Dear Editor:

I would like to ask that you consider our manuscript “Friends aren’t food: pinyon jays show context-dependent numerical cognition” for review and publication in *Biology Letters*.

Individuals sometimes act in ways that benefits others (i.e., prosocial behavior), often without an immediate benefit to themselves. However, species, and individuals within a species, vary in their prosocial preferences, leading researchers to investigate the mechanisms that underlie prosocial behavior under controlled experimental settings.

In the prosocial choice task, subjects must decide between a set of choices that differ in their reward outcomes to a nearby individual. However, only a few experimental tests of prosocial behavior have been done in birds, and none have investigated the hormonal mechanisms underlying prosocial behavior. Here, we tested pinyon jays—a highly social corvid species—for prosocial and altruistic preferences (Experiment 1). We then examined the impact of administering mesotocin, the avian homologue to mammalian oxytocin, on the birds’ preferences (Experiment 2). Researchers have shown that oxytocin levels increase following prosocial interactions, and oxytocin administration increases attention to social cues, which can result in increased prosocial and altruistic preferences. Though mesotocin administration has been implicated in promoting a preference for associating with a larger group size, it has not been tied to prosocial behavior. This study provides the first experimental evidence that pinyon jays are prosocial, but not altruistic, and that mesotocin administration increases their prosocial choices.

In Experiment 1, we show that pinyon jays voluntarily delivered food rewards to partners, but only when also receiving rewards for themselves (prosocial trials). In altruism trials, where subjects receive no rewards for themselves, subjects did not significantly deliver more food to partners than expected from chance. Thus, pinyon jays are prosocial, but not altruistic, in the prosocial choice task. In Experiment 2, we find that, under the influence of a high dose of mesotocin, subjects preferentially delivered food rewards to partners, but did not do so in the low dose mesotocin or saline conditions. Thus, mesotocin plays a similar functional role in avian prosociality as oxytocin does in mammals.

This study is the first experimental corvid study showing that ….

mesotocin increases an individual’s likelihood of delivering rewards to others. Given the relative paucity of prosocial studies outside of primates and the fact that our results suggest an evolutionary link between the prosocial function of oxytocin/mesotocin in mammals and birds, this study will be of great interest to the readership of *Biology Letters*.

Attached you will find the manuscript in .docx format, figures, and supplementary materials. Additionally, I have included the raw data and R code needed to replicate all our findings and figures. This work is original and has not been previously published or submitted elsewhere. This research is the culmination of my master’s work and I would appreciate this paper to be considered for the early career researcher competition.

Sincerely,

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