Supplementary Materials

Primary Analyses with Autistic Traits as the Predictor

Although CU-traits were the primary focus of the paper, we also run the analysis in relation to autistic traits (not including CU-traits), to show the effect of autistic traits on emotion recognition (ER). This is to aid interpretation in changes in any ER-CU-traits associations once autistic traits were included in the model (see Table S1).

Static Emotion Recognition Task

Static Accuracy

There was an overall main effect of autistic traits ($p < .001$), and an Emotion*autistic traits interaction ($p < .001$). When re-running the analysis split by emotion, this effect was driven by higher autistic traits associated with significantly lower ER for happy expressions ($p = .010$), and marginally reduced recognition accuracy for sad ($p = .051$) and scared ($p = .069$) expressions.

Static Relative Looking to the Eyes

The main effect of autistic traits did not reach significance ($p = .093$) but there was a significant Emotion*autistic traits interaction ($p < .001$). This was driven by significantly reduced looking to the eyes for angry ($p = .014$) expressions and marginally reduced looking for sad expressions ($p = .072$) in those with higher levels of autistic traits.

Dynamic Emotion Recognition Task

Dynamic Accuracy

There was a main effect of autistic traits, with better recognition accuracy associated with lower autistic traits ($p = .024$). There were no 2 or 3-way interactions with ASD traits and either Gaze

or Emotion, but there was a significant Gaze*Emotion interaction (p<.001). Running separate GEE models for each emotion, showed that there was a significant main effect of gaze direction for angry (p = .001; greater accuracy for averted gaze 0.91 versus direct gaze 0.84), sad (p < .001; with greater accuracy for direct 0.93 versus averted gaze 0.85) and neutral expressions (p = .003; with greater accuracy for direct 0.91 versus averted gaze 0.85).

Dynamic RT

There was no main effect of autistic traits, nor any 2 or 3-way interactions with ASD traits and either Gaze or Emotion. There was a significant Gaze*Emotion interaction (p<.001). Running separate GEE models for each emotion, showed that there was a significant main effect of gaze direction for happy (p = .006; faster RT for averted 3.27 versus direct gaze 3.50), sad (p = .040; faster RT for direct 3.43 versus averted gaze 3.57) and neutral expressions (p < .001; faster RT for direct 3.45 versus averted gaze 3.78).

Dynamic Relative Looking to the Eyes

There was no significant main effect of autistic traits nor any 2 or 3-way interactions with autistic traits. There was a main effect of Gaze, with increased attention to the eyes for direct (mean = 0.62) versus averted gaze (mean = 0.59). Again, there was a significant Gaze*Emotion interaction (p<.001). Running separate GEE models for each emotion, showed that there was a significant main effect of gaze direction for happy (p = .004; increased looking to eyes for averted 0.57 versus direct gaze 0.52), sad (p < .001; increased looking to eyes for direct 0.68 versus averted gaze 0.57), scared (p = .013; increased looking to eyes for direct 0.63 versus averted gaze 0.60).

Table S1: Associations between Autistic Traits and Static and Dynamic Emotion Recognition

