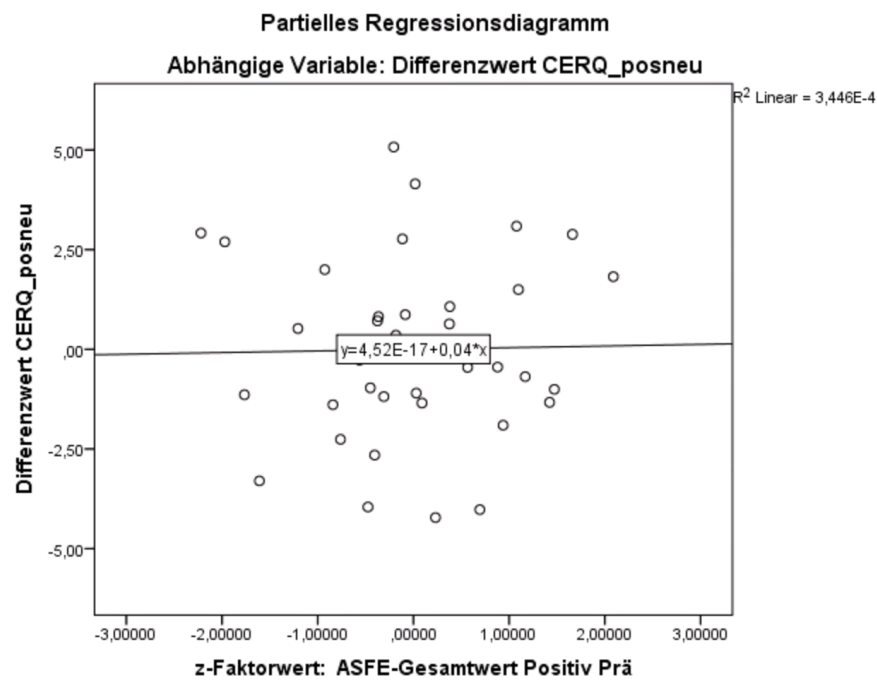


Figure K5.43

Partial Regression Plot Between ASF-E-N and Positive Reappraisal Subscale of CERQ

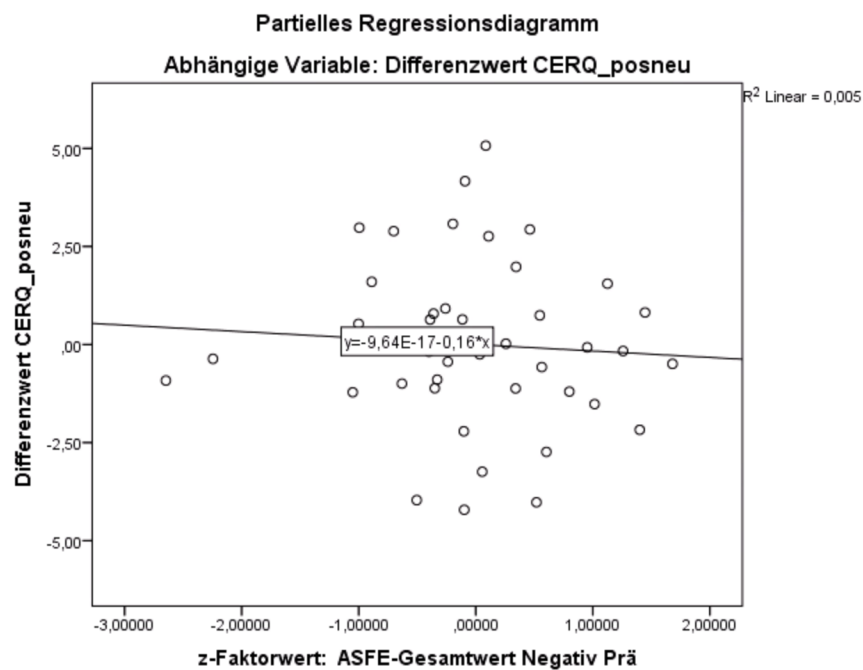


Figure K5.44

Residual Plot CERQ

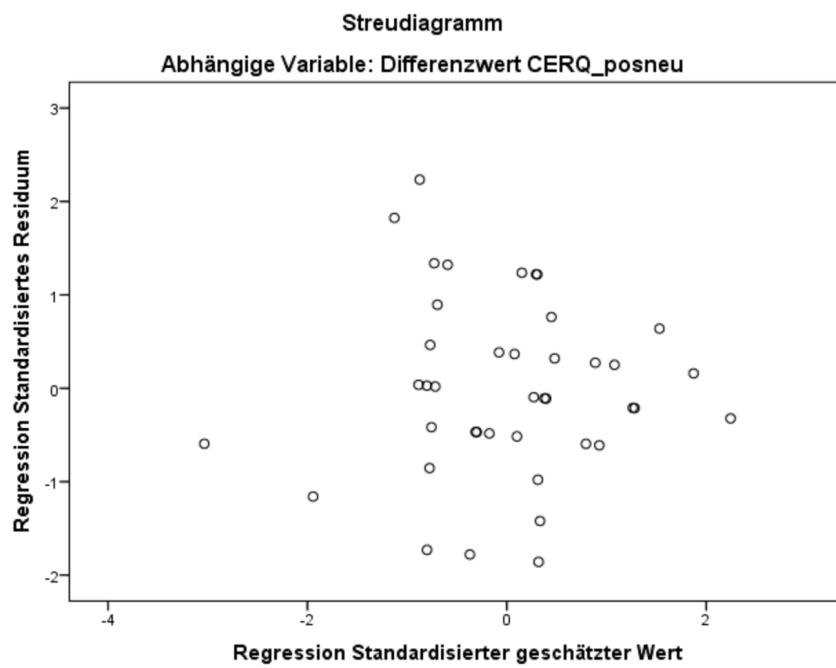


Figure K5.45

P-P-Plot CERQ

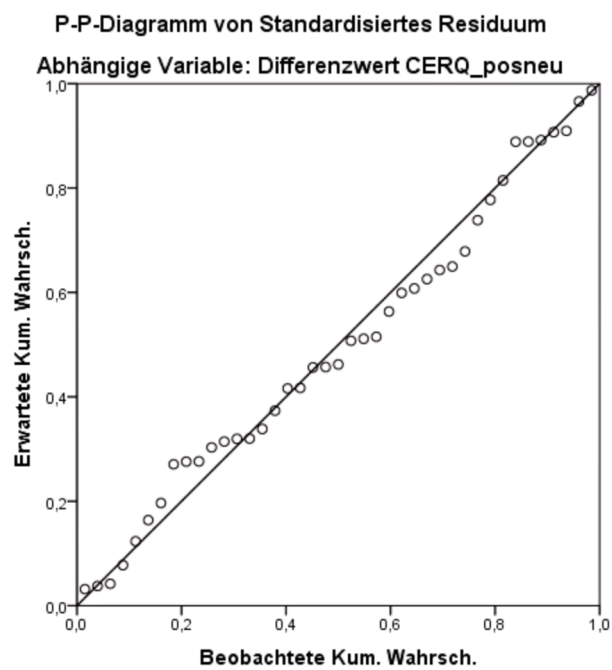


Table K5.9

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of the Positive Affect Subscale of PANAS (RQ5)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV			.37	5.19				✓ (Figure K5.50)	✓ (Figure K5.51)	✓ 1.59
PANAS_pos_diff										
Variables										
Microstressors	✓ (Figure K5.46)				✓ 0.45	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Figure K5.47)				✓ 0.83	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Figure K5.48)	✓ ($\alpha = .90$)			✓ 0.49	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Figure K5.49)	✓ ($\alpha = .90$)			✓ 0.38	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; PANAS_pos_diff = difference score of observation pairs (post-pre) of the PANAS positive affect subscale; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.46

Partial Regression Plot Between Microstressors (MIMIS) and Positive Affect (PANAS-PA)

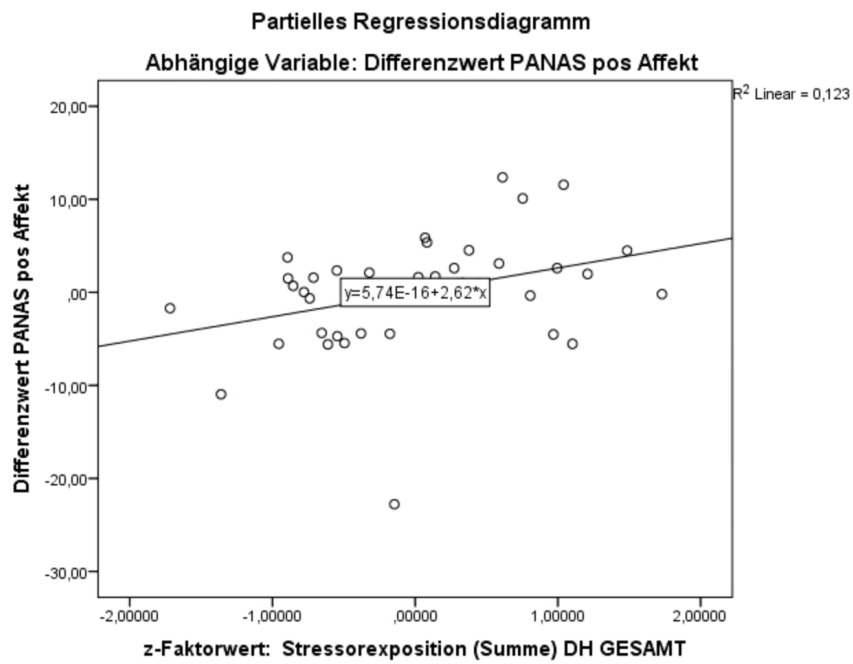


Figure K5.47

Partial Regression Plot Between Macrostressors (LE Checklist) and Positive Affect (PANAS-PA)

