

## Early Plant Learning in Fiji

Rita Anne McNamara and Annie E. Wertz

Email: rita.mcnamara@vuw.ac.nz

*Human Nature* 32(1), 2021, <https://doi.org/10.1007/s12110-021-09389-6>

S1. Study 1: Interview Questions.....	2
S1.1. Interview 1: Plant Plant Uses and Knowledge.....	2
S1.2. Interview 2: Parent Expectations of Child Interactions with Plants .....	2
S2. Study 2: Hypothesis 1 .....	4
S3. Study 2: Hypothesis 2 .....	8
S4. Study 2: Hypothesis 3.....	9
S5. Correlations between Touch Latency, Social Look Duration, and Caregiver Interviews .	13
S5.1. Caregiver Interview Items.....	13
S5.2. Stimulus item familiarity .....	15
S5.3. Correlation Tables.....	16

## **S1. Study 1: Interview Questions**

Each of these questions asks for free listing of items that fall into the domains of each question.

### **S1.1. Interview 1: Plant Plant Uses and Knowledge**

- Garden = What kinds of plants do you grow in your garden near your house?
- Farm = What kinds of plants do you grow at your plantation/ farm (*teitei*)?
- When did you learn = When/ at what age did you first learn to start farming?
- From whom = Who taught you how to farm?
- Wild foods/plants = What kinds of wild foods or plants do you sometimes eat from around the village (e.g. ota, wild uvi, etc.)?
- Traditional medicines = What are some of the traditional medicinal plants that you know of, and how are they used?

### **S1.2. Interview 2: Parent Expectations of Child Interactions with Plants**

- Intro\_3\_Eng = Child activities out of house (Eng Trans)
- Intro\_5\_Eng = What do you warn your child about (English Translation)
- Post\_13\_Fijian & Post\_13\_Eng = Which plants do you stop your child from touching?
- Post\_15\_Fijian & Post\_15\_Eng = Which things do you stop your child from touching?
- Kinds\_29\_Eng = How do children interact with plants?
- Teach\_30\_Y.N = Do you teach child about plants\_Y/N
- Teach\_31\_Fijian & Teach\_31\_Eng = Which plants do you teach them about?
- Teach\_32\_Eng = What kinds of jobs/ chores do children do with plants?

- Teach\_33\_Eng = Do boys and girls do the same jobs/ chores or different? How different?
- Teach\_34\_Eng = How do you teach children to do these jobs/ chores?
- Teach\_35\_Eng = How old are children when they start doing jobs/ chores?
- Teach\_36\_Eng = Who teaches children about plants - only you or others too?  
Which others?
- Teach\_37\_Eng = About what percentage of time do you care for the child and what percent does someone else care for them?

**S2. Study 2: Hypothesis 1**

Linear Comparisons	estimate	Lower CI	Upper CI	SE	z-value	p-value
Spoon – Pot	-2,061.33	-5,431.30	1,308.63	1,065.56	-1.93	
Blue - Pot	149.76	-3,220.21	3,519.72	1,065.56	0.14	
Green - Pot	-65.88	-3,435.84	3,304.09	1,065.56	-0.06	
Plant 1 - Pot	-873.21	-4,243.18	2,496.75	1,065.56	-0.82	
Plant 2 - Pot	-2,217.82	-5,587.78	1,152.15	1,065.56	-2.08	
Shell 1 - Pot	236.67	-3,133.30	3,606.63	1,065.56	0.22	
Shell 2 - Pot	-964.73	-4,334.69	2,405.24	1,065.56	-0.91	
Fabric Plant - Pot	326.45	-3,043.51	3,696.42	1,065.56	0.31	
Plastic Plant - Pot	1,403.03	-1,966.94	4,773	1,065.56	1.32	
Blue - Spoon	2,211.09	-1,158.87	5,581.06	1,065.56	2.08	
Green - Spoon	1,995.45	-1,374.51	5,365.42	1,065.56	1.87	
Plant 1 - Spoon	1,188.12	-2,181.84	4,558.09	1,065.56	1.12	
Plant 2 - Spoon	-156.48	-3,526.45	3,213.48	1,065.56	-0.15	
Shell 1 - Spoon	2,298	-1,071.97	5,667.97	1,065.56	2.16	
Shell 2 - Spoon	1,096.61	-2,273.36	4,466.57	1,065.56	1.03	
Fabric Plant - Spoon	2,387.79	-982.18	5,757.75	1,065.56	2.24	
Plastic Plant - Spoon	3,464.36	94.40	6,834.33	1,065.56	3.25	0.04*
Green - Blue	-215.64	-3,585.60	3,154.33	1,065.56	-0.20	
Plant 1 - Blue	-1,022.97	-4,392.94	2,347	1,065.56	-0.96	
Plant 2 - Blue	-2,367.58	-5,737.54	1,002.39	1,065.56	-2.22	
Shell 1 - Blue	86.91	-3,283.06	3,456.87	1,065.56	0.08	
Shell 2 - Blue	-1,114.48	-4,484.45	2,255.48	1,065.56	-1.05	
Fabric Plant - Blue	176.70	-3,193.27	3,546.66	1,065.56	0.17	
Plastic Plant - Blue	1,253.27	-2,116.69	4,623.24	1,065.56	1.18	
Plant 1 - Green	-807.33	-4,177.30	2,562.63	1,065.56	-0.76	
Plant 2 - Green	-2,151.94	-5,521.91	1,218.03	1,065.56	-2.02	
Shell 1 - Green	302.55	-3,067.42	3,672.51	1,065.56	0.28	
Shell 2 - Green	-898.85	-4,268.81	2,471.12	1,065.56	-0.84	
Fabric Plant - Green	392.33	-2,977.63	3,762.30	1,065.56	0.37	
Plastic Plant - Green	1,468.91	-1,901.06	4,838.87	1,065.56	1.38	
Plant 2 - Plant 1	-1,344.61	-4,714.57	2,025.36	1,065.56	-1.26	
Shell 1 - Plant 1	1,109.88	-2,260.09	4,479.84	1,065.56	1.04	
Shell 2 - Plant 1	-91.52	-3,461.48	3,278.45	1,065.56	-0.09	
Fabric Plant - Plant 1	1,199.67	-2,170.30	4,569.63	1,065.56	1.13	
Plastic Plant - Plant 1	2,276.24	-1,093.72	5,646.21	1,065.56	2.14	
Shell 1 - Plant 2	2,454.48	-915.48	5,824.45	1,065.56	2.30	
Shell 2 - Plant 2	1,253.09	-2,116.87	4,623.06	1,065.56	1.18	
Fabric Plant - Plant 2	2,544.27	-825.69	5,914.24	1,065.56	2.39	
Plastic Plant - Plant 2	3,620.85	250.88	6,990.81	1,065.56	3.40	0.02*
Shell 2 - Shell 1	-1,201.39	-4,571.36	2,168.57	1,065.56	-1.13	
Fabric Plant - Shell 1	89.79	-3,280.18	3,459.75	1,065.56	0.08	
Plastic Plant - Shell 1	1,166.36	-2,203.60	4,536.33	1,065.56	1.09	
Fabric Plant - Shell 2	1,291.18	-2,078.78	4,661.15	1,065.56	1.21	
Plastic Plant - Shell 2	2,367.76	-1,002.21	5,737.72	1,065.56	2.22	
Plastic Plant - Fabric Plant	1,076.58	-2,293.39	4,446.54	1,065.56	1.01	

Table S1 Tukey's all-pair comparisons for estimates of time-to-touch latencies across objects. Only significant differences are between spoon (faster) v. plastic artificial plant and plant 2 (mango tree; faster) v. plastic artificial plant.

