

## Supplementary material for Interindividual and intraindividual differences in orangutans drawings

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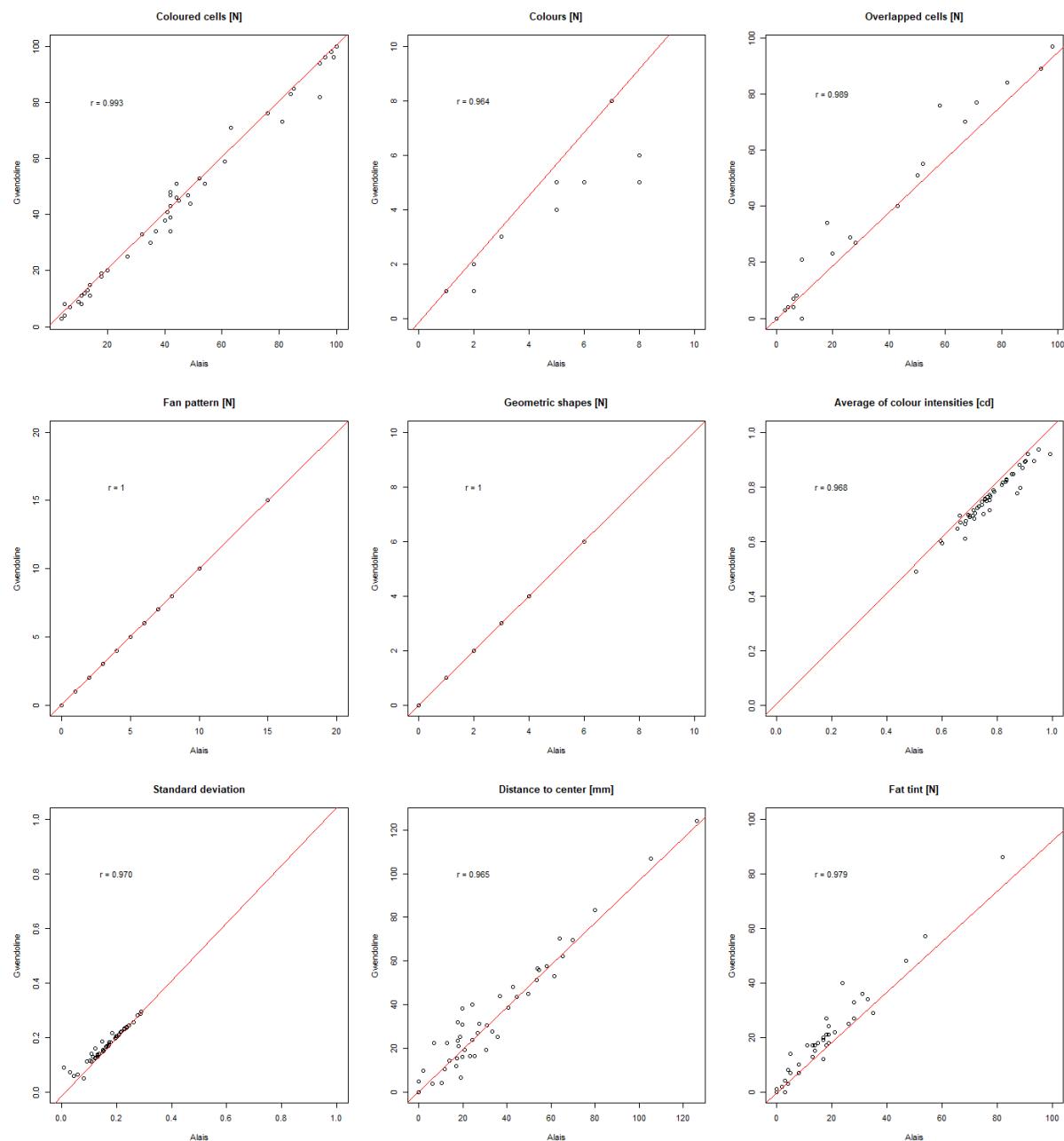
1: Anthropo-Lab, ETHICS EA7446, Lille Catholic University, Lille, France

