A Multidimensional Analysis of Dog-Dog Playgroups in Shelters: Impacts on Human and Canine Welfare

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Introduction: Why Study Dog-Dog Playgroups (and Play)?

Belpedio et al., 2010; Ruiz-Izaguirre et al., 2014; Ortolani et al., 2009; Viccino & Marcacci, 2015

Is Social Play a Species-Typical Behavior for Dogs?

Human-dog interactions and behavioral responses of village dogs in coastal villages in Michoacan, Mexico.
Study 1. Do playgroups influence perceptions of adoptability and welfare in shelter dogs?

Method: Study Design

- **Willingness to Donate**
- **Perceived Adoptability**
- **Perceived Welfare**

**Randomly assigned to view ONE of three 1 min. videos, being either**

- Dog alone in kennel
- Dog interacting with person
- Dog in playgroup

**Condition A:**
Dog alone in kennel

**Condition B:**
Dog interacting with person
Condition C:
Dog in playgroup

Perceived Adoptability Questionnaire
• 6-item scale; all items via Likert scale (1 = strongly disagree to 6 = strongly agree)
• Example questions:
  • “I would feel comfortable approaching this dog.”
  • “This dog looks friendly to me.”
  • “This dog looks like an aggressive dog.”
  • “This dog looks difficult to train.”
  • “This dog looks smart.”
  • “If circumstances allowed, I’d consider adopting this dog.”
• Cronbach’s alpha (0.86)

Perceived Welfare Questionnaire
• 10-item scale; all items via Likert scale (1 = strongly disagree to 6 = strongly agree)
• Example questions:
  • “The dog appears to be in good physical health.”
  • “The dog looks unhappy.”
  • “The dog appears to be stressed.”
  • “The dog looks comfortable in its environment.”
  • “Overall, this dog appears to have good welfare.”
• Cronbach’s alpha (0.90)

Willingness to Donate
**Results: Do playgroups influence perceived adoptability in shelter dogs?**

Perceived Adoptability
- Dog interacting with person ($M = 5.1$)
- Dog alone in kennel ($M = 5.0$)
- Dog in playgroup ($M = 4.5$)

Human interaction* > alone in kennel* > dog in playgroup

**Results: Do playgroups influence perceived welfare of shelter dogs?**

Perceived Welfare
- Dog in playgroup ($M = 5.2$)
- Dog with person ($M = 4.8$)
- Dog alone ($M = 3.9$)

Donations
- Dog in playgroup* > dog with person* > dog alone in kennel

**Results: Do playgroups influence willingness to donate to the shelter?**

- $\checkmark$ Dog interacting with person
- $\checkmark$ Dog alone in kennel
- $\times$ Dog in playgroup

**Conclusions from Study 1**

- How dogs are portrayed socially in videos can influence how they are perceived with respect to adoptability and welfare
- Adoptability and welfare are two different measures in their own right; in fact, they could be inversely related!
- Future directions...
Do playgroups promote physiological and behavioral welfare in shelter dogs?

- Observed changes in stress-related behaviors from across days in shelter (i.e., 4 days), such that dogs receiving PG had reduced stress-related behaviors compared to control
- No significant differences in salivary cortisol levels between PG and control dogs
- Looked at dogs within the same shelter within a single playgroup method, but did not have a comparison across shelters or different playgroup methodologies
Introduction: Playgroup Form (Methodology)

This study assessed whether a) use of playgroup, b) playgroup methodology, and c) size of playgroup influences the behavioral and physiological welfare of dogs housed in shelters.

Study Objectives

All playgroup shelters reported turning out 80% or more of their population in playgroup 7 days per week. Playgroups were run by staff or volunteers with at least 6 months experience running PG at that shelter.

Method: Intervention (Playgroup Shelters)

Control Shelter (No dog-dog playgroup)
Pre-Intervention Salivary Cortisol Collection
Repeated for 7 continuous days (per individual)

Post-Intervention Salivary Cortisol Collection
Intervention (PG or control play) for 10 mins
In-Kennel Behavioral Observation (1 min)

Method: Daily Overview of Procedures

Collected between 9 AM – 12 PM daily
Collected between 1-3 PM daily (during adoption hours)

How many dogs participated?
Total N was 158 completed dogs across all four shelters

N = 35
N = 35
N = 51
N = 37

Step 3: Standardized In-Kennel Enrichment

Do playgroups promote physiological welfare in shelter dogs?