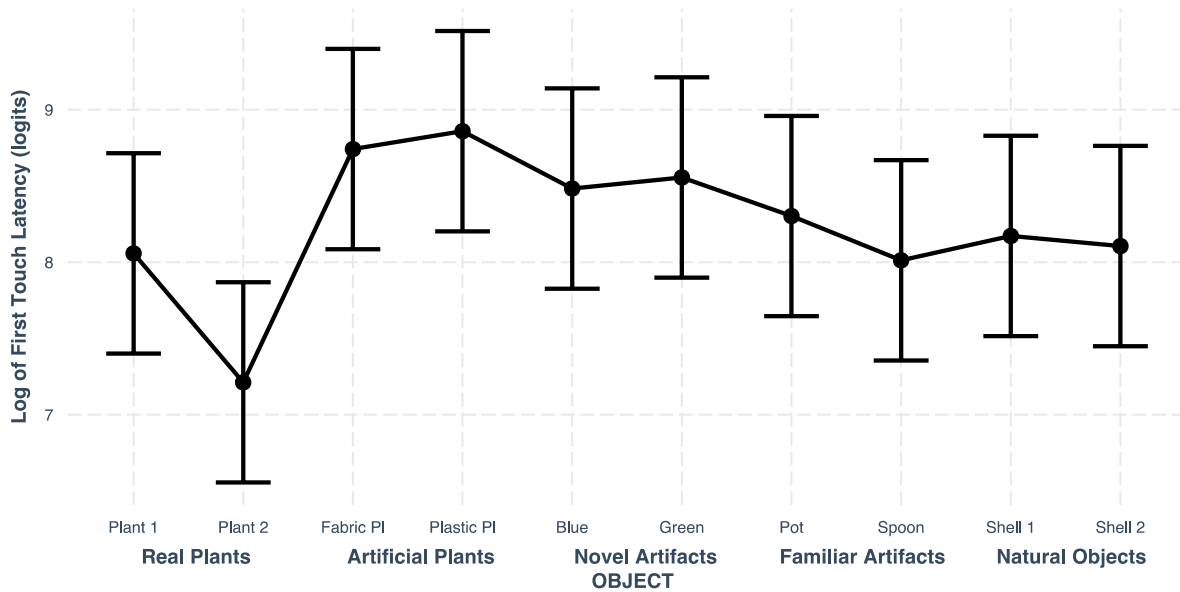


Figure S1 Least squares means of Log Transformed Touch Latency across objects. Error bars show .95 CI. Children touch Plant 2 (mango) significantly faster than Blue Novel Artificial object (Plant 2 – Blue = -1.27,  $SE = 0.36$ ,  $p = 0.02$ ), Green Novel Artificial object (Plant 2 – Green = -1.34,  $SE = 0.36$ ,  $p < 0.001$ ), and both artificial plants (Plant 2 – Fabric = -1.53,  $SE = 0.36$ ,  $p < 0.001$ ; Plant 2 – Plastic = -1.65,  $SE = 0.36$ ,  $p < 0.001$ ) in Tukey’s all-pair comparisons.

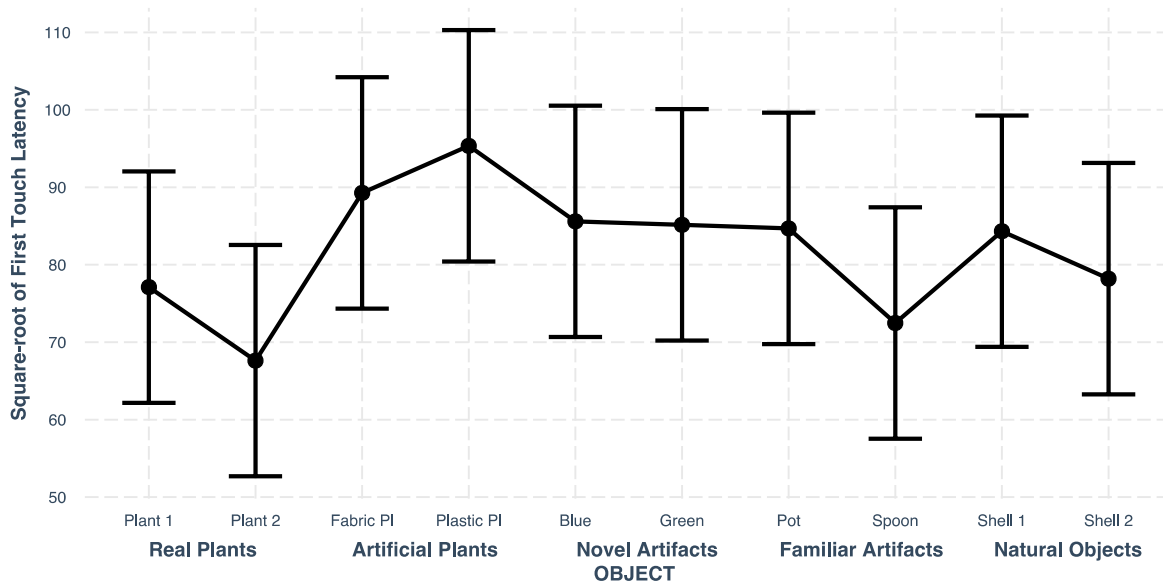


Figure S2 Least squares means of Square Root Transformed Touch Latency. Error bars show .95 CI. Children touch Plant 2 (mango) significantly faster than the Plastic Artificial Plant (Plant 2 – Plastic = -27.76,  $SE = 7.13$ ,  $p < 0.01$ ), and they touch the Spoon faster than the Plastic Artificial Plant (Spoon – Plastic = -22.87,  $SE = 7.13$ ,  $p = 0.04$ ) in Tukey’s all-pair comparisons.