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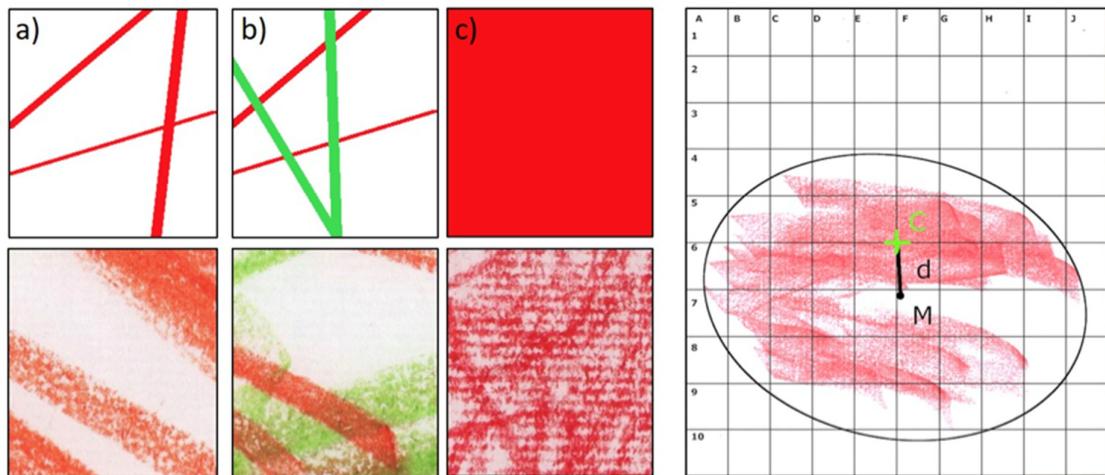
3 : Department of Animal Sciences, Teikyo, University of Science, Uenohara, Yamanashi, Japan

4: Université de Strasbourg, CNRS, IPHC UMR 7178, Strasbourg, France

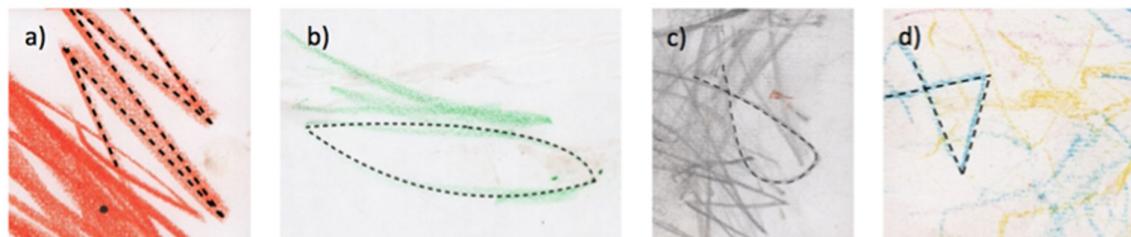
4 : Institut Universitaire de France, Paris, France



