

Short Report: Speeded Reasoning Moderates the Inverse Relationship Between Autistic
Traits and Emotion Recognition

— Supplementary Material —

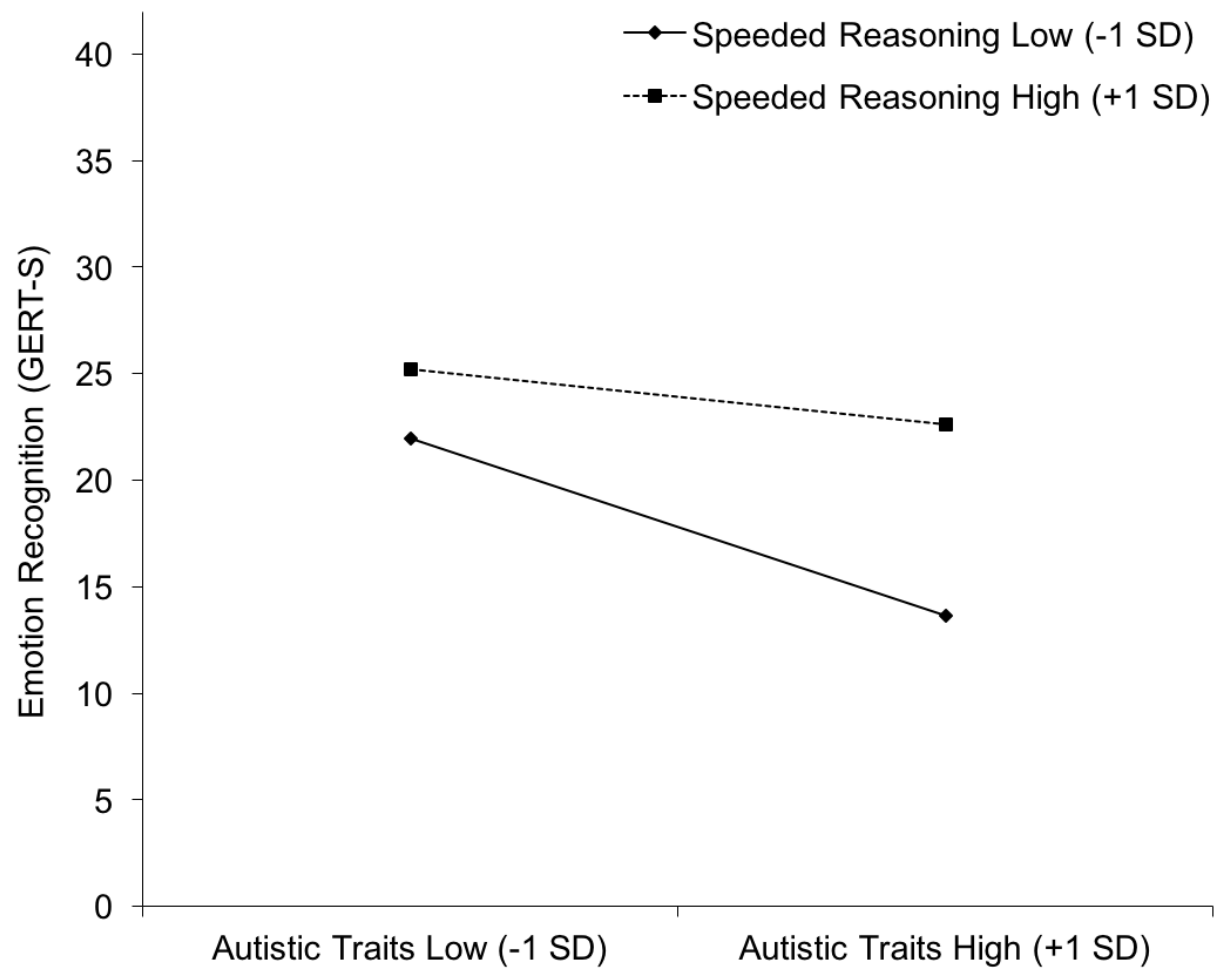


Figure S1. Simple slopes for the relationship between autistic traits and emotion recognition as measured with the Geneva Emotion Recognition Test – short form (GERT-S). Depicted are the slopes for low (-1 *SD*) and high (+1 *SD*) values of the moderator speeded reasoning. $N = 217$.