	Touch Latency		
	<u>Untransformed</u> <i>Estimate (raw)</i> [.95CI]	<u>Log</u> <i>Estimate (logits)</i> [.95CI]	<u>Square Root</u> <i>Estimate (sqrt)</i> [.95CI]
Plant 1: Coconut Palm	8,159.09*** [5,939.32, 10,378.87]	8.06*** [7.40, 8.71]	77.11*** [62.23, 91.99]
Plant 2: Mango Tree	6,814.48*** [4,594.71, 9,034.26]	7.21*** [6.56, 7.87]	67.62*** [52.74, 82.50]
Artificial Plant: Fabric	9,358.76*** [7,138.98, 11,578.53]	8.74*** [8.09, 9.40]	89.28*** [74.40, 104.16]
Artificial Plant: Plastic	10,435.33*** [8,215.56, 12,655.11]	8.86*** [8.20, 9.51]	95.35*** [80.47, 110.23]
Novel Artificial: Blue	9,182.06*** [6,962.29, 11,401.84]	8.48*** [7.83, 9.14]	85.60*** [70.72, 100.48]
Novel Artificial: Green	8,966.42*** [6,746.65, 11,186.20]	8.56*** [7.90, 9.21]	85.15*** [70.27, 100.03]
Familiar Artificial: Pot	9,032.30*** [6,812.53, 11,252.08]	8.30*** [7.65, 8.96]	84.69*** [69.81, 99.57]
Familiar Artificial: Spoon	6,970.97*** [4,751.19, 9,190.74]	8.01*** [7.36, 8.67]	72.48*** [57.60, 87.36]
Shell 1: Conch	9,268.97*** [7,049.19, 11,488.74]	8.17*** [7.52, 8.83]	84.33*** [69.45, 99.21]
Shell 2: Nautilus	8,067.58*** [5,847.80, 10,287.35]	8.11*** [7.45, 8.76]	78.20*** [63.32, 93.08]
Observations	330	330	330
Shapiro-Wilk Normality Test	0.98***	0.81***	0.98**
Log Likelihood	-3,192.64	-627.48	-1,590.42
Akaike Inf. Crit.	6,409.27	1,278.95	3,204.84
Bayesian Inf. Crit.	6,454.86	1,324.54	3,250.43

Note: †p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table S2 Comparison between untransformed raw touch latencies vs. log and square-root transformations for Hypothesis 1.

Coef	Untransformed Latency Estimate (SE)	Robust Regression Estimate (SE)
(Intercept) Plant 1	8159.1 (1133)	8732.4 (1259)
Plant 1 v. Plant 2	-1344.6 (1066)	-782.8 ( 652)
Plant 1 v. Fabric Plant	1199.7 (1066)	745.2 ( 652)
Plant 1 v. Plastic Plant	2276.2 (1066)	1177.6 ( 652)
Plant 1 v. Blue	1023.0 (1066)	238.4 ( 652)
Plant 1 v. Green	807.3 (1066)	284.0 ( 652)
Plant 1 v. Pot	873.2 (1066)	45.8 ( 652)
Plant 1 v. Spoon	-1188.1 (1066)	-982.9 ( 652)
Plant 1 v. Shell 1	1109.9 (1066)	673.0 ( 652)
Plant 1 v. Shell 2	-91.5 (1066)	-378.4 ( 652)
<u>Variance Components</u>		
(Intercept) Individuals	4857	6561
sigma	4328	2582
REML	6385	
rho.e	smoothed Huber (k = 1.35, s=10)	
rho.sigma.e	smoothed Huber, Proposal II (k=1.345, s=10)	
rho.b_1	smoothed Huber (k=1.345, s=10)	
rho.sigma.b_1	smoothed Huber, Proposal II (k=1.345, s=10)	

Table S3 Comparison between untransformed raw latencies and robust hierarchical regression for Hypothesis 1.

**S3. Study 2: Hypothesis 2**

Linear Comparisons	estimate	Lower CI	Upper CI	SE	z-value	p-value
Fabric Plant - Blue	0.43	0.07	0.88	0.71	-0.38	
Plastic Plant - Blue	0.17	0.02	0.68	0.76	-2.14	
Green - Blue	0.37	0.06	0.85	0.72	-0.73	
Plant 1 - Blue	0.68	0.18	0.95	0.72	1.04	
Plant 2 - Blue	0.73	0.22	0.96	0.72	1.39	
Pot - Blue	0.62	0.15	0.94	0.71	0.69	
Shell 1 - Blue	0.37	0.06	0.85	0.72	-0.74	
Shell 2 - Blue	0.68	0.18	0.95	0.72	1.04	
Spoon - Blue	0.86	0.36	0.99	0.76	2.41	
Plastic Plant - Fabric Plant	0.21	0.02	0.74	0.75	-1.79	
Green - Fabric Plant	0.44	0.07	0.88	0.72	-0.36	
Plant 1 - Fabric Plant	0.73	0.22	0.96	0.72	1.41	
Plant 2 - Fabric Plant	0.78	0.26	0.97	0.73	1.75	
Pot - Fabric Plant	0.68	0.18	0.95	0.72	1.06	
Shell 1 - Fabric Plant	0.44	0.07	0.88	0.72	-0.36	
Shell 2 - Fabric Plant	0.73	0.22	0.96	0.72	1.41	
Spoon - Fabric Plant	0.89	0.42	0.99	0.76	2.75	
Green - Plastic Plant	0.75	0.22	0.97	0.75	1.45	
Plant 1 - Plastic Plant	0.91	0.48	0.99	0.77	3.06	0.07†
Plant 2 - Plastic Plant	0.93	0.54	0.99	0.78	3.35	0.03*
Pot - Plastic Plant	0.89	0.42	0.99	0.77	2.75	
Shell 1 - Plastic Plant	0.75	0.22	0.97	0.75	1.45	
Shell 2 - Plastic Plant	0.91	0.48	0.99	0.77	3.05	0.07†
Spoon - Plastic Plant	0.97	0.70	1	0.82	4.18	0***
Plant 1 - Green	0.78	0.26	0.97	0.73	1.75	
Plant 2 - Green	0.82	0.31	0.98	0.73	2.09	
Pot - Green	0.73	0.22	0.96	0.72	1.41	
Shell 1 - Green	0.50	0.09	0.91	0.72	0	
Shell 2 - Green	0.78	0.26	0.97	0.73	1.75	
Spoon - Green	0.91	0.48	0.99	0.77	3.05	0.07†
Plant 2 - Plant 1	0.56	0.12	0.93	0.72	0.36	
Pot - Plant 1	0.44	0.07	0.88	0.71	-0.36	
Shell 1 - Plant 1	0.22	0.03	0.74	0.73	-1.75	
Shell 2 - Plant 1	0.50	0.09	0.91	0.72	0	
Spoon - Plant 1	0.75	0.22	0.97	0.75	1.44	
Pot - Plant 2	0.37	0.06	0.85	0.72	-0.72	
Shell 1 - Plant 2	0.18	0.02	0.69	0.73	-2.09	
Shell 2 - Plant 2	0.44	0.07	0.88	0.72	-0.36	
Spoon - Plant 2	0.69	0.18	0.96	0.75	1.09	
Shell 1 - Pot	0.27	0.04	0.78	0.72	-1.41	
Shell 2 - Pot	0.56	0.12	0.93	0.71	0.36	
Spoon - Pot	0.79	0.26	0.98	0.75	1.78	
Shell 2 - Shell 1	0.78	0.26	0.97	0.73	1.75	
Spoon - Shell 1	0.91	0.48	0.99	0.77	3.05	0.07†
Spoon - Shell 2	0.75	0.22	0.97	0.75	1.44	

Table S4 Tukey's all-pair comparisons for estimates (in probabilities) of touch vs. no touch across objects. The only significant differences are between Spoon vs. Plastic Artificial Plant and Plant 2 (mango tree) vs. Plastic Artificial Plant.



