

Ostensive behaviour by humans is associated with increased attention from dogs, but not increased point-following

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Background

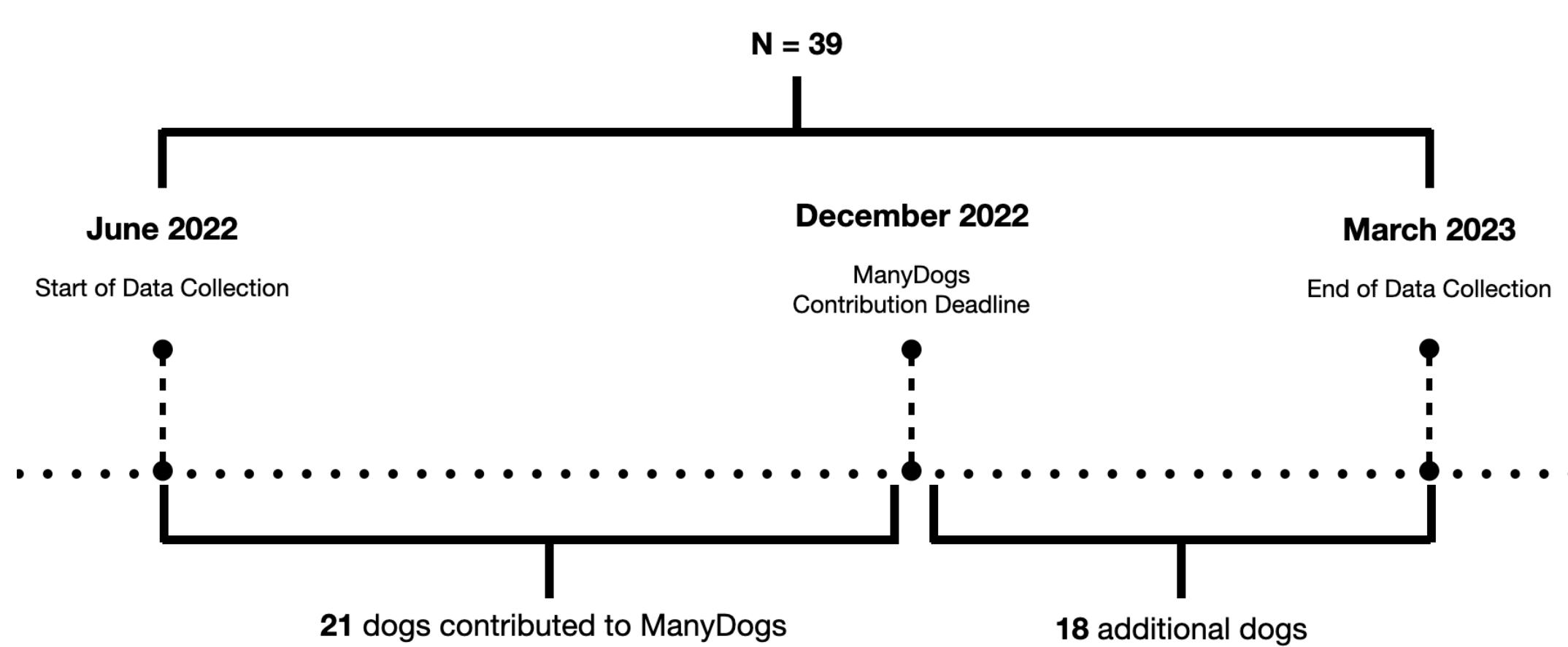
Ostensive behaviours are intended to communicate to others that they are being addressed and that they can expect to learn referential information (Behne et al., 2005; Kaminski et al., 2012).

The ManyDogs Project recently found no evidence to support the claim that dogs follow human points more often when pointing is preceded by ostensive behaviours (e.g., calling the dog's name, making eye contact) than when pointing is preceded by non-ostensive behaviours (e.g., a light cough, no eye contact; 2023).