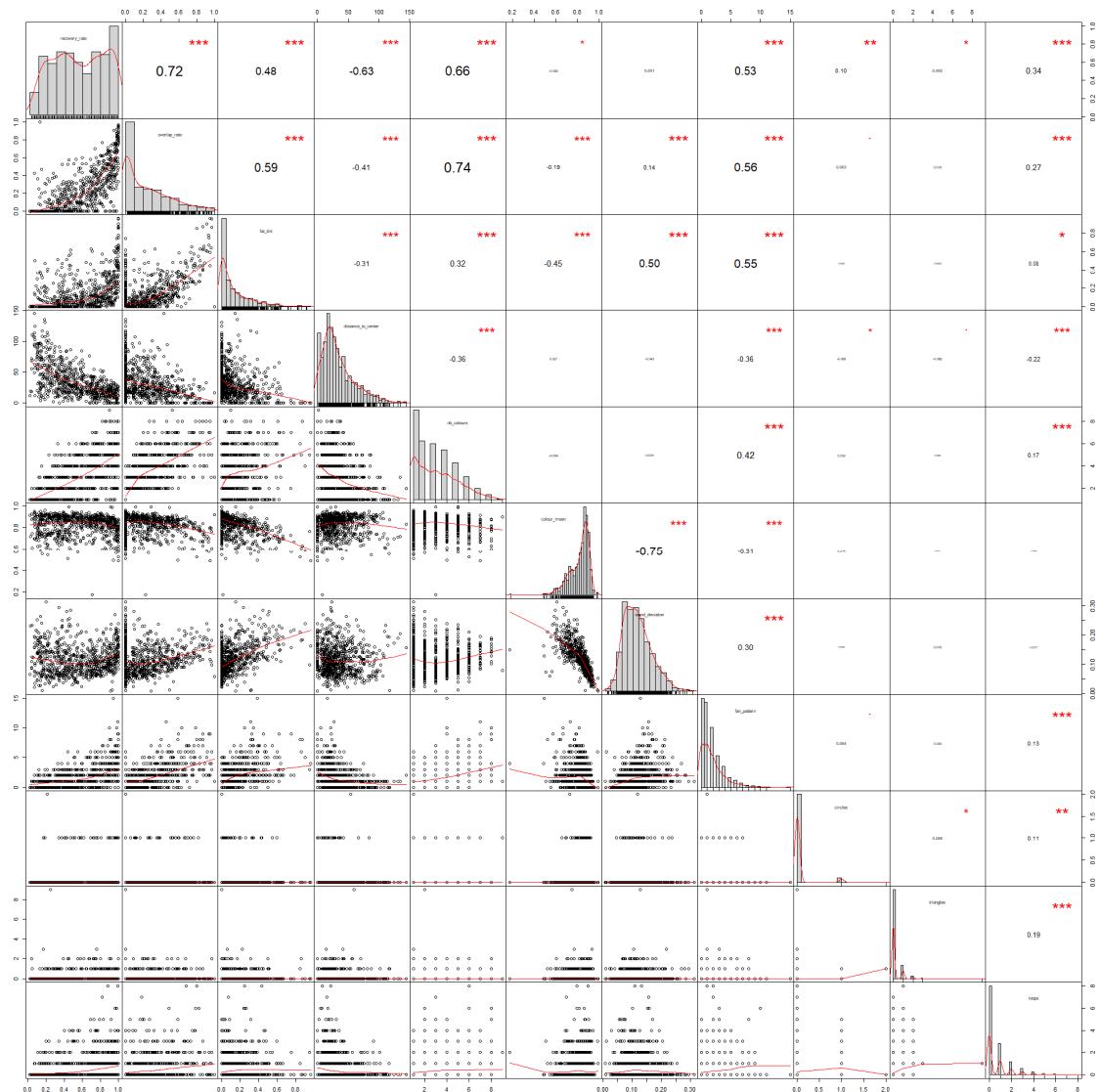
**Figure S1.** Inter-observer correlations for quantitative variables in the classical analysis.