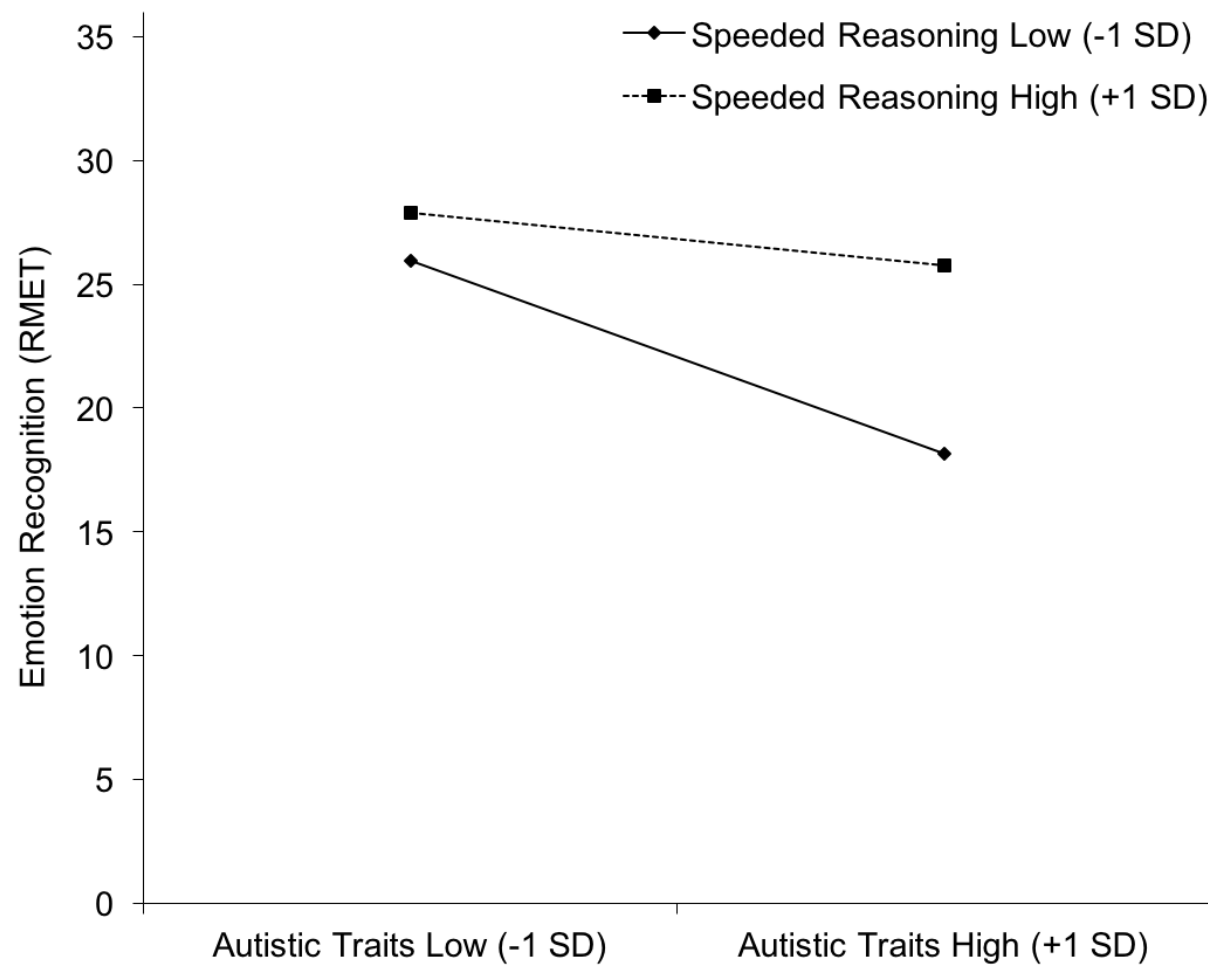


Figure S2. Simple slopes for the relationship between autistic traits and emotion recognition as measured with the Reading the Mind in the Eyes Test (RMET). Depicted are the slopes for low (-1 SD) and high (+1 SD) values of the moderator speeded reasoning. $N = 217$.

Table S1

Including Control Variables (Age, Gender, and Attention to Study Materials): Hierarchical Multiple Regression Analysis Regressing Emotion Recognition (GERT-S or RMET) on Autistic Traits (AQ-10), Speeded Reasoning (BGRT), Their Interaction (AQ-10 $\times$ BGRT)