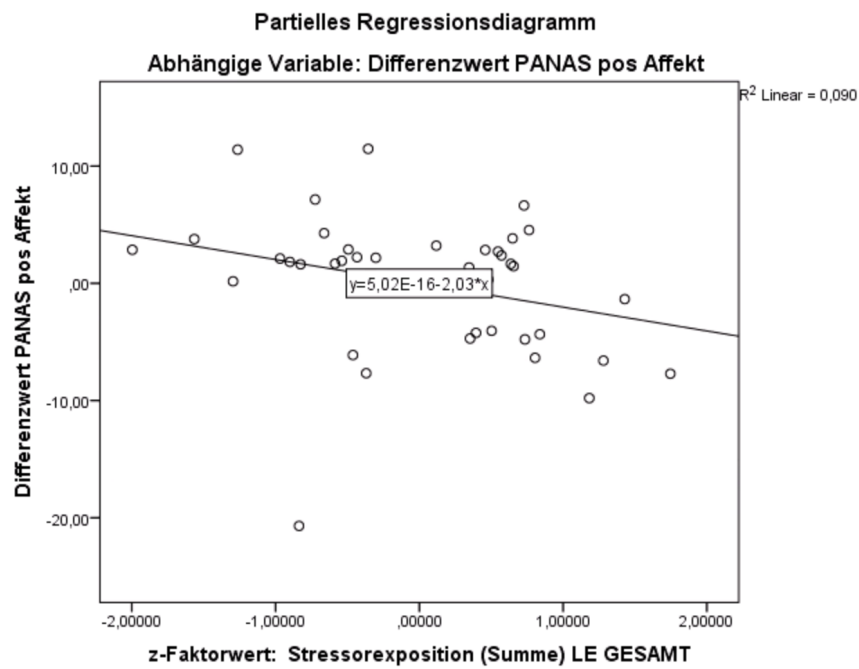


Figure K5.48

Partial Regression Plot Between ASF-E-P and Positive Affect (PANAS-PA)

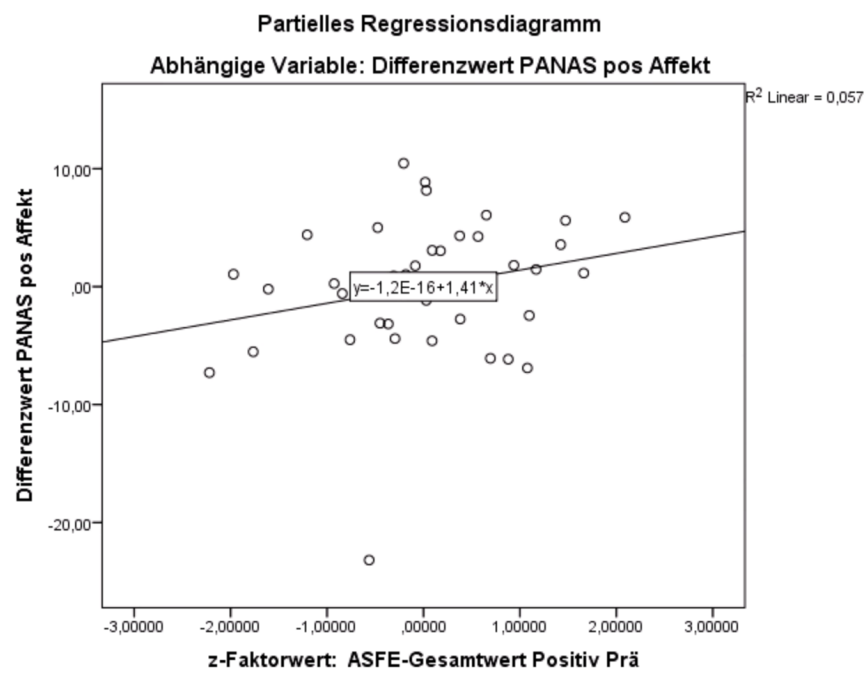


Figure K5.49

Partial Regression Plot Between ASF-E-N and Positive Affect (PANAS-PA)

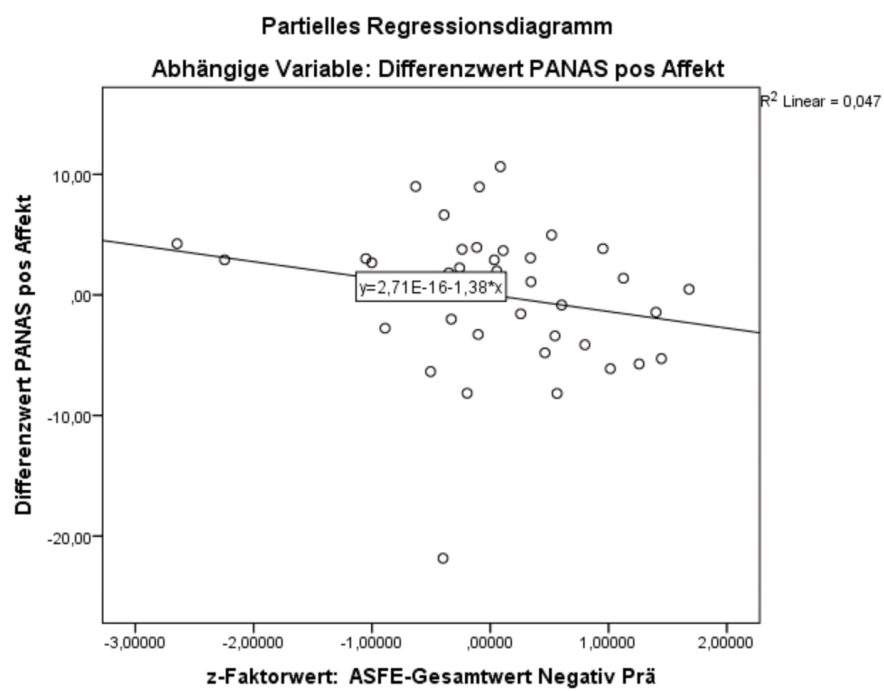


Figure K5.50

Residual Plot PANAS-PA

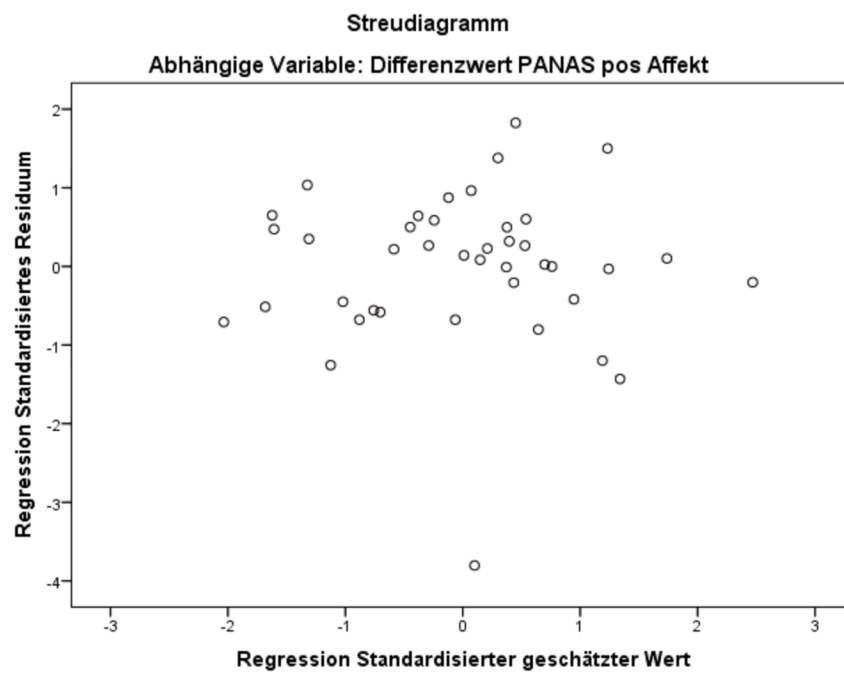


Figure K5.51

P-P-Plot PANAS-PA

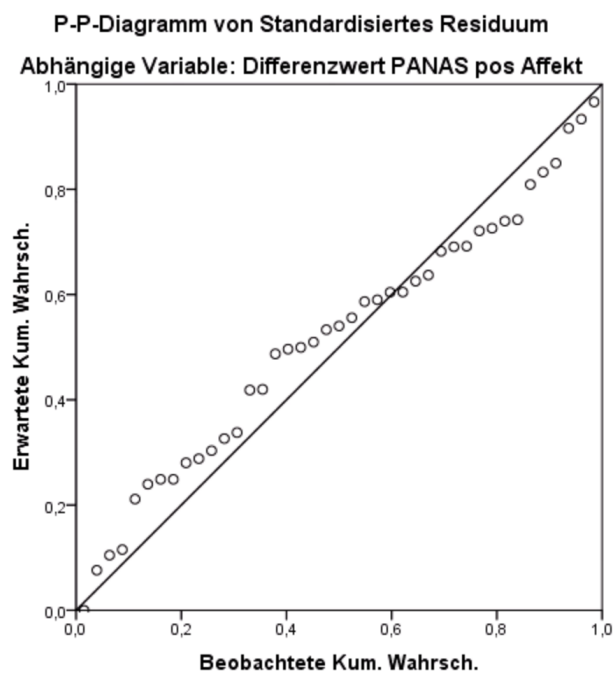


Table K5.10

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of the Negative Affect Subscale of PANAS (RQ5)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV			.37	✓ (2.94)				✓ (Figure K5.56)	✓ (Figure K5.57)	1.61
PANAS_neg_diff										
Variables										
Microstressors	✓ (Figure K5.52)				✓ 0.79	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Figure K5.53)				1.21	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Figure K5.54)	✓ ($\alpha = .90$)			✓ 0.89	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Figure K5.55)	✓ ($\alpha = .90$)			✓ 0.58	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; PANAS_neg_diff = difference score of observation pairs (post-pre) of the PANAS negative affect subscale; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.52

Partial Regression Plot Between Microstressors (MIMIS) and Negative Affect (PANAS-NA)