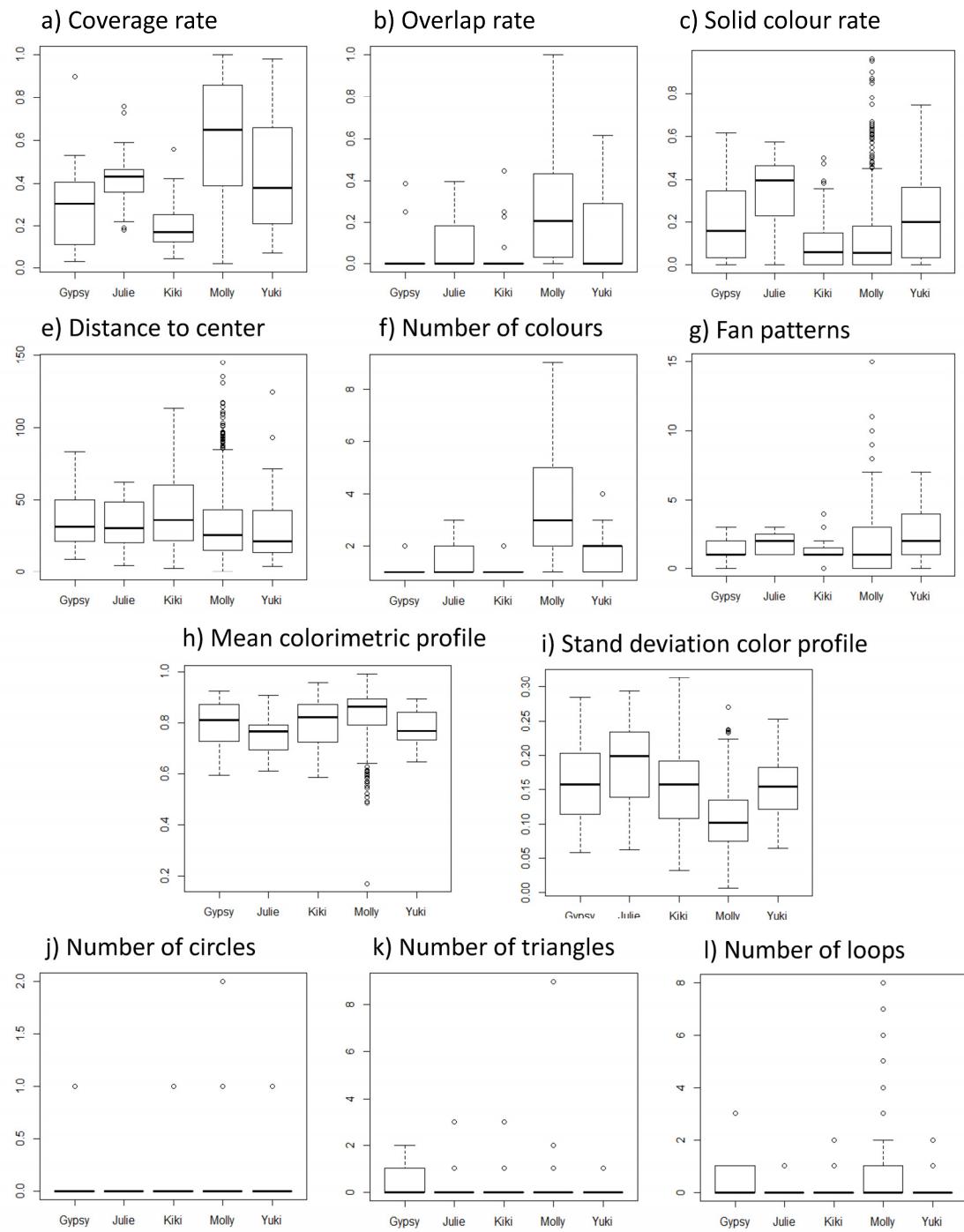
**Figure S2:** On the left, schematic (top) and actual (bottom) examples of a) a covered cell, b) an overlapped cell and c) solid colour rate. On the right, calculation of the distance to the centre. C is the centre of the paper sheet, M is the centre of the drawing ellipse, and d is the diameter.



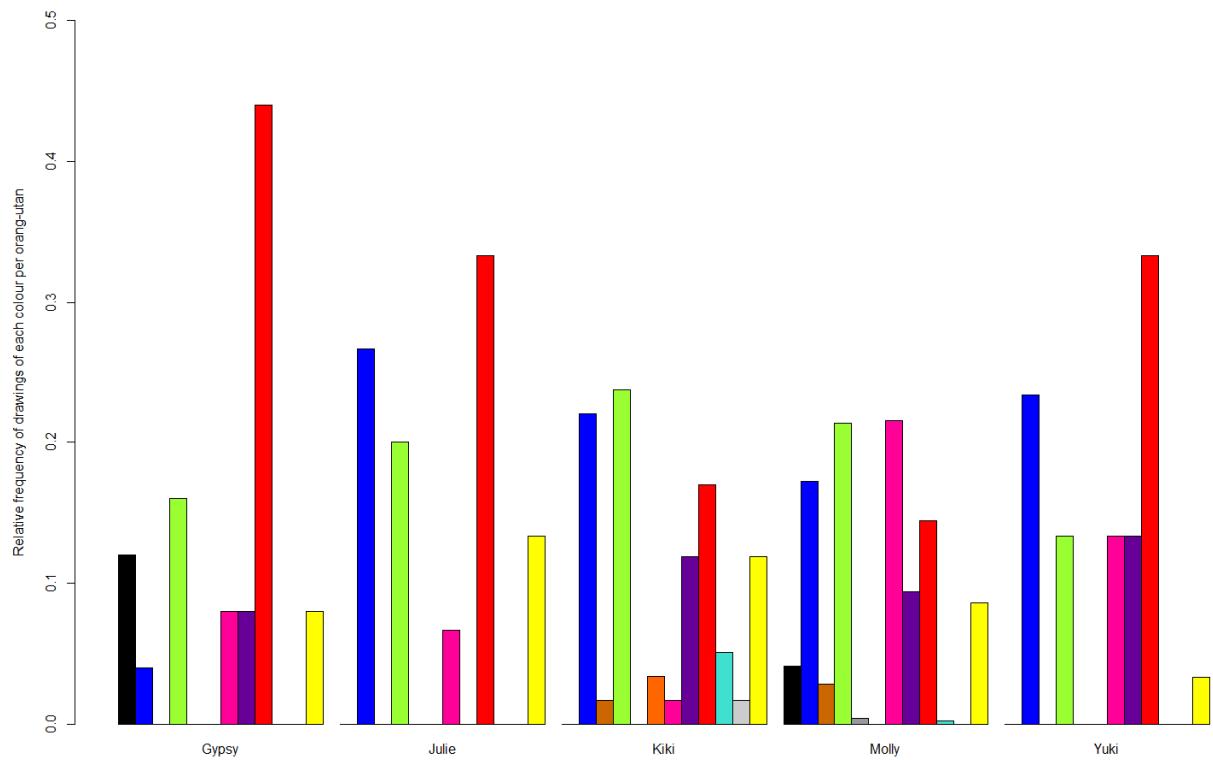
**Figure S3:** examples of a) a fan pattern, b) a circle, c) a loop and d) a triangle.