**S4. Study 2: Hypothesis 3**

Linear Comparisons	estimate	Lower CI	Upper CI	SE	z-value	p-value
Spoon – Pot	-593.45	-1,622.15	435.24	325.14	-1.83	
Blue - Pot	-949.94	-1,978.64	78.76	325.14	-2.92	
Green - Pot	-1,203.39	-2,232.09	-174.70	325.14	-3.70	0.01**
Plant 1 - Pot	-466.73	-1,495.42	561.97	325.14	-1.44	
Plant 2 - Pot	-999.39	-2,028.09	29.30	325.14	-3.07	0.07†
Shell 1 - Pot	-783.03	-1,811.73	245.67	325.14	-2.41	
Shell 2 - Pot	-1,230.18	-2,258.88	-201.49	325.14	-3.78	0.01**
Fabric Plant - Pot	-691.33	-1,720.03	337.36	325.14	-2.13	
Plastic Plant - Pot	-1,129.21	-2,157.91	-100.52	325.14	-3.47	0.02*
Blue - Spoon	-356.48	-1,385.18	672.21	325.14	-1.10	
Green - Spoon	-609.94	-1,638.64	418.76	325.14	-1.88	
Plant 1 - Spoon	126.73	-901.97	1,155.42	325.14	0.39	
Plant 2 - Spoon	-405.94	-1,434.64	622.76	325.14	-1.25	
Shell 1 - Spoon	-189.58	-1,218.27	839.12	325.14	-0.58	
Shell 2 - Spoon	-636.73	-1,665.42	391.97	325.14	-1.96	
Fabric Plant - Spoon	-97.88	-1,126.57	930.82	325.14	-0.30	
Plastic Plant - Spoon	-535.76	-1,564.45	492.94	325.14	-1.65	
Green - Blue	-253.45	-1,282.15	775.24	325.14	-0.78	
Plant 1 - Blue	483.21	-545.48	1,511.91	325.14	1.49	
Plant 2 - Blue	-49.45	-1,078.15	979.24	325.14	-0.15	
Shell 1 - Blue	166.91	-861.79	1,195.61	325.14	0.51	
Shell 2 - Blue	-280.24	-1,308.94	748.45	325.14	-0.86	
Fabric Plant - Blue	258.61	-770.09	1,287.30	325.14	0.80	
Plastic Plant - Blue	-179.27	-1,207.97	849.42	325.14	-0.55	
Plant 1 - Green	736.67	-292.03	1,765.36	325.14	2.27	
Plant 2 - Green	204	-824.70	1,232.70	325.14	0.63	
Shell 1 - Green	420.36	-608.33	1,449.06	325.14	1.29	
Shell 2 - Green	-26.79	-1,055.48	1,001.91	325.14	-0.08	
Fabric Plant - Green	512.06	-516.64	1,540.76	325.14	1.57	
Plastic Plant - Green	74.18	-954.51	1,102.88	325.14	0.23	
Plant 2 - Plant 1	-532.67	-1,561.36	496.03	325.14	-1.64	
Shell 1 - Plant 1	-316.30	-1,345	712.39	325.14	-0.97	
Shell 2 - Plant 1	-763.45	-1,792.15	265.24	325.14	-2.35	
Fabric Plant - Plant 1	-224.61	-1,253.30	804.09	325.14	-0.69	
Plastic Plant - Plant 1	-662.48	-1,691.18	366.21	325.14	-2.04	
Shell 1 - Plant 2	216.36	-812.33	1,245.06	325.14	0.67	
Shell 2 - Plant 2	-230.79	-1,259.48	797.91	325.14	-0.71	
Fabric Plant - Plant 2	308.06	-720.64	1,336.76	325.14	0.95	
Plastic Plant - Plant 2	-129.82	-1,158.51	898.88	325.14	-0.40	
Shell 2 - Shell 1	-447.15	-1,475.85	581.54	325.14	-1.38	
Fabric Plant - Shell 1	91.70	-937	1,120.39	325.14	0.28	
Plastic Plant - Shell 1	-346.18	-1,374.88	682.51	325.14	-1.06	
Fabric Plant - Shell 2	538.85	-489.85	1,567.54	325.14	1.66	
Plastic Plant - Shell 2	100.97	-927.73	1,129.67	325.14	0.31	
Plastic Plant - Fabric Plant	-437.88	-1,466.57	590.82	325.14	-1.35	

Table S5 Tukey's all-pair comparisons for estimates (ms) of duration of social looking across objects. The only significant differences are longer social looking durations for Pot vs. Green Novel Artificial, Shell 2 (nautilus), and the Plastic Artificial Plant

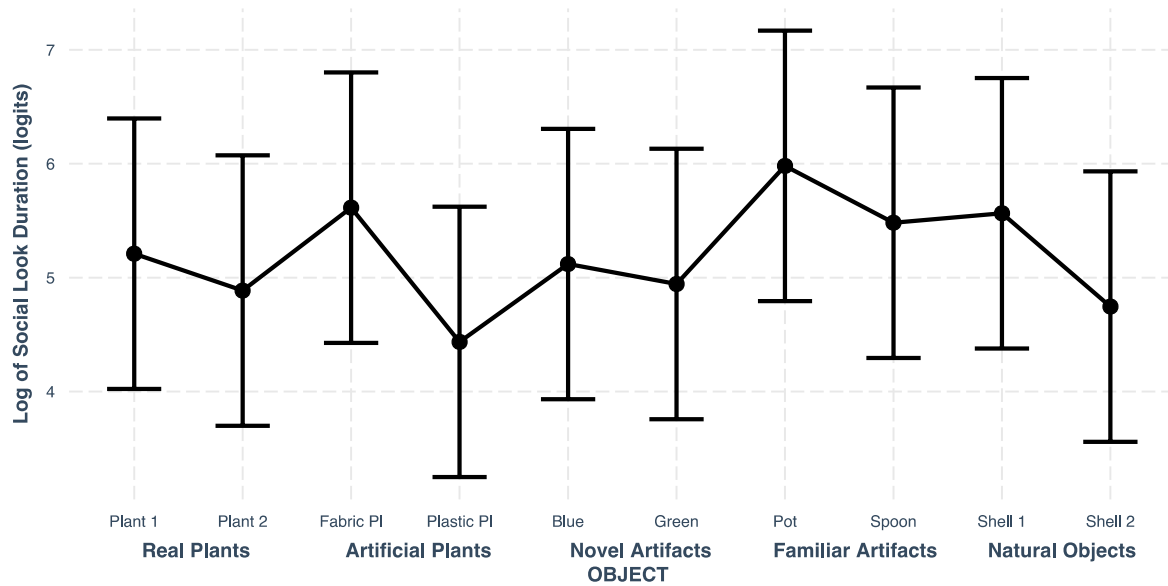


Figure S3 Least squares means of Log Transform Social Look Duration across objects. Error bars show .95 CI. Tukey's all-pair comparisons do not reveal any significant differences.