Accuracy		Static ER Wald χ^2 (df), p value	Dynamic ER Wald χ^2 (df), p value
	Emotion	**330.517 (4), p < .001**	**98.537 (4), p < .001**
	Gaze	-	**5.712 (1), p =.017**
	Autistic traits	**15.115 (1), p < .001**	**5.085 (1) p = .024**
	Sex	.120 (1), p = .729	3.172 (1) p = .075
	Age	.449 (1), p = .503	.013 (1), p = .911
	Deprivation quintile	6.881 (4), p = .142	5.847 (4) p =.211
	Emotion*Autistic traits	9.917 (4), p =.042	4.492 (4) p = .343
	Gaze*Autistic traits	-	3.140 (1), p =.076
	Emotion*Gaze	**-**	**23.980 (4), p <.001**
	Emotion*Gaze*Autistic traits	-	4.969 (4), p =.291
Reaction Time	Emotion	-	**221.048 (4), p < .001**
	Gaze	-	.022 (1), p =.883
	Autistic traits	-	1.215 (1) p = .270
	Sex	-	1.934 (1) p = .164
	Age	-	.752 (1), p = .386
	Deprivation quintile	-	1.434 (4) p =.838
	Emotion*Autistic traits	-	4.767 (4) p = .312
	Gaze*Autistic traits	-	.612 (1), p =.434
	Emotion*Gaze	-	**29.057 (4), p < .001**
	Emotion*Gaze*Autistic traits	-	7.268 (4), p =.122
Relative Attention to Eyes	Emotion	**57.599 (4), p < .001**	**147.775 (4), p < .001**
	Gaze	-	**4.994 (1), p = .025**
	Autistic traits	2.818 (1), p = .093	.211 (1), p = .646
	Sex	.544 (1), p = .461	1.180 (1), p = .277
	Age	.165 (1), p = .685	.008 (1), p = .930
	Deprivation quintile	6.909 (4), p = .141	16.393 (4), p = .003
	Emotion*Autistic traits	**29.571 (4), p < .001**	3.417 (4), p =.491
	Gaze*Autistic traits	-	.135 (1), p = .713
	Emotion*Gaze	-	19.131 (4), p = .001
	Emotion*Gaze*Autistic traits	-	1.229 (4), p = .873

Figure S1: Scatterplot of autistic traits measured by social communication questionnaire (SCQ) and static emotion recognition average score

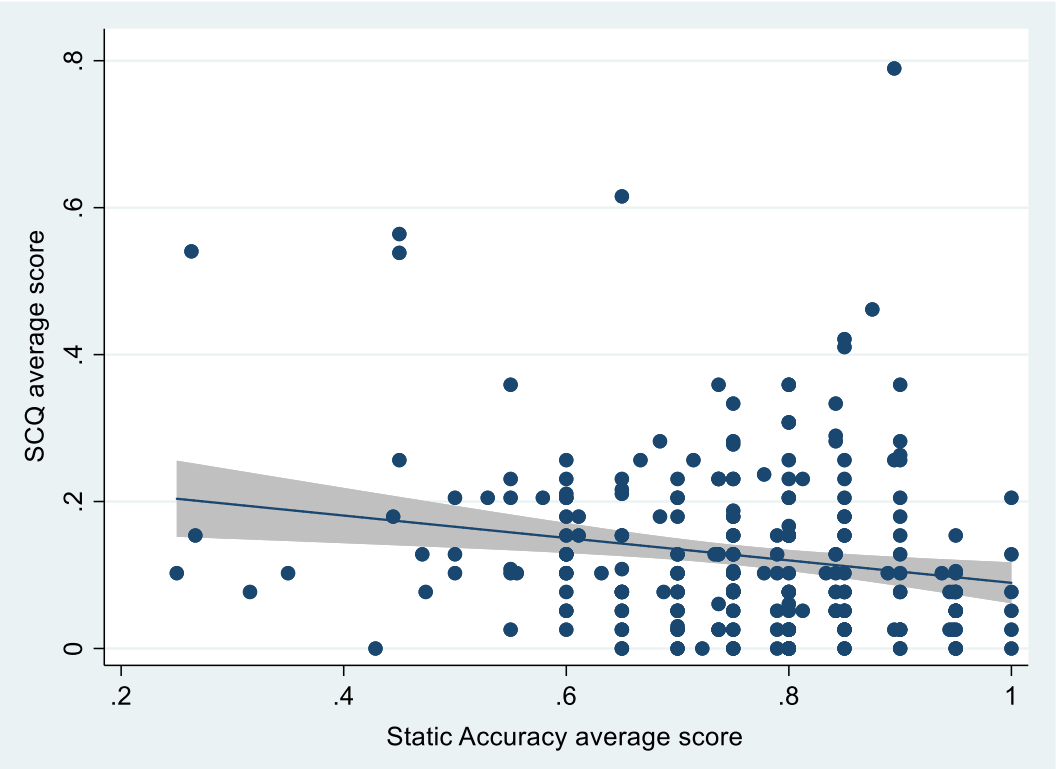

Figure S1