Block and predictor	Full model with interaction (GERT-S)	Full model with interaction (RMET)
Block 1: control variables		
Age	$B = 0.16, SE B = 0.04, CI\ 95\% B = [0.09, 0.24], \beta = .23, p < .001$	$B = 0.18, SE B = 0.04, CI\ 95\% B = [0.11, 0.26], \beta = .26, p < .001$
Gender ^a	$B = 1.01, SE B = 0.88, CI\ 95\% B = [-0.73, 2.74], \beta = .06, p = .25$	$B = 1.20, SE B = 0.88, CI\ 95\% B = [-0.53, 2.92], \beta = .08, p = .17$
Attention to study materials ^b	$B = -5.62, SE B = 1.56, CI\ 95\% B = [-8.70, -2.55], \beta = -.20, p < .001$	$B = -4.22, SE B = 1.55, CI\ 95\% B = [-7.28, -1.16], \beta = -.15, p = .007$
Block 2: main effects		
Autistic traits	$B = -1.20, SE B = 0.25, CI\ 95\% B = [-1.70, -0.70], \beta = -.27, p < .001$	$B = -1.09, SE B = 0.25, CI\ 95\% B = [-1.58, -0.59], \beta = -.25, p < .001$
Speeded reasoning	$B = 0.23, SE B = 0.03, CI\ 95\% B = [0.16, 0.29], \beta = .37, p < .001$	$B = 0.21, SE B = 0.03, CI\ 95\% B = [0.14, 0.27], \beta = .35, p < .001$
Block 3: interaction		
Autistic traits $\times$ speeded reasoning	$B = 0.06, SE B = 0.02, CI\ 95\% B = [0.02, 0.10], \beta = .17, p = .002$	$B = 0.06, SE B = 0.02, CI\ 95\% B = [0.02, 0.10], \beta = .18, p = .002$
Overall model R^2	.39	.36
Adjusted R^2	.37	.34
Overall F	21.98 ($p < .001$)	19.41 ($p < .001$)
df for overall F	6, 210	6, 210

Note. $N = 217$. GERT-S = Geneva Emotion Recognition Test – short form, RMET = Reading the Mind in the Eyes Test, AQ-10 = Autism Spectrum Quotient – 10 item form, BGRT = Baddeley’s Grammatical Reasoning Test. Block 1: Autistic traits and speeded reasoning scores were centered. Block 2: Interaction term was build with centered predictors. Simple slope analysis regressing GERT-S scores at low ($-1\ SD$) speeded reasoning levels: $B = -1.99$, $SE\ B = 0.37$, $CI\ 95\%\ B = [-2.71, -1.27]$, $\beta = -.44$, $p < .001$ (relationship between autistic traits and emotion recognition). Simple slope analysis regressing GERT-S scores at high ($+1\ SD$) speeded reasoning levels: $B = -0.40$, $SE\ B = 0.36$, $CI\ 95\%\ B = [-1.10, 0.30]$, $\beta = -.09$, $p = .26$ (relationship between autistic traits and emotion recognition). Simple slope analysis regressing RMET scores at low ($-1\ SD$) speeded reasoning levels: $B = -1.88$, $SE\ B = 0.36$, $CI\ 95\%\ B = [-2.60, -1.17]$, $\beta = -.43$, $p < .001$ (relationship between autistic traits and emotion recognition). Simple slope analysis regressing RMET scores at high ($+1\ SD$) speeded reasoning levels: $B = -0.29$, $SE\ B = 0.35$, $CI\ 95\%\ B = [-0.99, 0.40]$, $\beta = -.07$, $p = .41$ (relationship between autistic traits and emotion recognition).

^aCoding: 1 = male, 2 = female. ^bCoding: 0 = low, 1 = high.

Table S2

Without Participants who Failed the Attention Check (n = 19): Hierarchical Multiple Regression Analysis Regressing Emotion Recognition (GERT-S or RMET) on Autistic Traits (AQ-10), Speeded Reasoning (BGRT), and Their Interaction (AQ-10 × BGRT)

Block and predictor	Full model with interaction (GERT-S)	Full model with interaction (RMET)
Block 1: main effects		
Autistic traits	$B = -1.27, SE B = 0.27, CI\ 95\% B = [-1.80, -0.74], \beta = -.30, p < .001$	$B = -1.27, SE B = 0.27, CI\ 95\% B = [-1.79, -0.74], \beta = -.30, p < .001$
Speeded reasoning	$B = 0.21, SE B = 0.04, CI\ 95\% B = [0.14, 0.29], \beta = .37, p < .001$	$B = 0.19, SE B = 0.04, CI\ 95\% B = [0.12, 0.27], \beta = .34, p < .001$
Block 2: interaction		
Autistic traits × speeded reasoning	$B = 0.06, SE B = 0.02, CI\ 95\% B = [0.02, 0.10], \beta = .18, p = .004$	$B = 0.06, SE B = 0.02, CI\ 95\% B = [0.02, 0.10], \beta = .19, p = .003$
Overall model R^2	.27	.25
Adjusted R^2	.25	.23
Overall F	23.36 ($p < .001$)	21.11 ($p < .001$)
df for overall F	3, 194	3, 194

Note. $n = 198$. GERT-S = Geneva Emotion Recognition Test – short form, RMET = Reading the Mind in the Eyes Test, AQ-10 = Autism