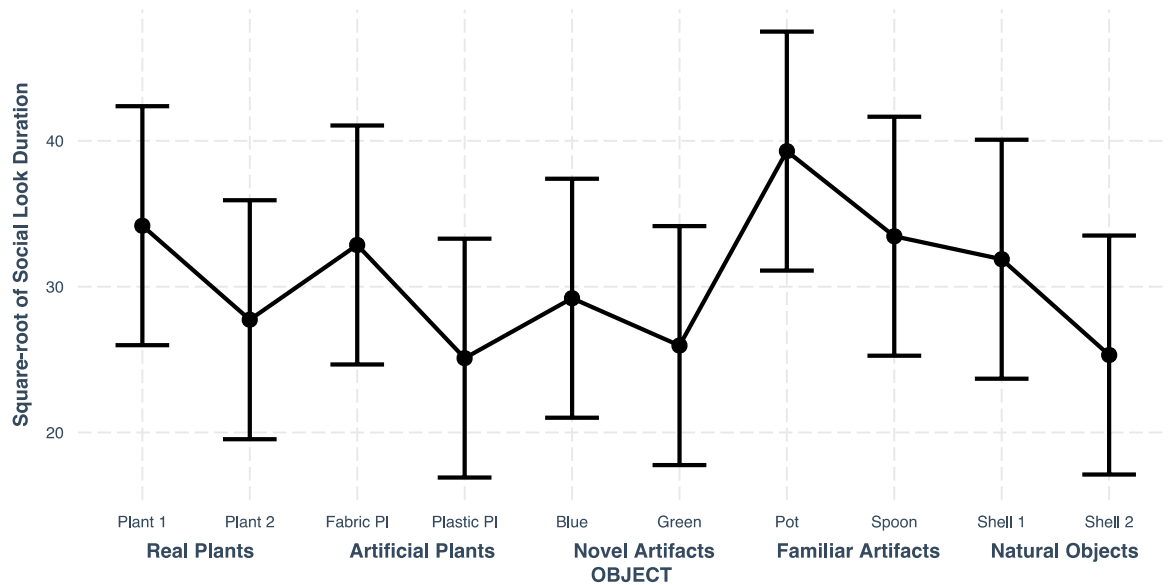


Figure S4 Least squares means of Square Root Transform Social Look Duration across objects. Error bars show .95 CI. Tukey's all-pair comparisons reveal only marginally longer social looking in the Pot trials vs. the Plastic Artificial Plant trials (Pot – Plastic = -14.19,  $SE = 4.79$ ,  $p = 0.0885$ ).

	Social Look Duration (ms)		
	<u>Untransformed</u> <i>Estimate (raw)</i> [.95CI]	<u>Log</u> <i>Estimate (logits)</i> [.95CI]	<u>Square Root</u> <i>Estimate (sqrt)</i> [.95CI]
Plant 1: Coconut Palm	1,842.18*** [1,295.88, 2,388.48]	5.21*** [4.03, 6.39]	34.18*** [26.02, 42.34]
Plant 2: Mango Tree	-532.67 [-1,169.93, 104.59]	4.89*** [3.70, 6.07]	27.74*** [19.58, 35.90]
Artificial Plant: Fabric	-224.61 [-861.87, 412.65]	5.61*** [4.43, 6.80]	32.86*** [24.70, 41.02]
Artificial Plant: Plastic	-662.48* [-1,299.74, -25.22]	4.44*** [3.25, 5.62]	25.10*** [16.94, 33.26]
Novel Artificial: Blue	-483.21 [-1,120.47, 154.05]	5.12*** [3.94, 6.30]	29.21*** [21.05, 37.37]
Novel Artificial: Green	-736.67* [-1,373.93, -99.41]	4.94*** [3.76, 6.13]	25.96*** [17.80, 34.12]
Familiar Artificial: Pot	466.73 [-170.53, 1,103.99]	5.98*** [4.80, 7.16]	39.29*** [31.13, 47.45]
Familiar Artificial: Spoon	-126.73 [-763.99, 510.53]	5.48*** [4.30, 6.67]	33.46*** [25.29, 41.62]
Shell 1: Conch	-316.30 [-953.56, 320.96]	5.57*** [4.38, 6.75]	31.88*** [23.72, 40.04]
Shell 2: Nautilus	-763.45* [-1,400.71, -126.19]	4.75*** [3.56, 5.93]	25.32*** [17.16, 33.48]
Observations	330	330	330
Shapiro-Wilk Normality Test	0.94***	0.93***	0.98**
Log Likelihood	-2,798.88	-839.14	-1,450.16
Akaike Inf. Crit.	5,621.77	1,702.29	2,924.31
Bayesian Inf. Crit.	5,667.35	1,747.88	2,969.90

Note: †p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table S6 Comparison between untransformed raw latencies vs log and square-root transformations for Hypothesis 3.

Coef	Untransformed Latency Estimate (SE)	Robust Regression Estimate (SE)
(Intercept) Plant 1	1842 (279)	1642 (242)
Plant 1 v. Plant 2	-533 (325)	-574 (290)
Plant 1 v. Fabric Plant	-225 (325)	-339 (290)
Plant 1 v. Plastic Plant	-662 (325)	-677 (290)
Plant 1 v. Blue	-483 (325)	-433 (290)
Plant 1 v. Green	-737 (325)	-666 (290)
Plant 1 v. Pot	467 (325)	248 (290)
Plant 1 v. Spoon	-127 (325)	-214 (290)
Plant 1 v. Shell 1	-316 (325)	-340 (290)
Plant 1 v. Shell 2	-763 (325)	-724 (290)
<u>Variance Components</u>		
(Intercept) Individuals	905	712
sigma	1321	1150
REML	5598	
rho.e	smoothed Huber (k = 1.345, s = 10)	
rho.sigma.e	smoothed Huber, Proposal II (k = 1.345, s = 10)	
rho.b 1	smoothed Huber (k = 1.345, s = 10)	
rho.sigma.b 1	smoothed Huber, Proposal II (k = 1.345, s = 10)	

Table S7 Comparison between untransformed raw durations of social looking and robust hierarchical regression for Hypothesis 3.