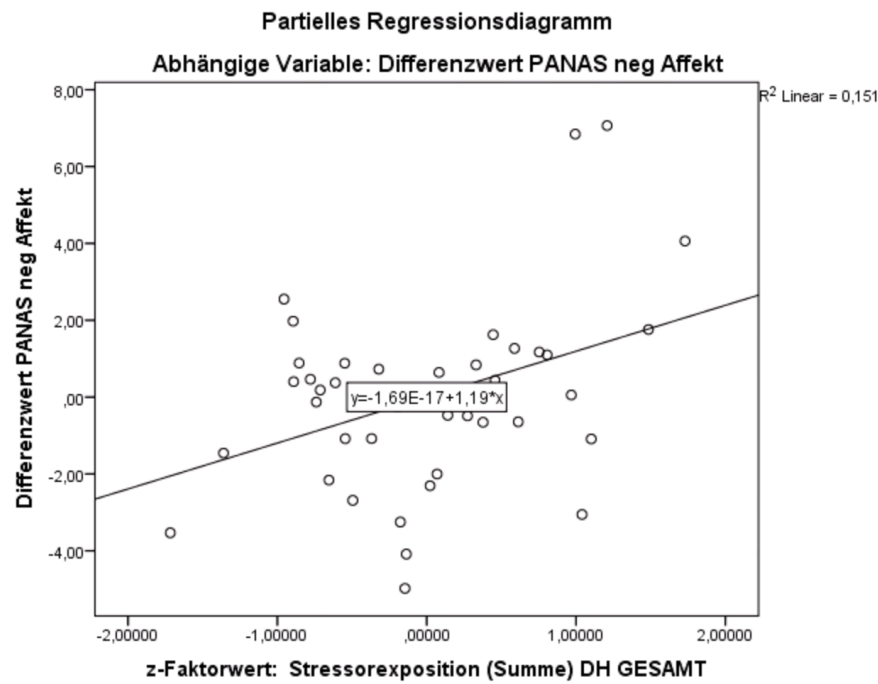


Figure K5.53

Partial Regression Plot Between Macrostressors (LE Checklist) and Negative Affect (PANAS-NA)

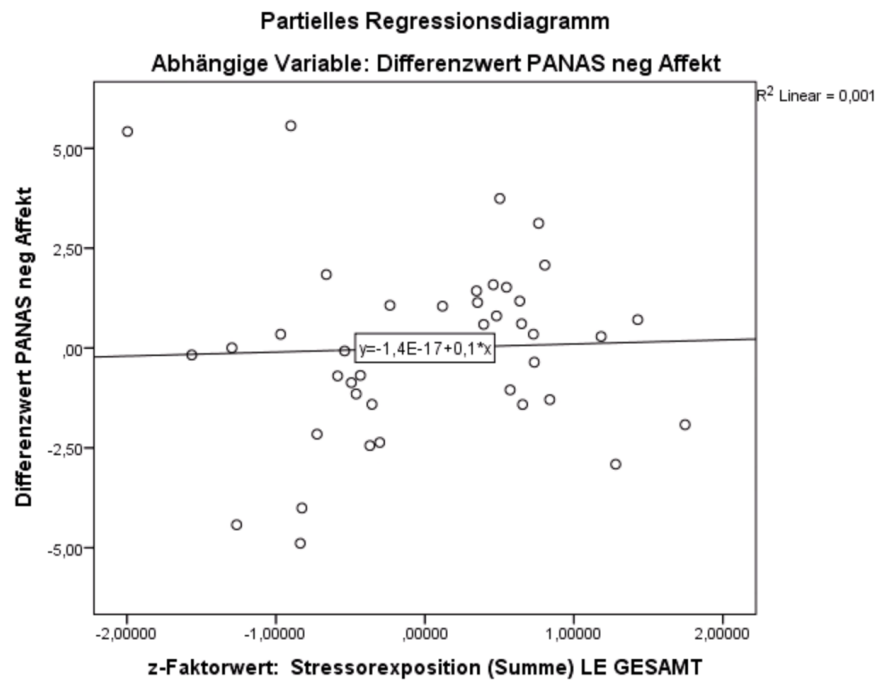


Figure K5.54

Partial Regression Plot Between ASF-E-P and Negative Affect (PANAS-NA)

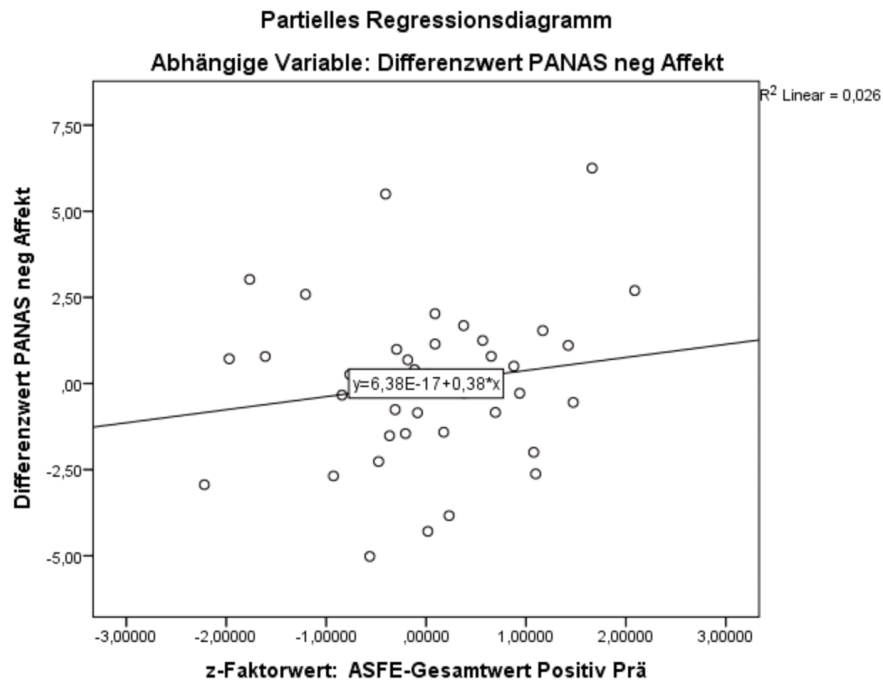


Figure K5.55

Partial Regression Plot Between ASF-E-N and Negative Affect (PANAS-NA)

