**Results**

In total, the data collector completed 168 observation sessions, totaling 1,680 minutes. This consisted of 24 sessions each for Shauri, Magic, and Selina, and 16 sessions each for Maude, Susie, Jacob, Mouse, Mocha, and Mystery. Shauri, Magic, and Selina were exposed to the human behavior (HB) and chimpanzee behavior (CB) interaction conditions three times apiece (once with each caregiver), along with the corresponding carry-over, matched control, and carry-over matched control for each of those interactions. The six remaining chimpanzees were exposed to the HB and CB interaction conditions two times apiece (once with each of two caregivers, Buckbeak and Fawkes).

**Hypothesis 1: There will be differences in the proportion of time spent in state behaviors and frequency of event behaviors between the CB and HB interaction conditions. These differences will be shown for the chimpanzees overall as well as based on individual chimpanzee and early life history category.**

Tables showing proportions based on each of these factors

There were not any significant behavioral differences overall between the CB and HB conditions. There was a significant difference in social play behaviors between the CB and HB conditions based on early life history (p = 0.0075). How do I know what the direction was? Significantly more social play for the late human surrogate category in \_\_\_\_.

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There were significantly more other affinitive social behaviors in the HB condition than the CB condition (p = 0.0324).

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There was a significant difference in aggressive behaviors between the CB and HB conditions based on early life history (p = 0.0356). How do I know what the direction was? Significantly more aggression for the early human surrogate category in \_\_\_\_ than in \_\_\_\_.

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**Hypothesis 2: There will be differences in the proportion of time spent in state behaviors and frequency of event behaviors between the CB carry-over (CBCO) and HB carry-over (HBCO) sessions. These differences will be shown for the chimpanzees overall as well as based on individual chimpanzee and early life history category.**

Tables showing proportions based on each of these factors

There were not any significant behavioral differences overall between the CBCO and HBCO conditions. There was a significant difference in aggression between the CBCO and HBCO conditions based on early life history (p = 0.0399). Direction?

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**Hypothesis 3: There will be differences in the proportion of time spent in state behaviors and frequency of event behaviors between the interaction sessions and carry-over (CO) sessions. These differences will be shown for the chimpanzees overall as well as based on individual chimpanzee and early life history category.**

Tables showing proportions based on each of these factors

There were significant differences in social play, other affinitive behaviors, and aggression overall between the interaction and CO sessions. Direction? There was a significant difference in social play between the interaction and CO sessions based on early life history (p = 0.008502). There was a significantly more social play (during the \_\_\_ sessions?) for the chimpanzees in the late human surrogate category than those in the early human surrogate (p = 0.0115263) and the chimpanzee mother (p = 0.0421420) categories.

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There was a significant difference in other affinitive between the interaction and CO sessions based on condition (p = 0.03901).

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There was a significant difference in aggression between the interaction and CO sessions based on early life history (p = 0.04779).

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**Hypothesis 4: There will be differences in the proportion of time spent in state behaviors and frequency of event behaviors between the interaction sessions and matched control (MC) sessions. These differences will be shown for the chimpanzees overall as well as based on individual chimpanzee and early life history category.**

Tables showing proportions based on each of these factors

There were significant differences in grooming, other affinitive behaviors, and inactive behaviors overall between the interaction and MC sessions. There was a significant difference in social play between the interaction and MC sessions based on early life history (p = 0.01725). There was a significant difference in other affinitive behaviors between the interaction and MC sessions based on condition (p = 0.009038). There was a significant difference in aggression between the interaction and MC sessions based on early life history (p = 0.03958) and individual chimpanzee (p = 0.04573). There was a significant difference in non-interactive behavior between the interaction and MC sessions based on individual chimpanzee (p = 0.0087).

**Hypothesis 5: There will be differences in the proportion of time spent in state behaviors and frequency of event behaviors between the CO sessions and their corresponding and matched control (COMC) sessions. These differences will be shown for the chimpanzees overall as well as based on individual chimpanzee and early life history category.**

Tables showing proportions based on each of these factors

There were significant differences in traveling overall between the CO and COMC sessions.

**Hypothesis 6: There will be differences in the chimpanzees’ latency in engaging in interactions with caregivers based on condition (HB or CB), individual, and early life history category.**

Tables showing proportions based on each of these factors

There was a significant difference in latency based on early life history (p = 0.0416).

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**Additional analysis.**

Behavioral changes over time overall and based on individual, early life history category, and condition.