Overall, dogs in the control group (no PG) had the highest cortisol levels.
Overall, dogs in the small positive reinforcement PG had the lowest cortisol levels.
There was no difference in overall cortisol levels between dogs in the large correction PG or the small correction playgroup, but both were higher than the positive reinforcement PG and lower than the control (no PG at all).
How does playgroup affect physiological stress?

How does playgroup affect indicators of adoptability?

Positive Indicators of Adoptability (p < 0.05)
- Facing forward
- Front of Kennel
- Gazing
- Tail wagging
- Play initiation
- Attending to person

Dogs participating in PG showed the least deterioration when it came to behaviors indicative of adoptability, whereas control dogs showed the most deterioration.

In Kennel Behavioral Observation: Adoptability Indicators

Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Day 7

Negative Indicators of Adoptability (p < 0.05)
- Standing
- Facing Away
- Back of Kennel
- Leaning/Rubbing Against Kennel

Overall, the control shelter showed the largest reductions in negative indicators of adoptability. Of the PG shelters, the small PG using rewards had the largest reduction.
In-Kennel Indicators of Behavior Welfare

Day 1
Day 7

Behavioral Indicators of Positive Welfare
- Stretching
- Yawning

Behavioral Indicators of Negative Welfare
- Barking
- Lip licking
- Licking wall
- Standing
- Panting
- Tail wagging

How does playgroup affect behavioral indicators of welfare?

- Large PG using corrections
- Small PG using rewards
- Control (No PG)

- Lying with head down
- Panting
- Yawning

So, what does it all mean???
Study 2 Discussion & Take Home Points

➢ Overall, dog-dog playgroups promote positive behavioral and physiological welfare that maintains in the short-term
➢ Off-leash play without a dog still does have benefits, but may not be as long term.
➢ But, how playgroups are run does matter.
➢ The use of rewards is associated with lower physiological stress and positive behavioral outcomes.
➢ And size does matter, but not in an absolute sense.
➢ Large vs. small playgroups did not differ significantly in overall physiological stress.
➢ Be aware of rate of corrections being used per dog.
➢ Smaller playgroups (if reward-based) are associated with lower stress.
➢ Larger playgroups may offer more, not less choice to dogs (supported by positive behavioral welfare outcomes).
➢ Finally, dogs responded individually to all types of playgroups.

Remember, enrichment should be designed with a behavioral goal in mind!

What is the goal of your playgroup?

➢ Behavior assessment?
➢ Behavior modification?
➢ Bringing “shy” dogs out of their shell?
➢ Improving play skills?
➢ “Enrichment”? (Still needs further goal-setting?)

And, what is the environment you are working with?

Study 3. Do playgroups reduce compassion fatigue in animal rescue workers?
Animal rescue workers have the highest rate of suicide among all American workers (Tiezena et al., 2015)

1 in 6 veterinarians have contemplated suicide (CDC, 2015)

**Objective:** Determine the individual and workplace characteristics that are predictive of secondary traumatic stress and compassion fatigue in animal care professionals working in public animal shelters.

**Screening**

**Interview**

**Select Sites**

**Distribute Survey**

**WORKPLACE CHARACTERISTICS**
- Shelter type (public, private)
- Annual animal intake
- Annual funding
- Average length of stay
- Live release rate
- Enrichment (Y/N)

**INDIVIDUAL CHARACTERISTICS**
- Occupation
- Salary
- Hours worked per week
- Length of time working in field
- Marital status

**OUTCOME VARIABLES**
- Secondary Traumatic Stress
- Professional Quality of Life
- Attitudes/Perceptions of Occupation
Thank you!

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    - Marko Kowal
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- **Any Questions?**
  Contact us at HAWC@monmouth.edu
Method

• Participants
  • N = 109 undergraduate students from Monmouth University
  • Level of agreement with the statement, “I like dogs”

Method: Participant Variables

Are you planning to add a dog to your home in the near future? (Please circle only one option):

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<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Maybe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48.6%</td>
<td>24.3%</td>
<td>27.1%</td>
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Preliminary Results: Behavioral welfare in large PG using corrections
Preliminary Results: Behavioral welfare in large PG using corrections

Preliminary Results: Behavioral welfare in small PG using corrections
Preliminary Results: Behavioral welfare in shelter without dog-dog playgroups (control)