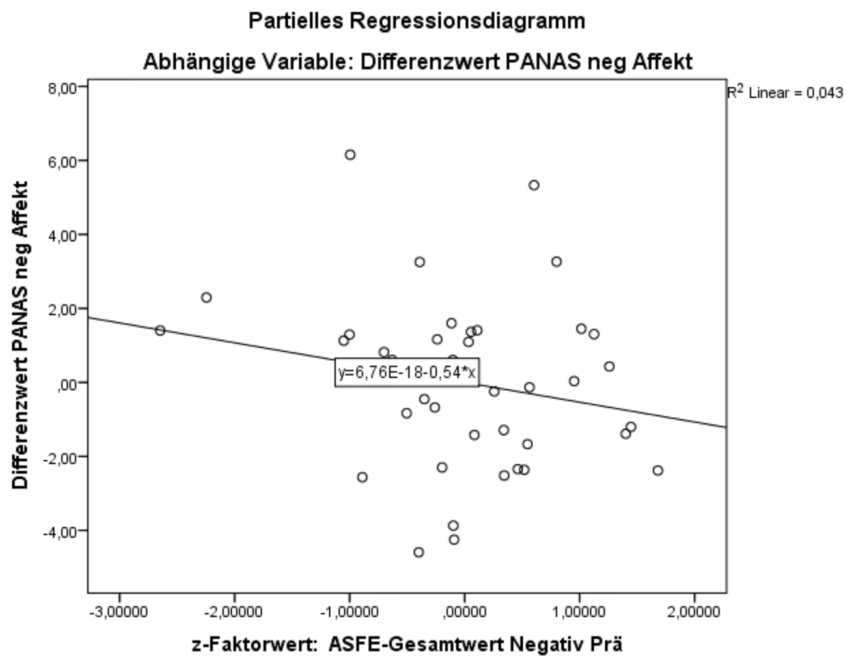


Figure K5.56

Residual Plot PANAS-NA

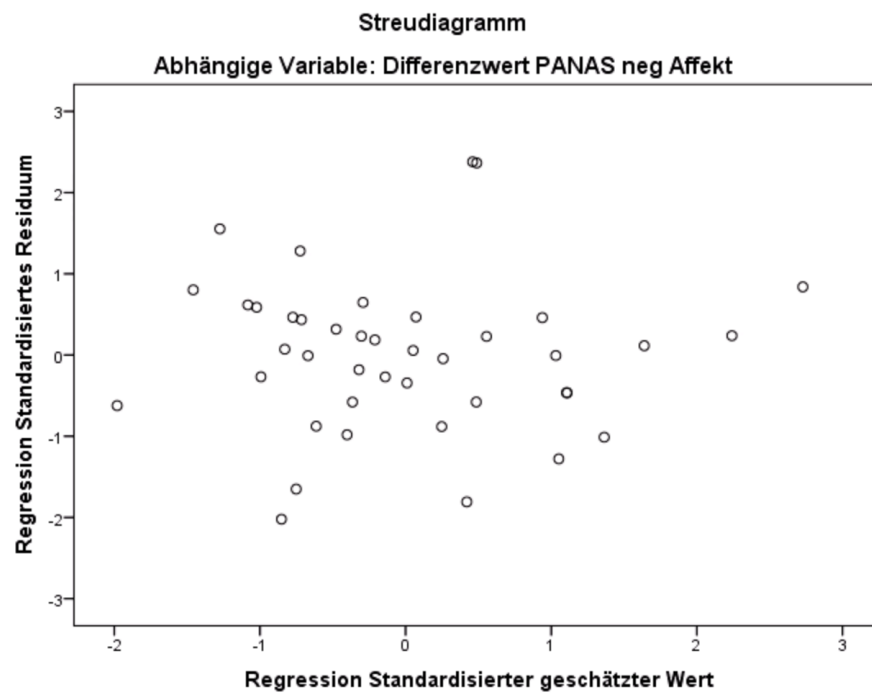


Figure K5.57

P-P-Plot PANAS-NA

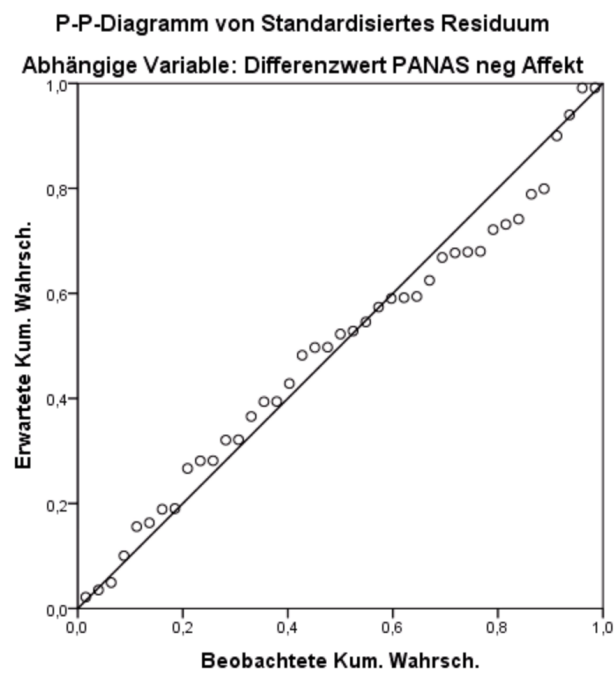


Table K5.11

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of the State Anger Subscale of STAXI (RQ5)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model DV STAXI_anger_diff			.37	5.43				✓ (Figure K5.62)	✓ (Figure K5.63)	✓ 2.49
Variables										
Microstressors	✓ (Figure K5.58)				✓ 0.28	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Figure K5.59)				✓ 0.47	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Figure K5.60)	✓ ($\alpha = .90$)			✓ 0.84	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Figure K5.61)	✓ ($\alpha = .90$)			✓ 0.35	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; STAXI_anger_diff = difference score of observation pairs (post-pre) of the STAXI state anger subscale; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.58

Partial Regression Plot Between Microstressors (MIMIS) and State Anger (STAXI)

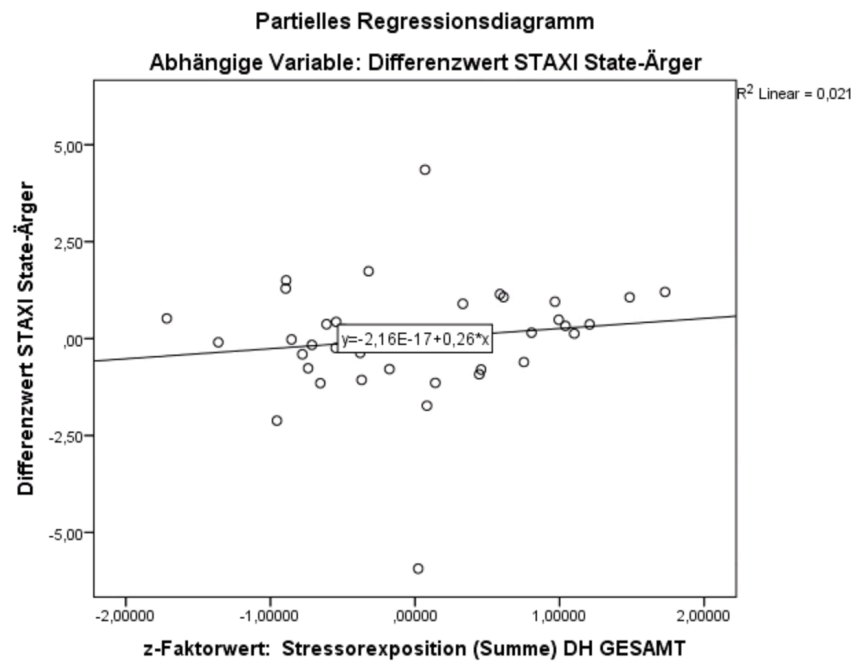


Figure K5.59

Partial Regression Plot Between Macrostressors (LE Checklist) and State Anger (STAXI)

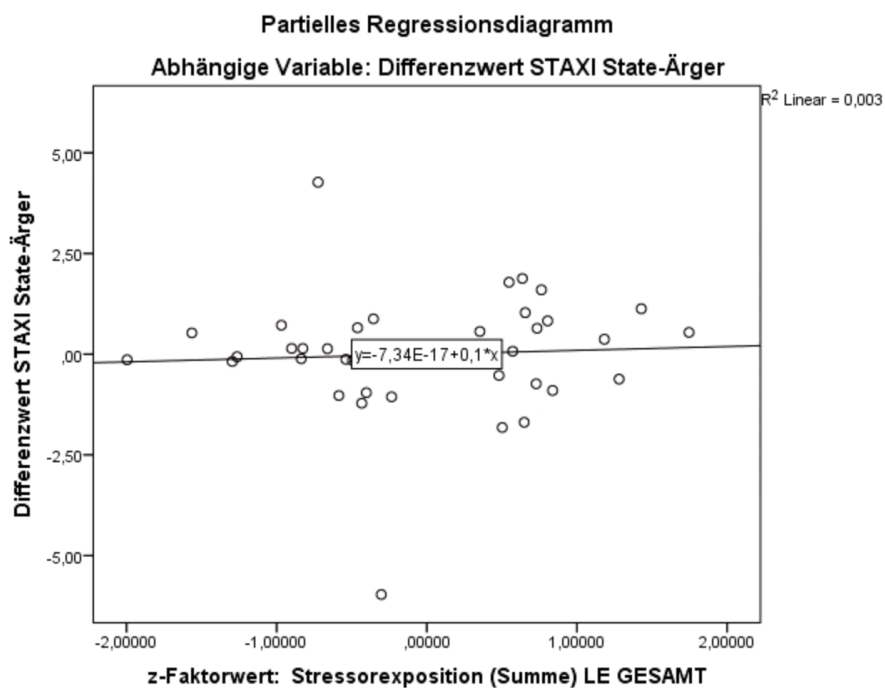


Figure K5.60

Partial Regression Plot Between ASF-E-P and State Anger (STAXI)

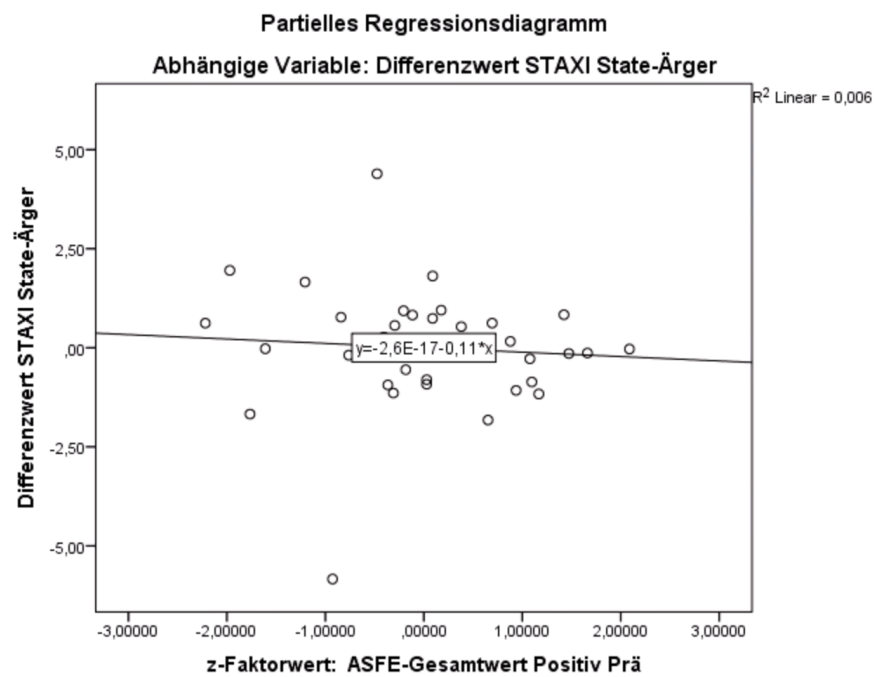


Figure K5.61

Partial Regression Plot Between ASF-E-N and State Anger (STAXI)

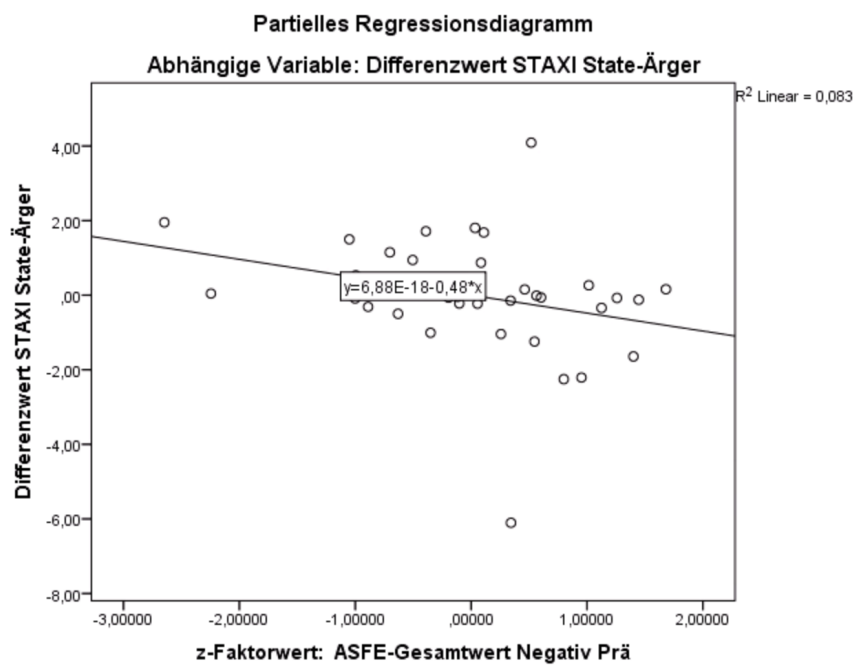


Figure K5.62

Residual Plot State Anger (STAXI)

