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#### **Authors**

Wagner, Katherine W.  
Ross, Stephen R.

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# Serial order learning and performance by chimpanzees and gorillas on a computerized task

**Katherine E. Wagner**

Lester E. Fisher Center for the Study and Conservation of Apes, Lincoln Park Zoo, Chicago, IL  
60614

**Stephen R. Ross**

Lester E. Fisher Center for the Study and Conservation of Apes, Lincoln Park Zoo, Chicago, IL  
60614

**Abstract:** Multiple primate species have demonstrated a propensity for serial order learning that qualitatively differs from many tested non-primates. The interaction between physiology, sociality and cognition evinces the need to examine this ability throughout the primate order and across different stages of performance. Zoo-living gorillas (n=3) and chimpanzees (n=3) learned to order progressively-built lists of 3,4, and 5 symbols on a touchscreen computer. While performance increased on longer lists for both species ( $F=20.1$ ,  $p<0.001$ ), overall gorillas performed more accurately ( $F=149.1$ ,  $p<0.001$ ) and exhibited longer response latencies ( $F=89.2$ ,  $p<0.001$ ) compared to chimpanzees. Task errors most frequently comprised selection of the symbol associated with the next ordinal position ( $F=124.3$ ,  $p<0.001$ ). Results support an ape-typical learning process, while performance differences may indicate the influence of species-traits impacting attention, arousal, and impulsivity.