Spectrum Quotient – 10 item form, BGRT = Baddeley's Grammatical Reasoning Test. Block 1: Autistic traits and speeded reasoning scores

were centered. Block 2: Interaction term was build with centered predictors. Simple slope analysis regressing GERT-S scores at low ($-1\ SD$)

speeded reasoning levels: $B = -2.10, SE B = 0.39, CI\ 95\% B = [-2.86, -1.33], \beta = -.49, p < .001$ (relationship between autistic traits and emotion

recognition). Simple slope analysis regressing GERT-S scores at high (+1 *SD*) speeded reasoning levels: $B = -0.45$, $SE\ B = 0.39$, CI 95% $B = [-1.21, 0.32]$, $\beta = -.10$, $p = .25$ (relationship between autistic traits and emotion recognition). Simple slope analysis regressing RMET scores at low (-1 *SD*) speeded reasoning levels: $B = -2.09$, $SE\ B = 0.39$, CI 95% $B = [-2.86, -1.33]$, $\beta = -.49$, $p < .001$ (relationship between autistic traits and emotion recognition). Simple slope analysis regressing RMET scores at high (+1 *SD*) speeded reasoning levels: $B = -0.44$, $SE\ B = 0.39$, CI 95% $B = [-1.20, 0.32]$, $\beta = -.10$, $p = .26$ (relationship between autistic traits and emotion recognition).

^aCoding: 1 = male, 2 = female. ^bCoding: 0 = low, 1 = high.

Table S3

Without Participants who Received an Autism Diagnosis or Were Unsure in This Regard (n = 15): Hierarchical Multiple Regression Analysis Regressing Emotion Recognition (GERT-S or RMET) on Autistic Traits (AQ-10), Speeded Reasoning (BGRT), and Their Interaction (AQ-10 × BGRT)

Block and predictor	Full model with interaction (GERT-S)	Full model with interaction (RMET)
Block 1: main effects		
Autistic traits	$B = -1.29, SE B = 0.27, CI\ 95\% B = [-1.83, -0.76], \beta = -.29, p < .001$	$B = -1.15, SE B = 0.27, CI\ 95\% B = [-1.68, -0.63], \beta = -.27, p < .001$
Speeded reasoning	$B = 0.22, SE B = 0.04, CI\ 95\% B = [0.15, 0.29], \beta = .38, p < .001$	$B = 0.20, SE B = 0.04, CI\ 95\% B = [0.13, 0.27], \beta = .36, p < .001$
Block 2: interaction		
Autistic traits × speeded reasoning	$B = 0.06, SE B = 0.02, CI\ 95\% B = [0.02, 0.10], \beta = .17, p = .007$	$B = 0.06, SE B = 0.02, CI\ 95\% B = [0.02, 0.10], \beta = .18, p = .006$
Overall model R^2	.27	.24
Adjusted R^2	.25	.23
Overall F	23.82 ($p < .001$)	20.59 ($p < .001$)
df for overall F	3, 198	3, 198

Note. $n = 202$. GERT-S = Geneva Emotion Recognition Test – short form, RMET = Reading the Mind in the Eyes Test, AQ-10 = Autism

Spectrum Quotient – 10 item form, BGRT = Baddeley’s Grammatical Reasoning Test. Block 1: Autistic traits and speeded reasoning scores were centered. Block 2: Interaction term was build with centered predictors. Simple slope analysis regressing GERT-S scores at low ($-1\ SD$)

speeded reasoning levels: $B = -2.06$, $SE B = 0.39$, $CI\ 95\% B = [-2.82, -1.29]$, $\beta = -.47$, $p < .001$ (relationship between autistic traits and emotion recognition). Simple slope analysis regressing GERT-S scores at high (+1 SD) speeded reasoning levels: $B = -0.53$, $SE B = 0.39$, $CI\ 95\% B = [-1.31, 0.25]$, $\beta = -.12$, $p = .18$ (relationship between autistic traits and emotion recognition). Simple slope analysis regressing RMET scores at low (-1 SD) speeded reasoning levels: $B = -1.92$, $SE B = 0.38$, $CI\ 95\% B = [-2.67, -1.17]$, $\beta = -.45$, $p < .001$ (relationship between autistic traits and emotion recognition). Simple slope analysis regressing RMET scores at high (+1 SD) speeded reasoning levels: $B = -0.38$, $SE B = 0.39$, $CI\ 95\% B = [-1.15, 0.38]$, $\beta = -.09$, $p = .32$ (relationship between autistic traits and emotion recognition).

^aCoding: 1 = male, 2 = female. ^bCoding: 0 = low, 1 = high.