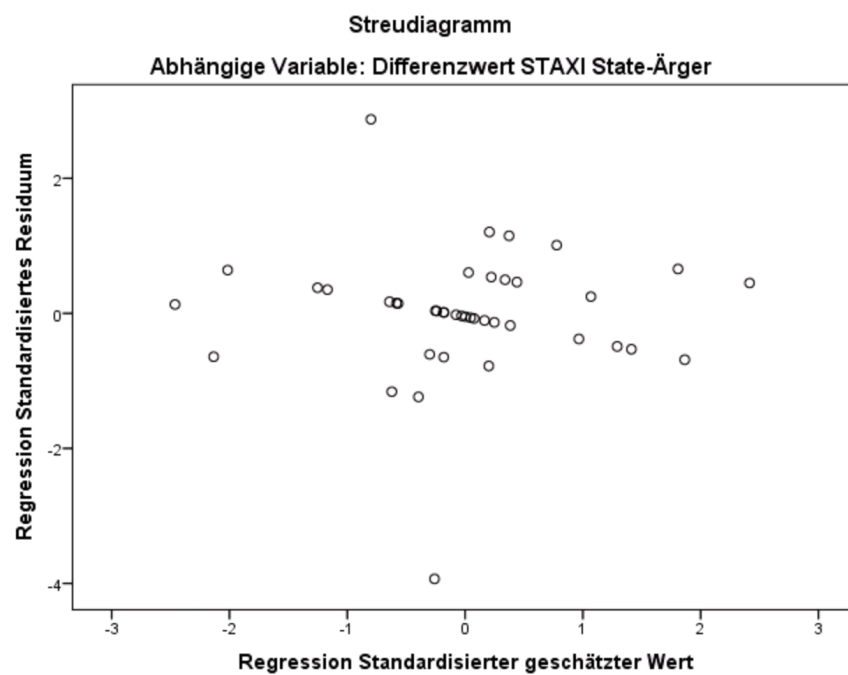


Figure K5.63

P-P-Plot State Anger (STAXI)

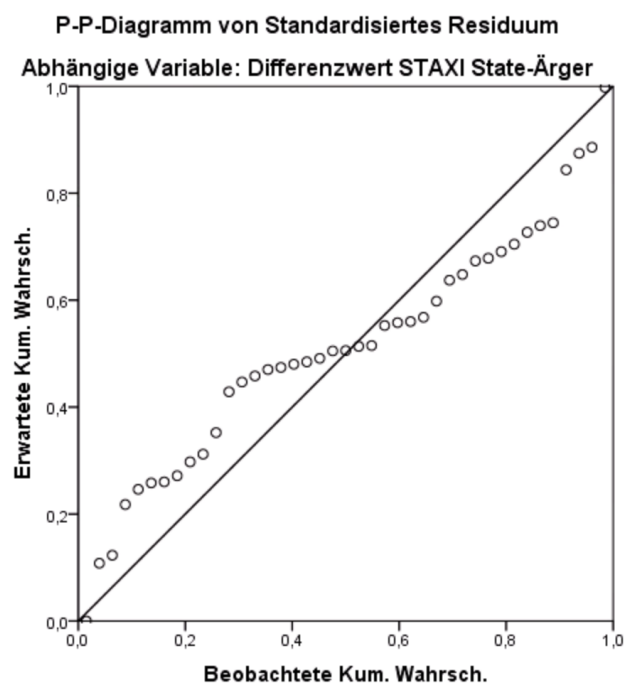


Table K5.12

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of the Anger in Subscale of STAXI (RQ5)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV										
STAXI_angerin_diff			.37	3.25				✓ (Figure K5.68)	✓ (Figure K5.69)	1.71
Variables										
Microstressors	✓ (Figure K5.64)				✓ 0.43	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Figure K5.65)				✓ 0.51	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Figure K5.66)	✓ ($\alpha = .90$)			✓ 0.54	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Figure K5.67)	✓ ($\alpha = .90$)			✓ 0.77	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; STAXI_angerin_diff = difference score of observation pairs (post-pre) of the STAXI anger in subscale; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.64

Partial Regression Plot Between Microstressors (MIMIS) and Anger in (STAXI)

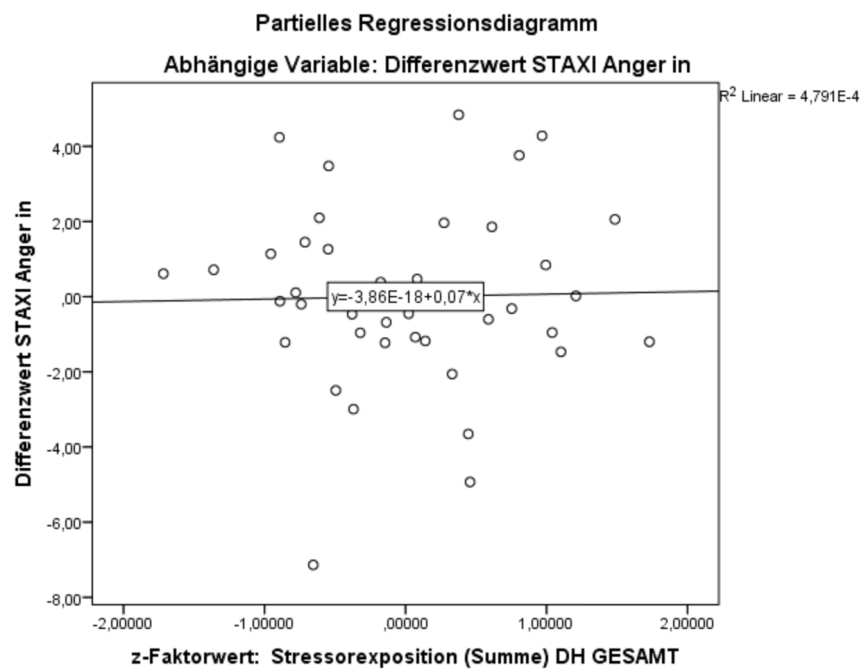


Figure K5.65

Partial Regression Plot Between Macrostressors (LE Checklist) and Anger in (STAXI)

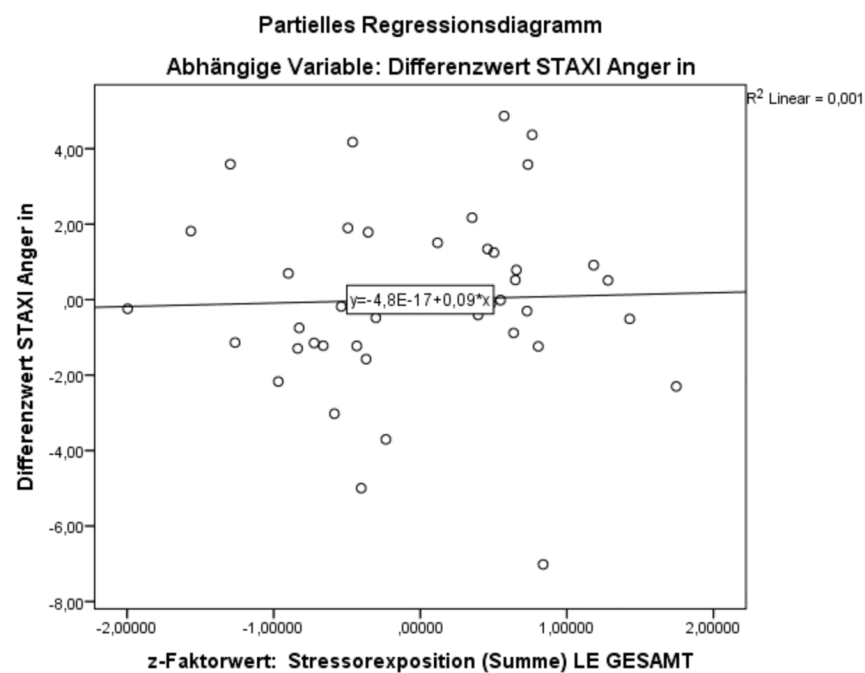


Figure K5.66

Partial Regression Plot Between ASF-E-P and Anger in (STAXI)

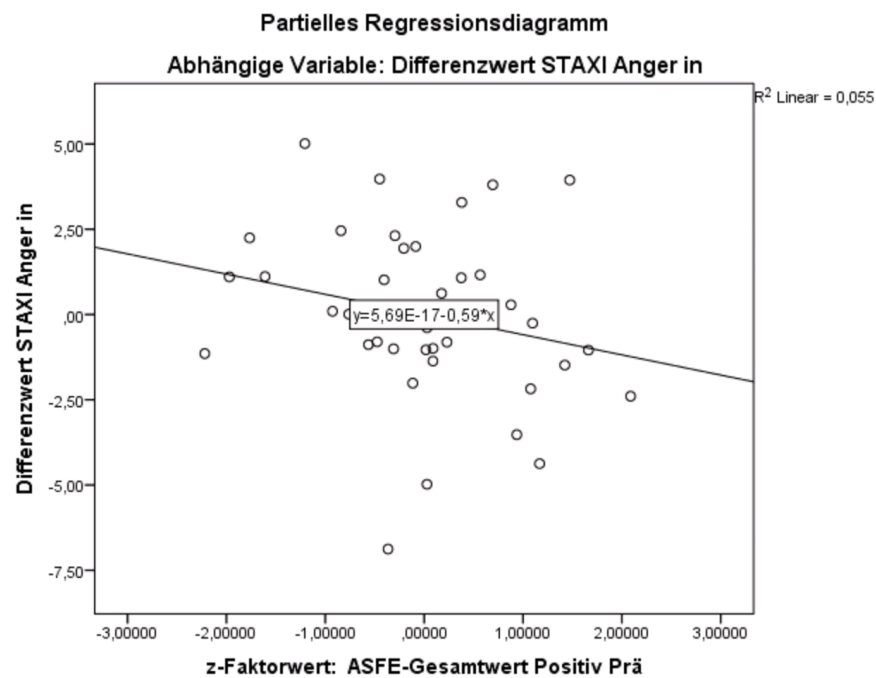


Figure K5.67

Partial Regression Plot Between ASF-E-N and Anger in (STAXI)