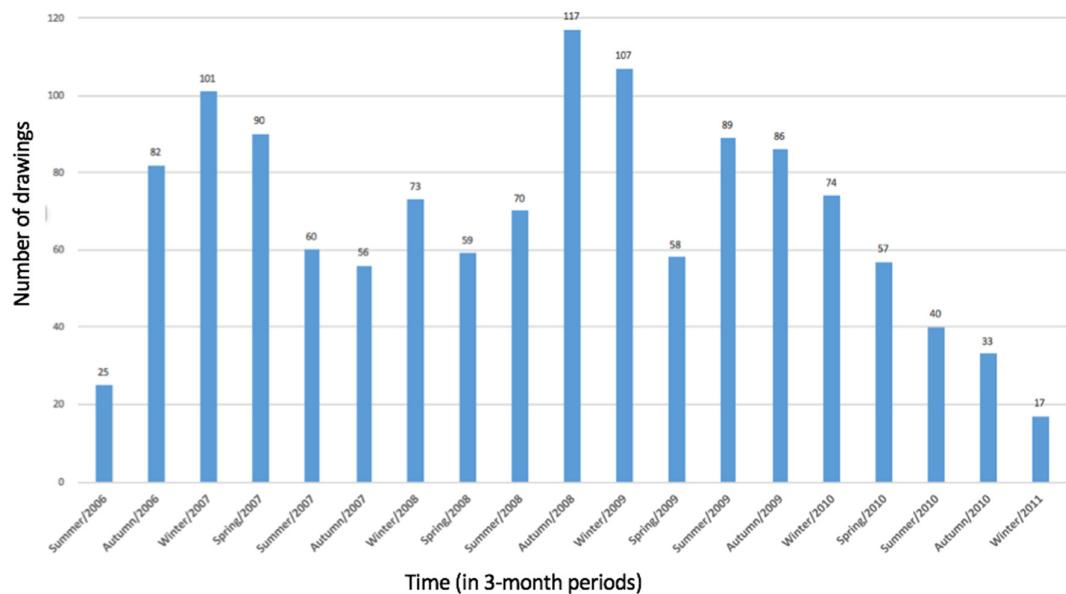
**Figure S4.** Correlation chart of our quantitative variables. \*: $p<0.05$ , \*\*: $p<0.01$ , \*\*\*: $p<0.001$ . The number indicates the correlation.