However, it remained unclear whether the human's ostensive behaviour altered the dogs' behavior in any other way. In this study, we examined:

1. Whether ostensive behaviour by humans during a pointing gesture is related to dogs' point-following
2. Whether ostensive behaviour by humans during a pointing gesture is related to dogs' head orientation
3. Whether attention toward a pointing human is associated with increased point-following accuracy

Participants



6 Female
9 Female-Spayed
8 Male
16 Male-Neutered

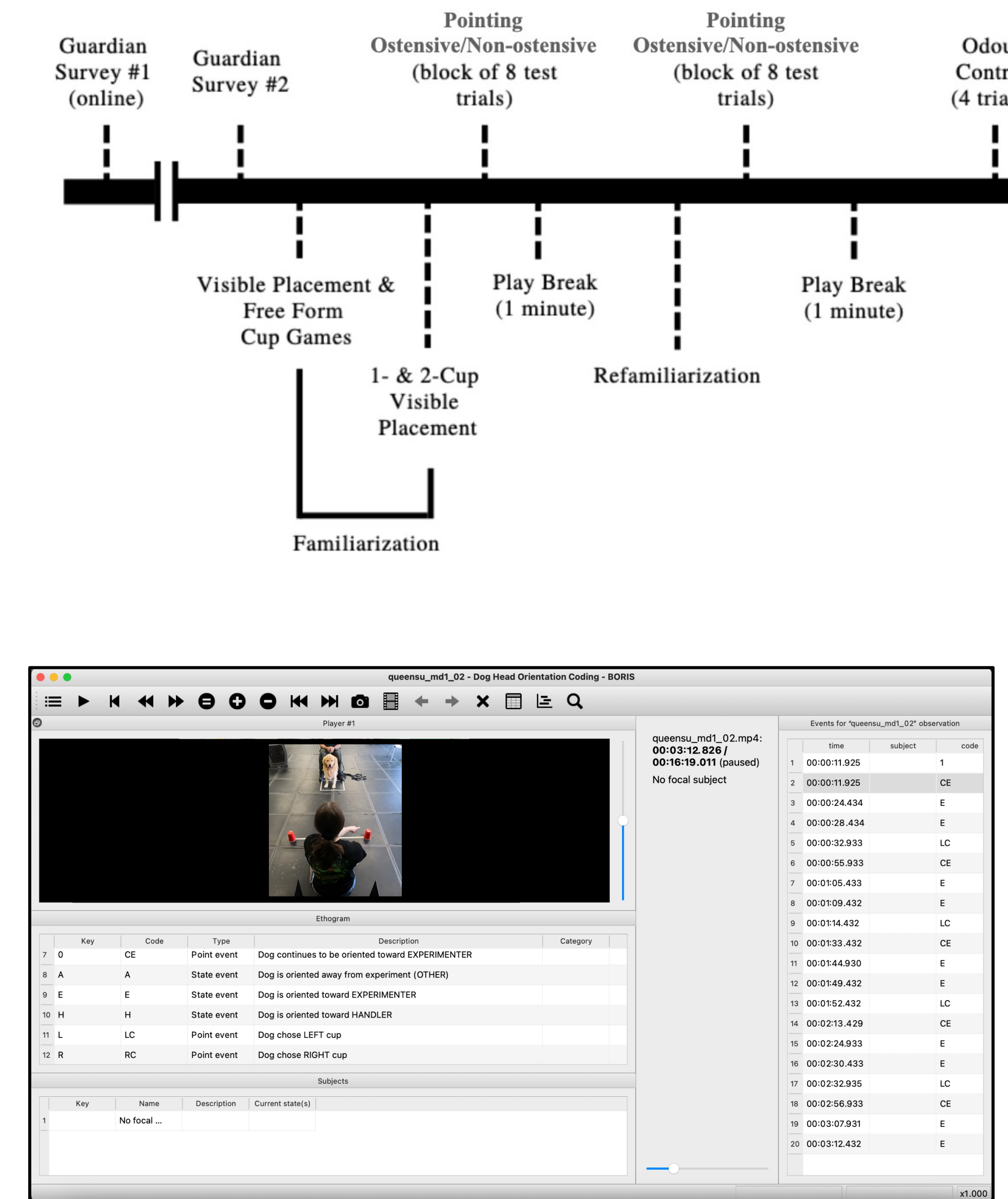
31/39 Purebred
(12/39 Belgian Malinois, German Shepherd, or cross)