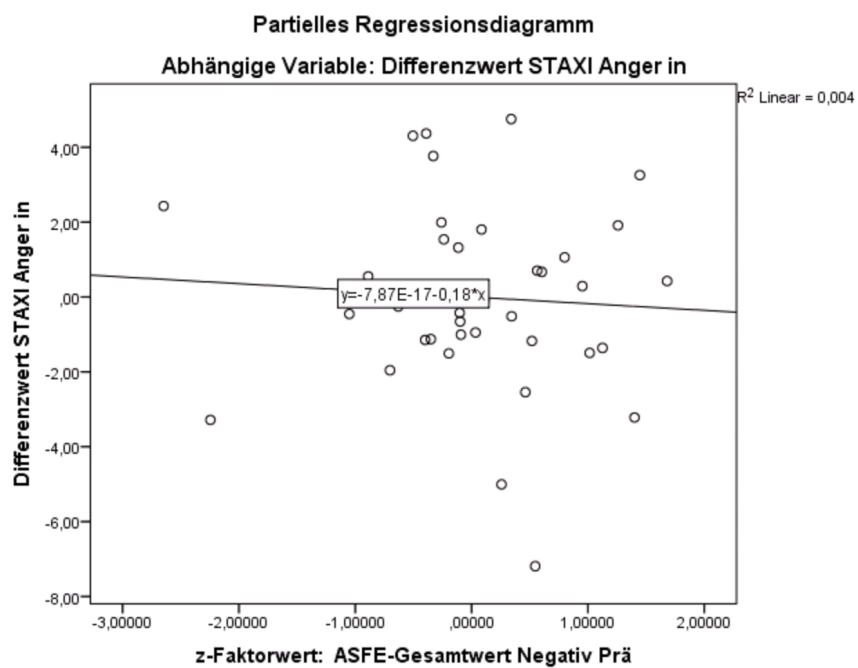


Figure K5.68

Residual Plot Anger in (STAXI)

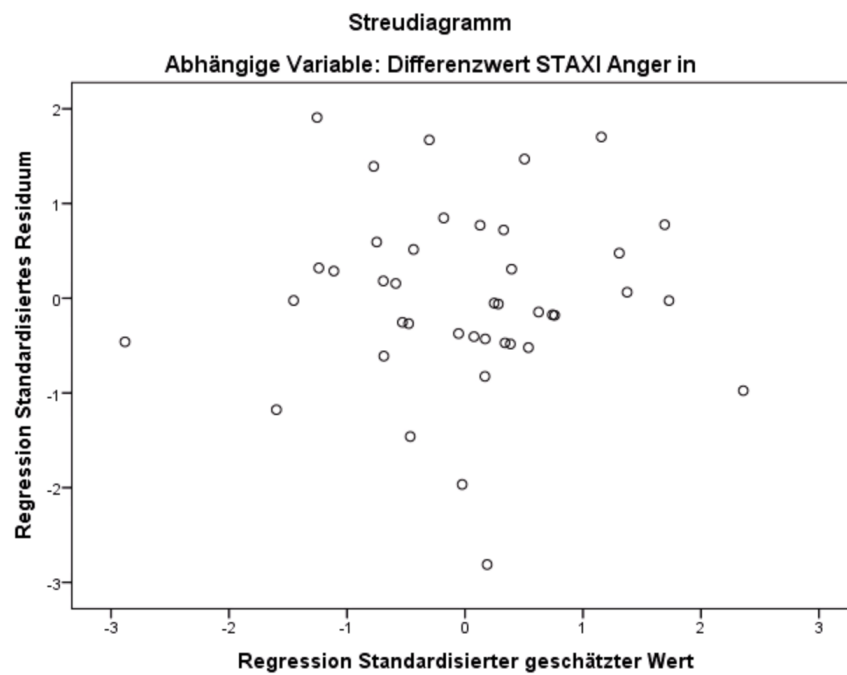


Figure K5.69

P-P-Plot Anger in (STAXI)

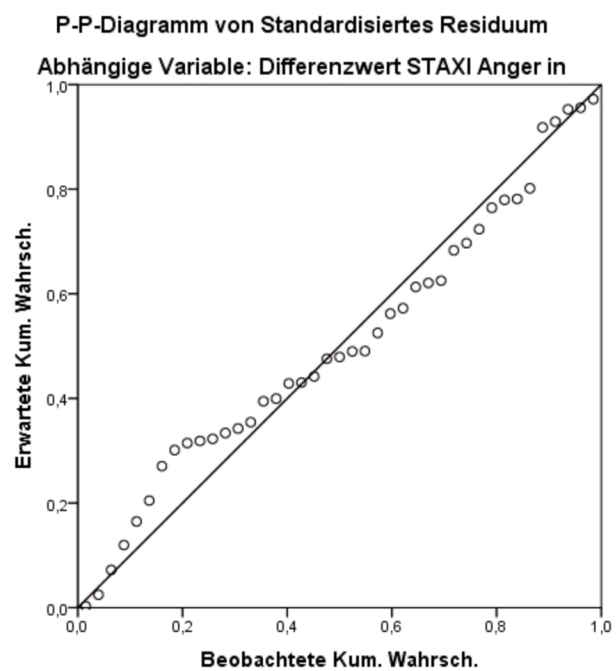


Table K5.13

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of the Anger out Subscale of STAXI (RQ5) (N = 41)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model DV STAXI_angerout_diff			.37	19.38				✓ (Appendix K.8)	✓ (Appendix K.8)	2.34
Variables										
Microstressors	✓ (Appendix K.8)				5.68	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Appendix K.8)				4.56	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Appendix K.8)	✓ ($\alpha = .90$)			3.00	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Appendix K.8)	✓ ($\alpha = .90$)			2.10	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; STAXI_angerout_diff = difference score of observation pairs (post-pre) of the STAXI anger out subscale; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Table K5.14

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of the Anger out Subscale of STAXI (RQ5) (n = 40)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model										
DV										
STAXI_angerout_diff			.37	✓ (2.91)				✓ (Figure K5.74)	✓ (Figure K5.75)	2.31
Variables										
Microstressors	✓ (Figure K5.70)				1.10	✓ 1.62	✓ 0.62			
Macrostressors	✓ (Figure K5.71)				1.07	✓ 1.40	✓ 0.71			
ASF-E-P	✓ (Figure K5.72)	✓ ($\alpha = .90$)			✓ 0.53	✓ 1.03	✓ 0.97			
ASF-E-N	✓ (Figure K5.73)	✓ ($\alpha = .90$)			1.68	✓ 1.26	✓ 0.79			

Note. DV = dependent variable; STAXI_angerout_diff = difference score of observation pairs (post-pre) of the STAXI anger out subscale; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.70

Partial Regression Plot Between Microstressors (MIMIS) and Anger out (STAXI)

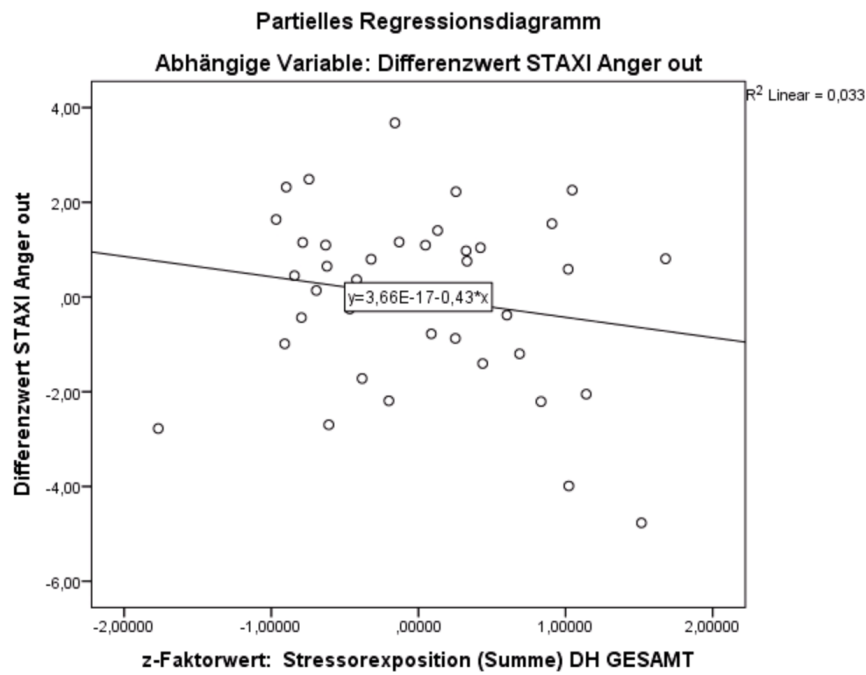


Figure K5.71

Partial Regression Plot Between Macrostressors (LE Checklist) and Anger out (STAXI)

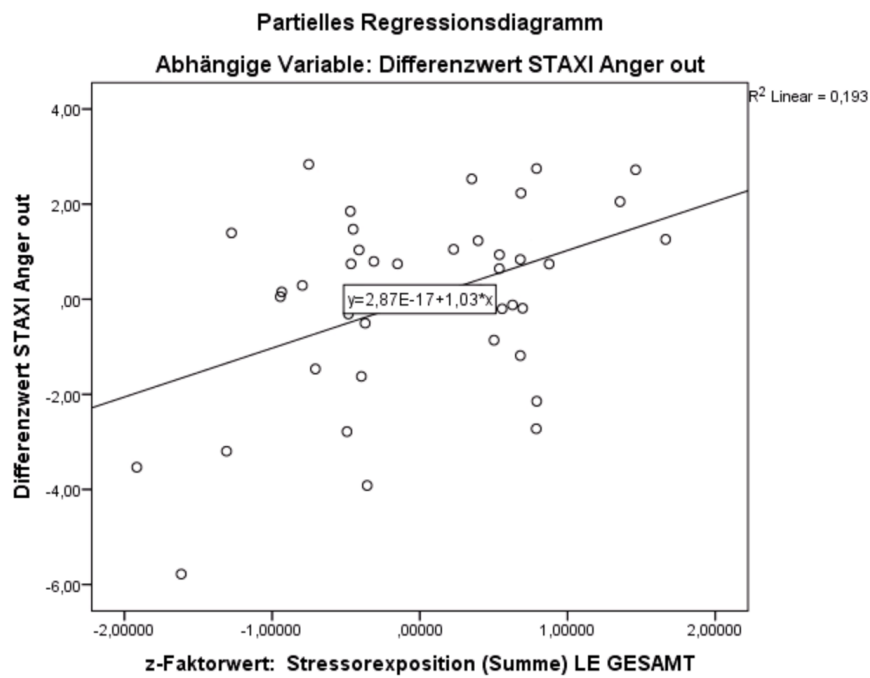


Figure K5.72

Partial Regression Plot Between ASF-E-P and Anger out (STAXI)