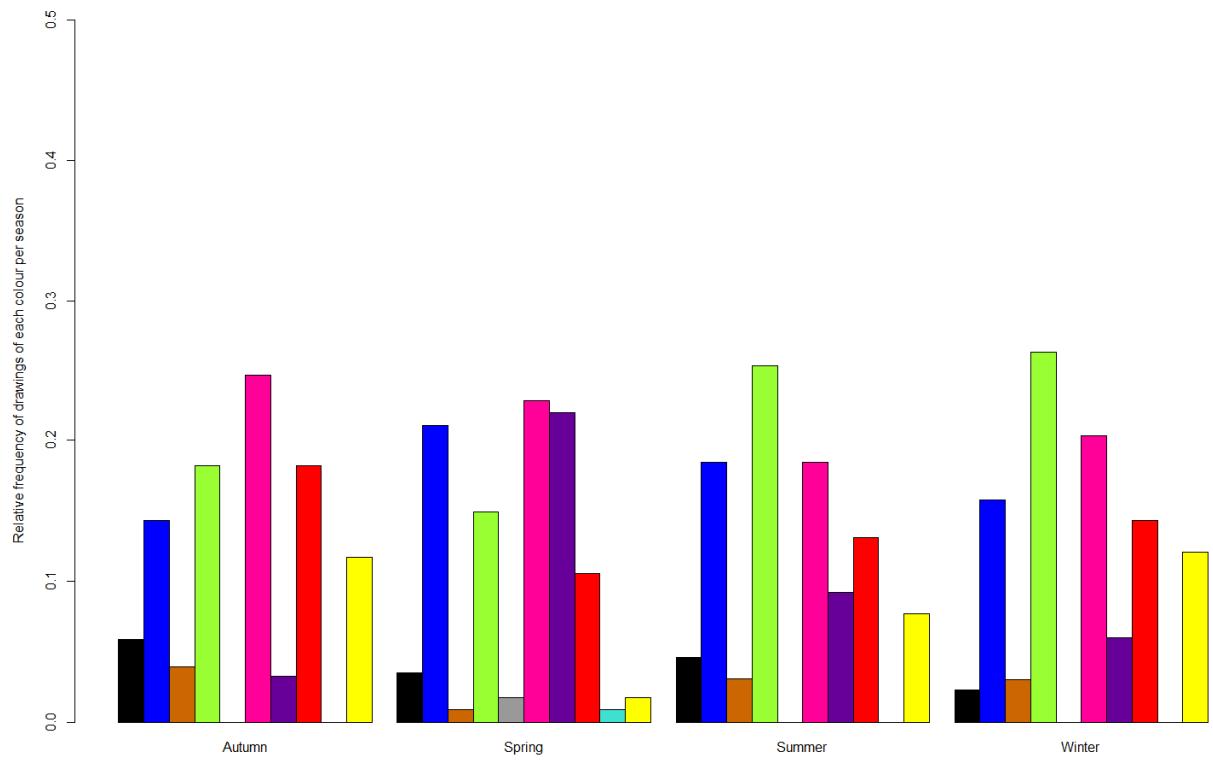
**Figure S5:** Boxplots of each drawing metric per individual



**Figure S6.** Frequency of drawings per main colour per individual.



**Figure S7:** Number of drawings according to the seasons over the years. The exact number is specified above the bars.



**Figure S8.** Frequency of Molly's drawings per main colour per season.

**Table S1:** pairwise comparisons tests (p-values) for each dimension between the five individuals

Dim1	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.1844	-	-	-
<b>Kiki</b>	0.3149	0.0152	-	-
<b>Molly</b>	0.016	0.9006	3.60E-09	-
<b>Yuki</b>	0.1525	0.9006	0.0025	0.8234
Dim2	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.081	-	-	-
<b>Kiki</b>	0.932	0.045	-	-
<b>Molly</b>	4.80E-11	8.30E-14	< 2e-16	-
<b>Yuki</b>	0.907	0.045	0.907	5.00E-12
Dim3	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.643	-	-	-
<b>Kiki</b>	0.301	0.643	-	-
<b>Molly</b>	0.041	0.301	0.301	-
<b>Yuki</b>	0.301	0.601	0.643	0.643