Mean age = 4.46 years

30 additional dogs were tested but excluded from analyses

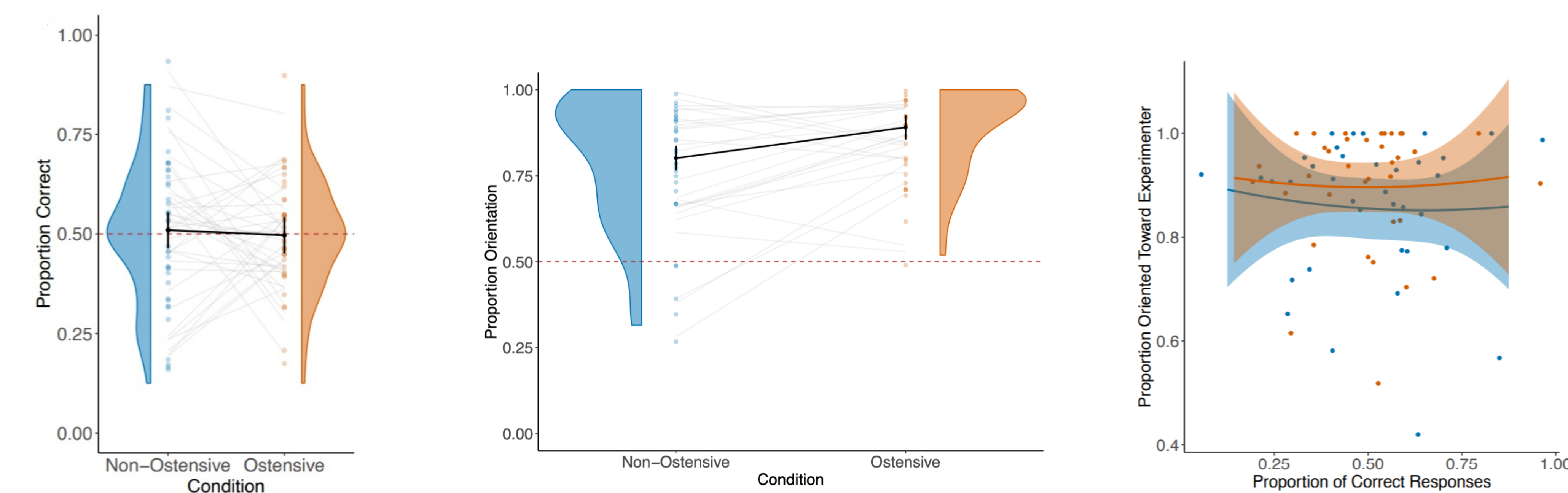
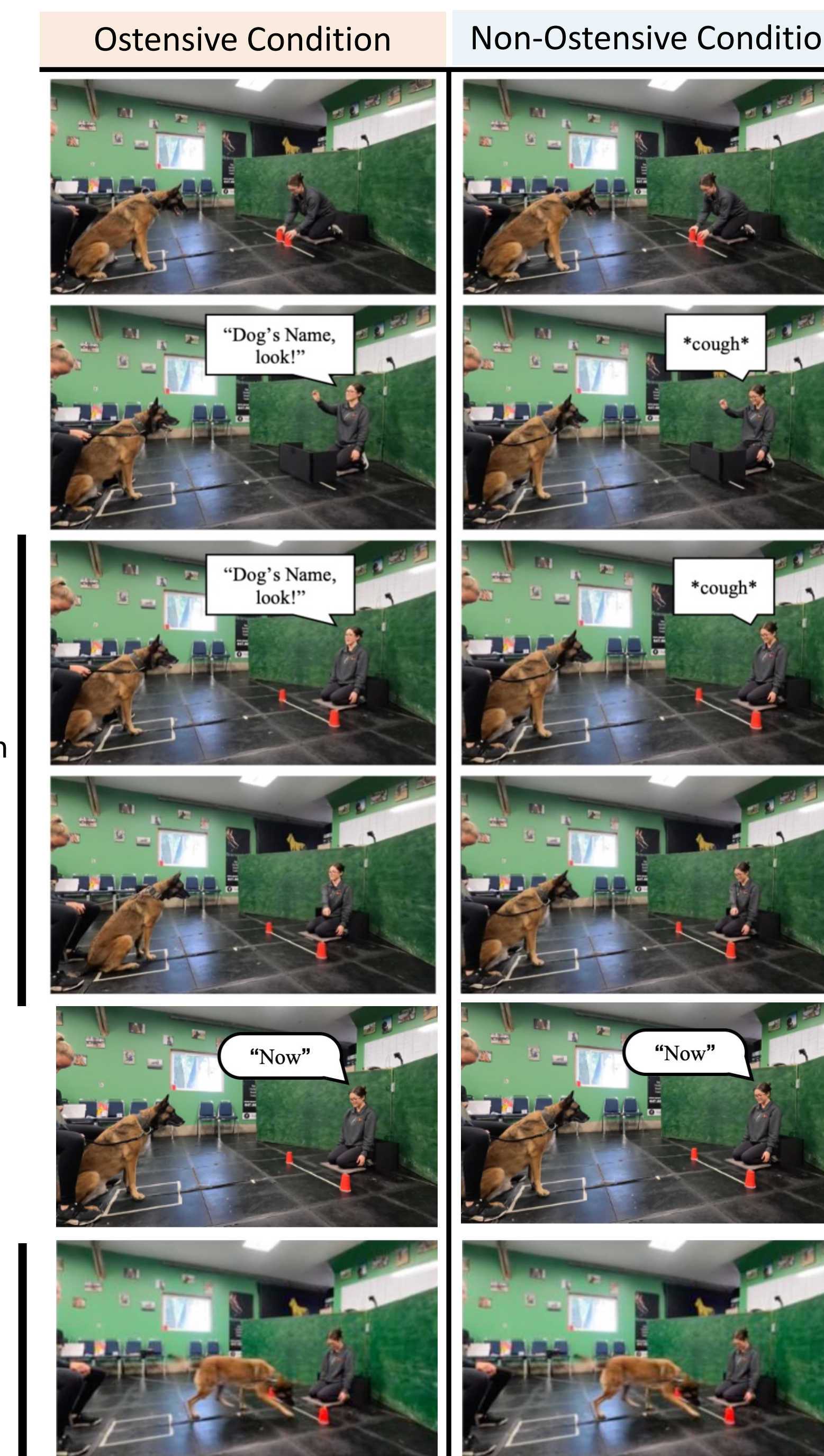