## **S5. Correlations between Touch Latency, Social Look Duration, and Caregiver**

### **Interviews**

#### **S5.1. Caregiver Interview Items**

1-5 Interview questions: [1=never; 5= everyday]

1. Intro\_1 = How often does your child go to the plantation?
2. Intro\_2 = How often is your child out of house?
3. Post\_6 = How often does your child interact with plants? \_1to5
4. Post\_7 = How often do you name plants to your child? \_1to5
5. Post\_8 = How often does your child see you care for plants? \_1to5
6. Post\_9 = How often does your child eat fruit directly from plant? \_1to5
7. Post\_10 = How often does your child touch plants on farm? \_1to5
8. Post\_11 = How often does your child touch plants in the bush? \_1to5
9. Post\_12 = How often do you stop your child from touching plants? \_1to5
10. Post\_14 = How often do you stop your child from touching things? \_1to5

1-5 Interview questions: [1=a bit; 5= a lot]

11. Post\_16 = How active is your child? \_1to5
12. Post\_17 = How fearful/ shy is your child? \_1to5
13. Post\_18 = How much can your child keep his attention on a single object (for example, while watching or playing)? \_1to5
14. Post\_19 = How much your child notices small changes in their environment? \_1to5
15. Post\_20 = How fast your child approaches things he / she thinks are interesting? \_1to5

Items assessing touch stimuli familiarity “Has your child seen xx before? Y/N”:

16. Plant 1 Seen\_Y.1 = Familiar with Plant 1 (coconut palm); yes coded as 1, higher values = familiarity
17. Plant 2 Seen\_Y.1 = Familiar with Plant 2 (mango); yes coded as 1, higher values = familiarity
18. Fake Fabric Seen\_Y.1 = Familiar with Fabric Plant; yes coded as 1, higher values = familiarity
19. Fake Plastic Seen\_Y.1 = Familiar with Plastic Plant; yes coded as 1, higher values = familiarity
20. Blue Art Seen\_Y.1 = Familiar with Blue Novel Artifact; yes coded as 1, higher values = familiarity
21. Green Art Seen\_Y.1 = Familiar with Green Novel Artifact; yes coded as 1, higher values = familiarity
22. Pot Seen\_Y.1 = Familiar with Pot (familiar artifact); yes coded as 1, higher values = familiarity
23. Spoon Seen\_Y.1 = Familiar with Spoon (familiar artifact); yes coded as 1, higher values = familiarity
24. Shell 1 Seen\_Y.1 = Familiar with Shell 1 (Conch); yes coded as 1, higher values = familiarity
25. Shell 2 Seen\_Y.1 = Familiar with Shell 2 (Nautilus); yes coded as 1, higher values = familiarity

**S5.2. Stimulus item familiarity**

N=32

Item	Seen before: No	Seen before: Yes
Plant 1	1	31
Plant 2	11	21
Artificial Fabric Plant	19	13
Artificial Plastic Plant	22	10
Blue Artifact	29	3
Green Artifact	26	6
Pot	1	31
Spoon	1	31
Shell 1	8	24
Shell 2	16	16

*Table 8.* Participating Children’s familiarity with stimulus items based upon caregiver interviews.

**S5.3. Correlation Tables**

	Touch latency	Social Look	Intro_1	Intro_2	Post_6	Post_7	Post_8	Post_9	Post_10	Post_11	Post_12	Post_14	Post_16	Post_17	Post_18	Post_19
Touch latency																
Social Look	0.20***															
Intro_1	-0.06	0.15**														
Intro_2	0.32***	0.12*	0.31***													
Post_6	-0.13*	0.04	-0.03	-0.04												
Post_7	-0.06	0.05	0.16**	0.16**	0.21***											
Post_8	-0.36***	0.05	0.32***	0.03	0.22***	0.29***										
Post_9	-0.07	0.00	-0.01	-0.06	0.11*	-0.15**	0.04									
Post_10	0.18**	-0.02	-0.35***	0.07	-0.05	0.22***	-0.03	0.18**								
Post_11	-0.04	0.00	-0.31***	0.02	0.08	-0.02	0.31***	0.17**	0.26***							
Post_12	0.07	0.13*	-0.21***	0.22***	0.45***	0.01	-0.04	-0.06	0.24***	0.40***						
Post_14	0.05	0.00	-0.36***	-0.23***	-0.04	0.20***	-0.39***	0.09	0.00	0.15**	0.09					
Post_16	-0.07	0.04	-0.15**	0.15**	0.14*	-0.24***	-0.01	0.19***	-0.06	0.25***	0.17**	-0.19***				
Post_17	-0.20***	0.07	0.19***	-0.15**	0.16**	-0.07	0.17**	0.00	-0.46***	-0.19***	-0.02	-0.06	0.07			
Post_18	-0.03	0.10	0.27***	-0.01	-0.02	-0.35***	-0.07	-0.06	-0.17**	-0.01	0.13*	-0.31***	0.12*	0.09		
Post_19	-0.08	-0.07	0.09	0.09	0.15*	0.24***	-0.05	0.37***	0.23***	0.23***	0.09	0.47***	-0.07	-0.28***	-0.11	
Post_20	-0.12*	-0.01	-0.19***	0.06	0.22***	-0.15**	0.18**	0.08	-0.09	0.25***	0.19***	-0.10	0.46***	0.37***	-0.03	0.17**

†p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table S9 Correlations between Touch Latency, Social Look Duration, and Caregiver Interview 2 items answered on a 1-5 scale.



Supplementary Online Materials: McNamara & Wertz (2021). Early Plant Learning in Fiji

	Touch latency	Social Look	Plant 1 Seen_Y.1	Plant 2 Seen_Y.1	Fake Fabric Seen_Y.1	Fake Plastic Seen_Y.1	Blue Art Seen_Y.1	Green Art Seen_Y.1	Pot Seen_Y.1	Spoon Seen_Y.1	Shell 1 Seen_Y.1
Touch latency											
Social Look	0.20* * *										
Plant 1 Seen_Y.1	0.14*	-0.06									
Plant 2 Seen_Y.1	-0.11	0.14*	0.25* * *								
Fake Fabric Seen_Y.1	-0.12*	-0.01	-0.22* * *	0.06							
Fake Plastic Seen_Y.1	-0.14*	0.12*	-0.27* * *	0.06	0.27* * *						
Blue Art Seen_Y.1	-0.21* * *	-0.01	0.06	0.23* * *	-0.05	0.01					
Green Art Seen_Y.1	-0.09	0.07	0.09	0.18* *	0.25* * *	0.37* * *	0.12*				
Pot Seen_Y.1	-0.17* *	0.04	-0.03	0.25* * *	0.15* *	0.12*	0.06	0.09			
Spoon Seen_Y.1	-0.17* *	0.04	-0.03	0.25* * *	0.15* *	0.12*	0.06	0.09	1.00* * *		
Shell 1 Seen_Y.1	-0.13*	-0.03	0.31* * *	0.19* * *	0.04	-0.08	0.19* * *	0.28* * *	-0.10	-0.10	
Shell 2 Seen_Y.1	-0.07	0.11*	0.18* *	0.33* * *	0.06	-0.13*	0.11	0.16* *	-0.18* *	-0.18* *	0.58* * *

†p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table S10 Correlations between Touch Latency, Social Look Duration, and Caregiver Interview 2 items assessing familiarity with touch stimuli items on a y/n scale (yes =1; negative values indicate longer latency/ duration with more familiarity).