**Table S2:** pairwise comparisons tests (p-values) for each metric of Dimension 1

Coverage rate	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.13059	-	-	-
<b>Kiki</b>	0.17047	<b>0.00479</b>	-	-
<b>Molly</b>	<b>1.50E-08</b>	<b>0.01076</b>	< 2e-16	-
<b>Yuki</b>	0.07067	0.99024	<b>0.00029</b>	<b>0.0004</b>
Overlap rate	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.482	-	-	-
<b>Kiki</b>	0.869	0.372	-	-
<b>Molly</b>	<b>8.40E-06</b>	<b>0.018</b>	<b>5.60E-13</b>	-
<b>Yuki</b>	0.112	0.549	<b>0.032</b>	<b>0.018</b>
Number of colours	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.541	-	-	-
<b>Kiki</b>	0.931	0.541	-	-
<b>Molly</b>	<b>1.30E-10</b>	<b>1.90E-05</b>	< 2e-16	-
<b>Yuki</b>	0.146	0.541	0.093	<b>2.10E-06</b>
Fan patterns	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.5247	-	-	-
<b>Kiki</b>	0.8489	0.346	-	-
<b>Molly</b>	0.329	0.9918	<b>0.0406</b>	-
<b>Yuki</b>	<b>0.0406</b>	0.3048	<b>0.0044</b>	<b>0.0406</b>
Distance to centre	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.911	-	-	-
<b>Kiki</b>	0.714	0.668	-	-
<b>Molly</b>	0.714	0.912	<b>0.035</b>	-
<b>Yuki</b>	0.714	0.912	0.271	0.912
Solid colour rate	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.0212	-	-	-
<b>Kiki</b>	0.0189	<b>3.50E-06</b>	-	-
<b>Molly</b>	<b>0.0287</b>	<b>3.50E-06</b>	0.319	-
<b>Yuki</b>	0.5568	<b>0.0461</b>	<b>0.0015</b>	<b>0.0015</b>

**Table S3:** pairwise comparisons tests (p-values) for each metric of Dimension 2

Colour mean	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.2651	-	-	-
<b>Kiki</b>	0.8763	0.2651	-	-
<b>Molly</b>	0.1266	0.0057	0.0057	-
<b>Yuki</b>	0.5863	0.5263	0.5863	0.0059
Standard deviation of mean colour	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.0335	-	-	-
<b>Kiki</b>	0.5064	0.0022	-	-

<b>Molly</b>	1.40E-07	1.20E-11	5.60E-11	-
<b>Yuki</b>	0.7355	0.0135	0.6962	9.40E-08

**Table S4:** pairwise comparisons tests (p-values) for each metric of Dimension 3

Circles	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.88	-	-	-
<b>Kiki</b>	0.88	0.88	-	-
<b>Molly</b>	0.88	0.88	0.88	-
<b>Yuki</b>	0.89	0.88	0.88	0.88
Triangles	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	1	-	-	-
<b>Kiki</b>	0.45	0.45	-	-
<b>Molly</b>	0.45	0.54	0.45	-
<b>Yuki</b>	0.45	0.45	0.89	0.65
Loops	Gypsy	Julie	Kiki	Molly
<b>Julie</b>	0.5006	-	-	-
<b>Kiki</b>	0.5006	0.835	-	-
<b>Molly</b>	0.5006	0.1012	<b>0.0022</b>	-
<b>Yuki</b>	0.5542	0.835	0.835	0.079

**Table S5:** Loadings of the metrics on the three PCA dimensions of our dataset for Molly. Bold values indicate the dimension in which each variable is retained.

	Dim.1	Dim.2	Dim.3
<b>coverage rate</b>	<b>0.83259466</b>	0.35898791	- 0.03754139
<b>Overlap rate</b>	<b>0.86645016</b>	0.11386246	- 0.15141994
<b>Solid colour rate</b>	<b>0.82093692</b>	- 0.20890006	- 0.06820954
<b>distance to centre</b>	- <b>0.59224515</b>	-0.4847952	0.0366672
<b>Number of colours</b>	<b>0.70657478</b>	0.21081542	- 0.29585089
<b>Colour mean</b>	-0.5250608	<b>0.71138628</b>	- 0.22231713
<b>Standard deviation of mean colour</b>	0.59217275	- <b>0.65153752</b>	0.21292017
<b>fan pattern</b>	<b>0.75009581</b>	- 0.06012067	- 0.05905462
<b>circles</b>	0.09579288	0.18189447	<b>0.50532385</b>
<b>triangles</b>	0.07651598	0.16002544	<b>0.70546716</b>
<b>loops</b>	0.30038742	0.37499276	<b>0.49370317</b>