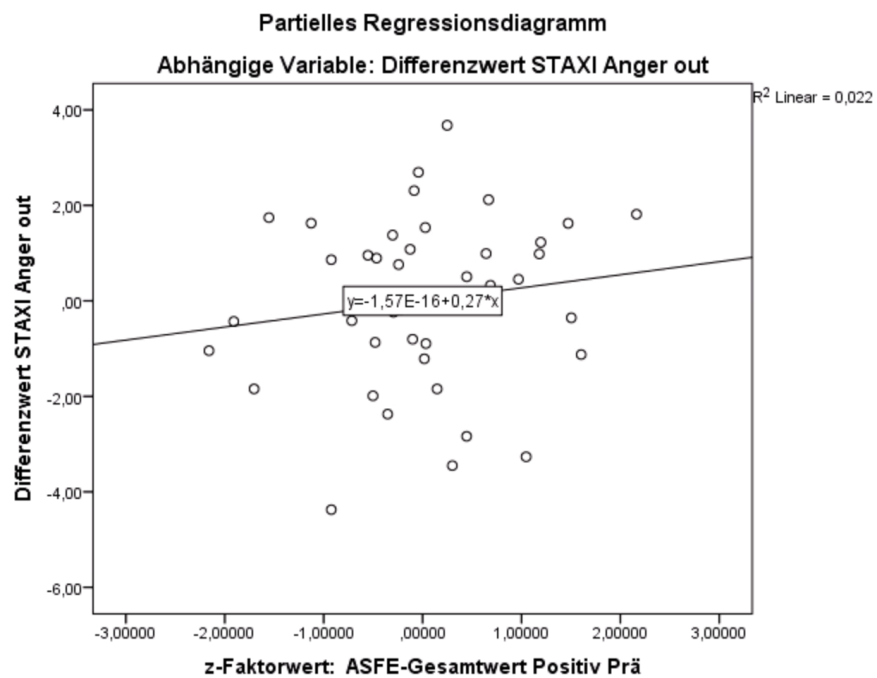


Figure K5.73

Partial Regression Plot Between ASF-E-N and Anger out (STAXI)

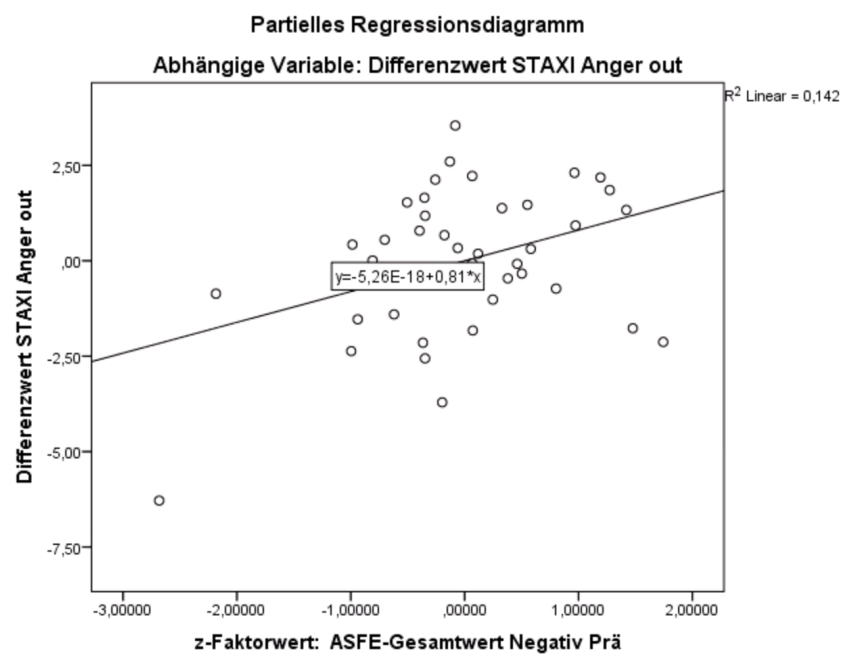


Figure K5.74

Residual Plot Anger out (STAXI)

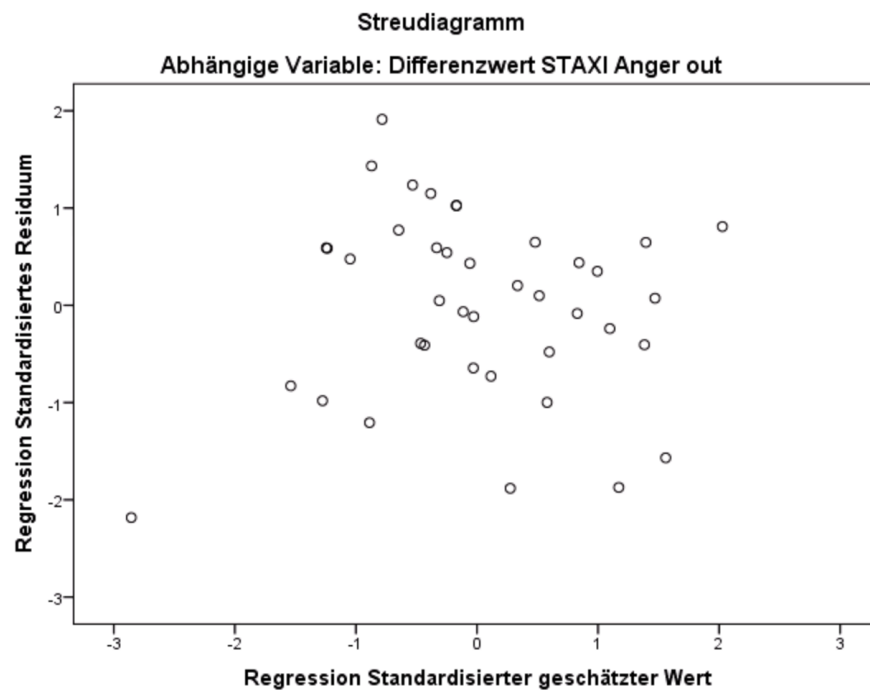


Figure K5.75

P-P-Plot Anger out (STAXI)

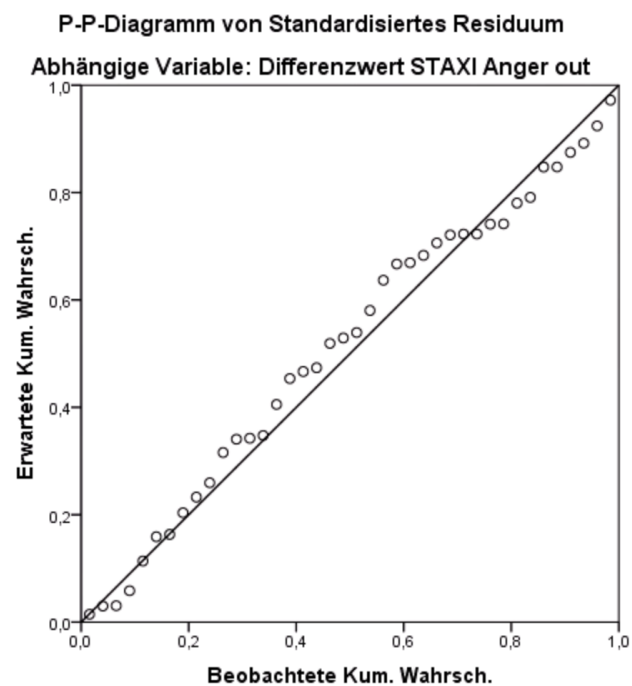


Table K5.15

Detailed Description of Assumptions of the Multiple Linear Regression Analysis for the Difference Score of the Anger Control Subscale of STAXI (RQ5)

Regression analysis	Assumptions									
	Linearity	Reliability of predictors	Outliers		Influential data points	Multicollinearity		Homoscedasticity	Normality of residuals	Independence of residual (auto-correlations)
	Regression plots	Cronbach's α	Centered leverage score	Studentized deleted residual	Standardized DFBETAS	VIF	Tolerance	Residual plot	P-P plot	Durbin Watson test
Model DV STAXI_angercontrol_diff			.37	✓ (2.92)				✓ (Figure K5.80)	✓ (Figure K5.81)	✓ 2.16
Variables										
Microstressors	✓ (Figure K5.76)				✓ 0.37	✓ 1.57	✓ 0.64			
Macrostressors	✓ (Figure K5.77)				✓ 0.46	✓ 1.34	✓ 0.74			
ASF-E-P	✓ (Figure K5.78)	✓ ($\alpha = .90$)			✓ 0.66	✓ 1.06	✓ 0.95			
ASF-E-N	✓ (Figure K5.79)	✓ ($\alpha = .90$)			✓ 0.39	✓ 1.25	✓ 0.80			

Note. DV = dependent variable; STAXI_angercontrol_diff = difference score of observation pairs (post-pre) of the STAXI anger control subscale; microstressors = sum score of microstressors at pre- and posttest (MIMIS), and during the training (MIMIS EMA version); macrostressors = sum score of macrostressors at pre- and posttest (LE Checklist); ASF-E-P = ASF-E total score for attributions of positive events at pretest; ASF-E-N = ASF-E total score for attributions of negative events at pretest; linearity refers to the linear association between the respective predictor and the DV; Cronbach's α = internal consistency for respective predictor at pretest; centered leverage score = indicates outliers in the predictors, value presented here refers to the maximum score (in parsimonious model with four predictors: values > .29 are critical); studentized deleted residuals = indicates outliers in the DV, value presented here refers to the maximum score (absolute values > 3 are critical); standardized DFBETAS = indicates influential data points (small to moderate samples: values > |1| are critical; partly values > |2| assumed as critical), value presented here refers to the maximum score; VIF = Variance Inflation Factor, values > 10 indicates potential multicollinearity; Tolerance = values < 0.2 assumed as critical.