Supplementary Online Materials: McNamara & Wertz (2021). Early Plant Learning in Fiji

	Touch latency	Social Look	Intro_1	Intro_2	Post_6	Post_7	Post_8	Post_9	Post_10	Post_11	Post_12	Post_14	Post_16	Post_17	Post_18	Post_19
Touch latency																
Social Look	0.14															
Intro_1	0.01	0.18*														
Intro_2	0.32***	0.11	0.31***													
Post_6	-0.18*	0.01	-0.03	-0.04												
Post_7	-0.16	0.10	0.16	0.16	0.21*											
Post_8	-0.32***	0.09	0.32***	0.03	0.22*	0.29***										
Post_9	-0.05	0.05	-0.01	-0.06	0.11	-0.15	0.04									
Post_10	0.14	0.02	-0.35***	0.07	-0.05	0.22*	-0.03	0.18*								
Post_11	-0.09	0.01	-0.31***	0.02	0.08	-0.02	0.31***	0.17	0.26**							
Post_12	0.06	0.13	-0.21*	0.22*	0.45***	0.01	-0.04	-0.06	0.24**	0.40***						
Post_14	-0.05	-0.09	-0.36***	-0.23*	-0.04	0.20*	-0.39***	0.09	0.00	0.15	0.09					
Post_16	-0.03	0.03	-0.15	0.15	0.14	-0.24**	-0.01	0.19*	-0.06	0.25**	0.17*	-0.19*				
Post_17	-0.08	0.06	0.19*	-0.15	0.16	-0.07	0.17	0.00	-0.46***	-0.19*	-0.02	-0.06	0.07			
Post_18	-0.01	0.08	0.27**	-0.01	-0.02	-0.35***	-0.07	-0.06	-0.17	-0.01	0.13	-0.31***	0.12	0.09		
Post_19	-0.13	-0.12	0.09	0.09	0.15	0.24**	-0.05	0.37***	0.23*	0.23*	0.09	0.47***	-0.07	-0.28**	-0.11	
Post_20	-0.11	-0.07	-0.19*	0.06	0.22*	-0.15	0.18*	0.08	-0.09	0.25**	0.19*	-0.10	0.46***	0.37***	-0.03	0.17

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01; \*\*\*\*p<0.001

Table S11 Correlations between Touch Latency (Real & Artificial Plants only), Social Look Duration (Real & Artificial Plants only), and Caregiver Interview items answered on a 1-5 scale.

Supplementary Online Materials: McNamara & Wertz (2021). Early Plant Learning in Fiji

	Touch latency	Social Look	Plant 1 Seen_Y.1	Plant 2 Seen_Y.1	Fake Fabric Seen_Y.1	Fake Plastic Seen_Y.1	Blue Art Seen_Y.1	Green Art Seen_Y.1	Pot Seen_Y.1	Spoon Seen_Y.1	Shell 1 Seen_Y.1
Touch latency											
Social Look	0.14										
Plant 1 Seen_Y.1	-0.13	0.12									
Plant 2 Seen_Y.1	0.17	-0.06	0.25* *								
Fake Fabric Seen_Y.1	-0.19*	0.10	0.06	-0.27* *							
Fake Plastic Seen_Y.1	-0.16	-0.07	0.06	-0.22*	0.27* *						
Blue Art Seen_Y.1	-0.12	0.00	0.18*	0.09	0.37* * *	0.25* *					
Green Art Seen_Y.1	-0.11	0.08	0.23* *	0.06	0.01	-0.05	0.12				
Pot Seen_Y.1	-0.17	0.08	0.25* *	-0.03	0.12	0.15	0.09	0.06			
Spoon Seen_Y.1	-0.17	0.08	0.25* *	-0.03	0.12	0.15	0.09	0.06	1.00* * *		
Shell 1 Seen_Y.1	-0.07	-0.06	0.19*	0.31* * *	-0.08	0.04	0.28* *	0.19*	-0.10	-0.10	
Shell 2 Seen_Y.1	0.01	0.10	0.33* * *	0.18*	-0.13	0.06	0.16	0.11	-0.18*	-0.18*	0.58* * *

`p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table S12 Correlations between total Touch Latency (Real & Artificial Plants only), Social Look Duration (Real & Artificial Plants only), and Caregiver Interview items assessing familiarity with touch stimuli items on a y/n scale (yes =1; negative values indicate longer latency/duration with more familiarity).

Supplementary Online Materials: McNamara & Wertz (2021). Early Plant Learning in Fiji

	Touch latency	Social Look	Plant 1 Seen_Y.1	Plant 2 Seen_Y.1	Fake Fabric Seen_Y.1	Fake Plastic Seen_Y.1	Blue Art Seen_Y.1	Green Art Seen_Y.1	Pot Seen_Y.1	Spoon Seen_Y.1	Shell 1 Seen_Y.1
Touch latency											
Social Look	0.19										
<b>Plant 1 Seen_Y.1</b>	<b>-0.05</b>	<b>0.19</b>									
<b>Plant 2 Seen_Y.1</b>	<b>0.17</b>	<b>0.06</b>	0.25*								
Fake Fabric Seen_Y.1	-0.22	-0.01	0.06	-0.27*							
Fake Plastic Seen_Y.1	-0.14	-0.04	0.06	-0.22	0.27*						
Blue Art Seen_Y.1	-0.17	0.13	0.18	0.09	0.37* *	0.25*					
Green Art Seen_Y.1	-0.09	0.08	0.23	0.06	0.01	-0.05	0.12				
Pot Seen_Y.1	-0.20	0.13	0.25*	-0.03	0.12	0.15	0.09	0.06			
Spoon Seen_Y.1	-0.20	0.13	0.25*	-0.03	0.12	0.15	0.09	0.06	1.00* * *		
Shell 1 Seen_Y.1	-0.06	0.12	0.19	0.31*	-0.08	0.04	0.28*	0.19	-0.10	-0.10	
Shell 2 Seen_Y.1	0.00	0.23	0.33* *	0.18	-0.13	0.06	0.16	0.11	-0.18	-0.18	0.58* * *

`p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table S13 Correlations between total Touch Latency (Real Plants only), Social Look Duration (Real Plants only), and Caregiver Interview items assessing familiarity with touch stimuli items on a y/n scale (yes =1; negative values indicate longer latency/ duration with more familiarity).