Procedure & Results



Head Orientation Coding (5s)

Point-Following Coding



1. Ostensive cues did not increase dog's propensity to follow the point $B = -0.05$. $S.E. = 0.16$, $|z| = -0.32$, $p = 0.75$.

2. Dogs oriented toward the experimenter more during the ostensive condition compared to the non-ostensive condition ($\chi^2(1) = 21.51$, $p < .001$). Though eye-tracking was not possible, gaze appeared to be primarily directed toward the experimenter's face.

3. Increased attention towards the experimenter did not result in increased point-following accuracy ($\chi^2(1) = 0.54$, $p = 0.46$). Moreover, this did not significantly differ by condition ($\chi^2(1) = 0.45$, $p = 0.50$).

Conclusions

We found no evidence that dogs increased searching at the target location when pointing was accompanied by additional ostensive behaviours. In fact, we found no evidence of point-following at all; in both the ostensive and non-ostensive conditions, dogs were just as likely to choose the target location as the nontarget location.

Yet, the experimenter's ostensive behaviour did increase dogs' head orientation toward her – suggesting an increase in visual attention -- during the pointing phase. This increase in attention was not associated with increased likelihood of choosing the target location.

It is possible that the ostensive behaviours we used are attention-grabbing (e.g., Szufnarowska et al., 2014), and to some extent interpreted as *ostensive*, but only as cues that are predictive of upcoming commands. That is, dogs oriented to the experimenter in both conditions, but to a greater extent in the ostensive condition, because the auditory cue (their name) was predictive of a follow-up command, such as the 'release' to go search the cups.

Under this interpretation, the experimenter's point was not connected to the ostensive behaviours, perhaps because the point was not accompanied by a head turn toward the target. Instead, dogs awaited the next command (release) and then chose a cup at random.

Further Information

References

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