Evaluating the Effectiveness of Prompting Ratio Procedures for Canine Skill Acquisition

Jeffrey R. Miller, Nicole C. Scharrer, Holly S. Perszyk, Nicole J. Jerdee, Jaime R. Barth, Tory L. Miller, Samantha A. Liggett, & Daniel D. Holt
Psychology Department, University of Wisconsin-Eau Claire

Introduction

• Prompts are commonly utilized to teach canines novel skills during canine obedience training with the goal of having control of the desired behavior transferred from the prompt to a vocal command.
• Over prompting or fading prompts too quickly may be detrimental to skill acquisition.
• To remedy the issue past research has used a prompt to probe method (Mattingly & Bott, 1990) to determine when control of the behavior has been transferred from the prompt to the vocal command.
• No previous research has examined the effectiveness of different prompting ratio procedures.
• The purpose of the present study was to evaluate the effectiveness of 3 different prompt to probe ratios, 1:1, 3:1, and 5:1, when teaching various skills to canines.

Method

Participants, Setting, & Materials

• 21 dogs of mixed breeds participated in the study, 9 females and 12 males with approximated ages ranging from 4 months to 9 years.
• All sessions were conducted at the Eau Claire County Humane Association.
• Small pieces of hot dog were used as reinforcers for all participants.

Baseline

• Each canine was evaluated to determine if the canine had the ability to sit and shake before being admitted into the research.

Training

• Each session consisted of approximately 20 trials.
• One of three prompt to probe ratios was randomly assigned for each behavior.
• Training was completed across both skills for each canine when possible.
• Each canine was trained by one trainer throughout the research.
• Skills were taught one at a time.
• The trainer used physical guidance to promote the target behaviors.
• Target behaviors occurring within 3 seconds of the verbal command were reinforced.
• Acquisition of the target response was defined as 10 consecutive correct responses.

Procedural Integrity

• Procedural integrity was measured as percentage of trials implemented correctly.

Results

Trials to Mastery

<table>
<thead>
<tr>
<th>Prompt to Probe Ratio</th>
<th>Sit</th>
<th>Shake</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:1</td>
<td>98.8%</td>
<td>97.1%</td>
</tr>
<tr>
<td>3:1</td>
<td>99.1%</td>
<td>100%</td>
</tr>
<tr>
<td>5:1</td>
<td>99.2%</td>
<td>98.4%</td>
</tr>
</tbody>
</table>

Procedural Integrity

Measured for 100% of trials
1:1 = 98.8%
3:1 = 99.1%
5:1 = 99.2%

Interobserver Agreement

Measured for 31% of trials
1:1 = 97.1%
3:1 = 100%
5:1 = 98.4%

Discussion

Implications

• Our results indicate that the 5:1 and 3:1 procedures may be equally effective in training basic obedience behaviors. Both the 5:1 and 3:1 procedures appear to be more effective than the 1:1 procedure.
• These data would suggest that using a ratio of prompting greater than 1 may lead to behavior acquisition in fewer trials.

Potential Confounding Variables

• Limited subject history, age, and breed information.
• Training setting presented uncontrollable distractions and between session events (e.g., other dogs and potential adopters).

Future Research

• Investigate additional prompt to probe ratio values.
• Investigate the effects of different prompt levels and prompt fading.

Thank you to ECCHA Director Lauren Evans, the ECCHA staff, Kristine Funk, and the B.A.R.C. team.