Figure K5.76

Partial Regression Plot Between Microstressors (MIMIS) and Anger Control (STAXI)

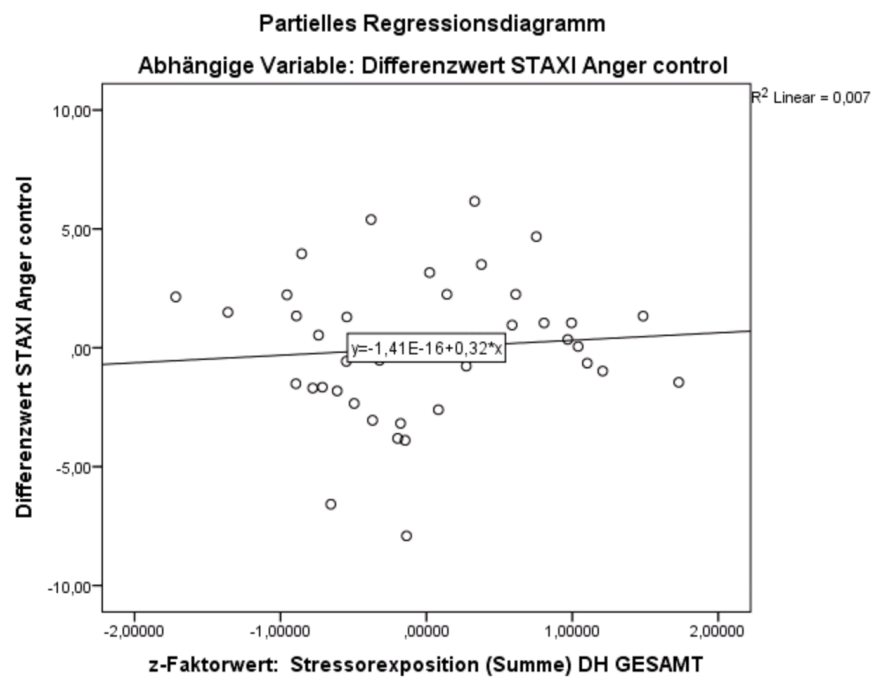


Figure K5.77

Partial Regression Plot Between Macrostressors (LE Checklist) and Anger Control (STAXI)

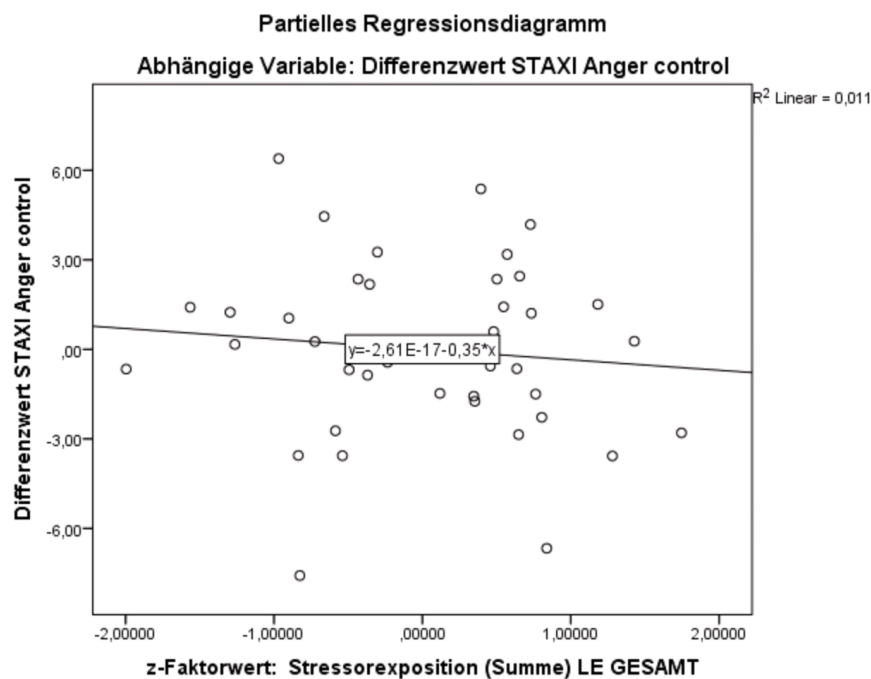


Figure K5.78

Partial Regression Plot Between ASF-E-P and Anger Control (STAXI)

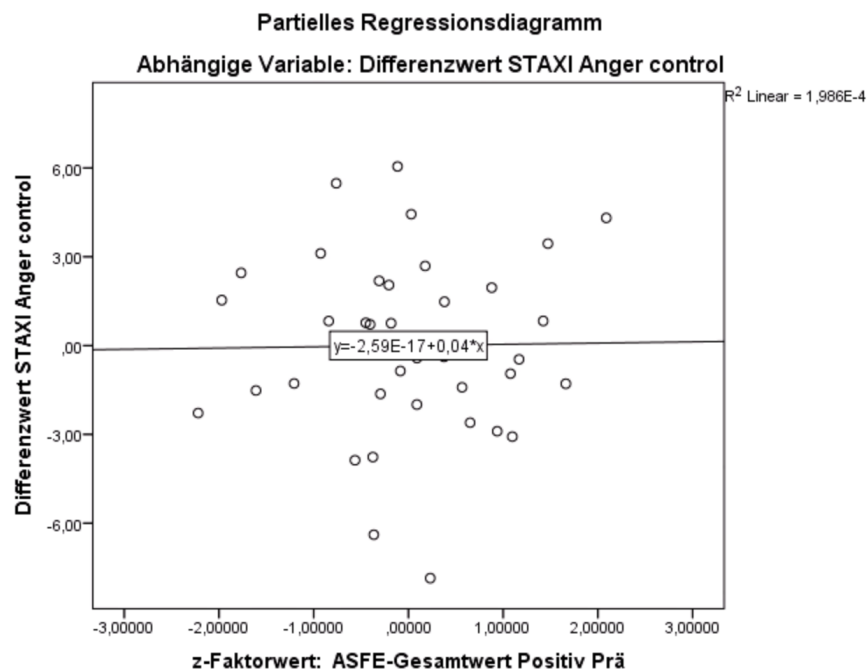


Figure K5.79

Partial Regression Plot Between ASF-E-N and Anger Control (STAXI)

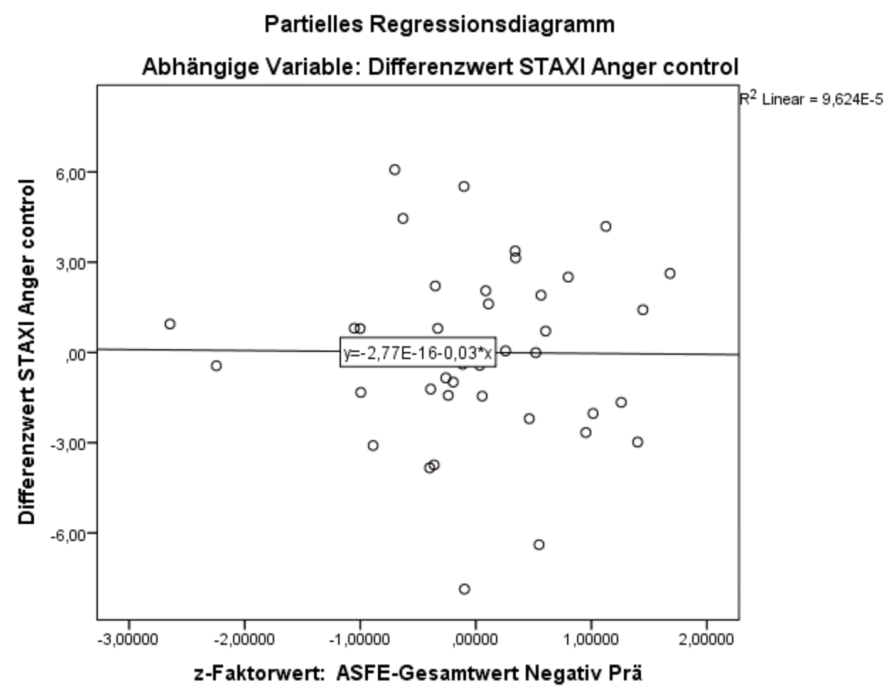


Figure K5.80

Residual Plot Anger Control (STAXI)

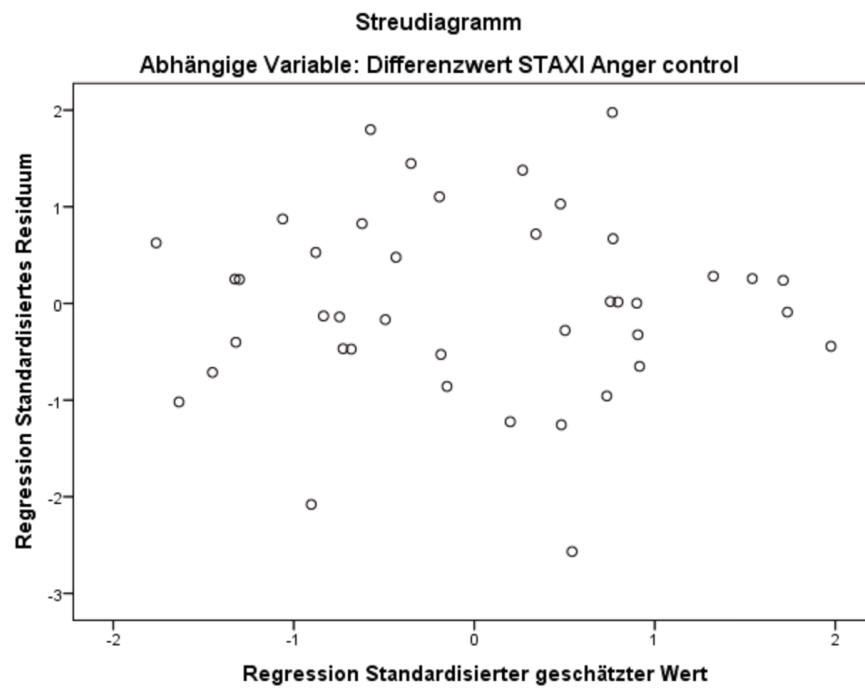


Figure K5.81

P-P-Plot Anger Control (STAXI)