Supplementary Online Materials: McNamara & Wertz (2021). Early Plant Learning in Fiji

	Touch latency	Social Look	Plant 1 Seen_Y.1	Plant 2 Seen_Y.1	Fake Fabric Seen_Y.1	Fake Plastic Seen_Y.1	Blue Art Seen_Y.1	Green Art Seen_Y.1	Pot Seen_Y.1	Spoon Seen_Y.1	Shell 1 Seen_Y.1
Touch latency											
Social Look	0.11										
Plant 1 Seen_Y.1	-0.23	0.06									
Plant 2 Seen_Y.1	0.19	-0.17	0.25*								
<b>Fake Fabric Seen_Y.1</b>	<b>-0.17</b>	<b>0.21</b>	0.06	-0.27*							
<b>Fake Plastic Seen_Y.1</b>	<b>-0.19</b>	<b>-0.10</b>	0.06	-0.22	0.27*						
Blue Art Seen_Y.1	-0.06	-0.13	0.18	0.09	0.37* *	0.25*					
Green Art Seen_Y.1	-0.14	0.07	0.23	0.06	0.01	-0.05	0.12				
Pot Seen_Y.1	-0.15	0.03	0.25*	-0.03	0.12	0.15	0.09	0.06			
Spoon Seen_Y.1	-0.15	0.03	0.25*	-0.03	0.12	0.15	0.09	0.06	1.00* * *		
Shell 1 Seen_Y.1	-0.10	-0.23	0.19	0.31*	-0.08	0.04	0.28*	0.19	-0.10	-0.10	
Shell 2 Seen_Y.1	0.03	-0.03	0.33* *	0.18	-0.13	0.06	0.16	0.11	-0.18	-0.18	0.58* * *

`p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table S14 Correlations between total Touch Latency (Artificial Plants only), Social Look Duration (Artificial Plants only), and Caregiver Interview items assessing familiarity with touch stimuli items on a y/n scale (yes =1; negative values indicate longer latency/ duration with more familiarity).

Supplementary Online Materials: McNamara & Wertz (2021). Early Plant Learning in Fiji

	Touch latency	Social Look	Plant 1 Seen_Y.1	Plant 2 Seen_Y.1	Fake Fabric Seen_Y.1	Fake Plastic Seen_Y.1	Blue Art Seen_Y.1	Green Art Seen_Y.1	Pot Seen_Y.1	Spoon Seen_Y.1	Shell 1 Seen_Y.1
Touch latency											
Social Look	0.29*										
Plant 1 Seen_Y.1	-0.09	-0.01									
Plant 2 Seen_Y.1	0.14	-0.18	0.25*								
Fake Fabric Seen_Y.1	-0.12	0.07	0.06	-0.27*							
Fake Plastic Seen_Y.1	-0.04	0.04	0.06	-0.22	0.27*						
<b>Blue Art Seen_Y.1</b>	<b>-0.07</b>	<b>0.00</b>	0.18	0.09	0.37* *	0.25*					
<b>Green Art Seen_Y.1</b>	<b>-0.38**</b>	<b>0.02</b>	0.23	0.06	0.01	-0.05	0.12				
Pot Seen_Y.1	-0.16	-0.05	0.25*	-0.03	0.12	0.15	0.09	0.06			
Spoon Seen_Y.1	-0.16	-0.05	0.25*	-0.03	0.12	0.15	0.09	0.06	1.00* * *		
Shell 1 Seen_Y.1	-0.17	-0.09	0.19	0.31*	-0.08	0.04	0.28*	0.19	-0.10	-0.10	
Shell 2 Seen_Y.1	-0.07	0.17	0.33* *	0.18	-0.13	0.06	0.16	0.11	-0.18	-0.18	0.58* * *

`p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table S15 Correlations between total Touch Latency (Novel Artifacts only), Social Look Duration (Novel Artifacts only), and Caregiver Interview items assessing familiarity with touch stimuli items on a y/n scale (yes =1; negative values indicate longer latency/ duration with more familiarity).

	Touch latency	Social Look	Plant 1 Seen_Y.1	Plant 2 Seen_Y.1	Fake Fabric Seen_Y.1	Fake Plastic Seen_Y.1	Blue Art Seen_Y.1	Green Art Seen_Y.1	Pot Seen_Y.1	Spoon Seen_Y.1	Shell 1 Seen_Y.1
Touch latency											
Social Look	0.27*										
Plant 1 Seen_Y.1	-0.06	0.28*									
Plant 2 Seen_Y.1	0.16	0.00	0.25*								

Supplementary Online Materials: McNamara & Wertz (2021). Early Plant Learning in Fiji

Fake Fabric Seen_Y.1	-0.10	0.12	0.06	-0.27*							
Fake Plastic Seen_Y.1	-0.03	0.00	0.06	-0.22	0.27*						
Blue Art Seen_Y.1	0.01	0.10	0.18	0.09	0.37* *	0.25*					
Green Art Seen_Y.1	-0.13	-0.16	0.23	0.06	0.01	-0.05	0.12				
<b>Pot Seen_Y.1</b>	<b>-0.19</b>	<b>0.00</b>	0.25*	-0.03	0.12	0.15	0.09	0.06			
<b>Spoon Seen_Y.1</b>	<b>-0.19</b>	<b>0.00</b>	0.25*	-0.03	0.12	0.15	0.09	0.06	1.00* * *		
Shell 1 Seen_Y.1	-0.10	0.06	0.19	0.31*	-0.08	0.04	0.28*	0.19	-0.10	-0.10	
Shell 2 Seen_Y.1	-0.10	0.09	0.33* *	0.18	-0.13	0.06	0.16	0.11	-0.18	-0.18	0.58* * *

`p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table S16 Correlations between total Touch Latency (Familiar Artifacts only), Social Look Duration (Familiar Artifacts only), and Caregiver Interview items assessing familiarity with touch stimuli items on a y/n scale (yes =1; negative values indicate longer latency/ duration with more familiarity).

Supplementary Online Materials: McNamara & Wertz (2021). Early Plant Learning in Fiji

	Touch latency	Social Look	Plant 1 Seen_Y.1	Plant 2 Seen_Y.1	Fake Fabric Seen_Y.1	Fake Plastic Seen_Y.1	Blue Art Seen_Y.1	Green Art Seen_Y.1	Pot Seen_Y.1	Spoon Seen_Y.1	Shell 1 Seen_Y.1
Touch latency											
Social Look	0.21										
Plant 1 Seen_Y.1	-0.12	0.15									
Plant 2 Seen_Y.1	0.07	-0.04	0.25*								
Fake Fabric Seen_Y.1	-0.10	0.24	0.06	-0.27*							
Fake Plastic Seen_Y.1	-0.21	0.05	0.06	-0.22	0.27*						
Blue Art Seen_Y.1	-0.16	0.25*	0.18	0.09	0.37* *	0.25*					
Green Art Seen_Y.1	-0.29*	-0.04	0.23	0.06	0.01	-0.05	0.12				
Pot Seen_Y.1	-0.17	0.13	0.25*	-0.03	0.12	0.15	0.09	0.06			
Spoon Seen_Y.1	-0.17	0.13	0.25*	-0.03	0.12	0.15	0.09	0.06	1.00* * *		
<b>Shell 1 Seen_Y.1</b>	<b>-0.22</b>	<b>-0.05</b>	0.19	0.31*	-0.08	0.04	0.28*	0.19	-0.10	-0.10	
<b>Shell 2 Seen_Y.1</b>	<b>-0.18</b>	<b>0.14</b>	0.33* *	0.18	-0.13	0.06	0.16	0.11	-0.18	-0.18	0.58* * *

`p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table S17 Correlations between total Touch Latency (Natural objects/ shells only), Social Look Duration (Natural objects/ shells only), and Caregiver Interview items assessing familiarity with touch stimuli items on a y/n scale (yes =1; negative values indicate longer latency/ duration with more familiarity).