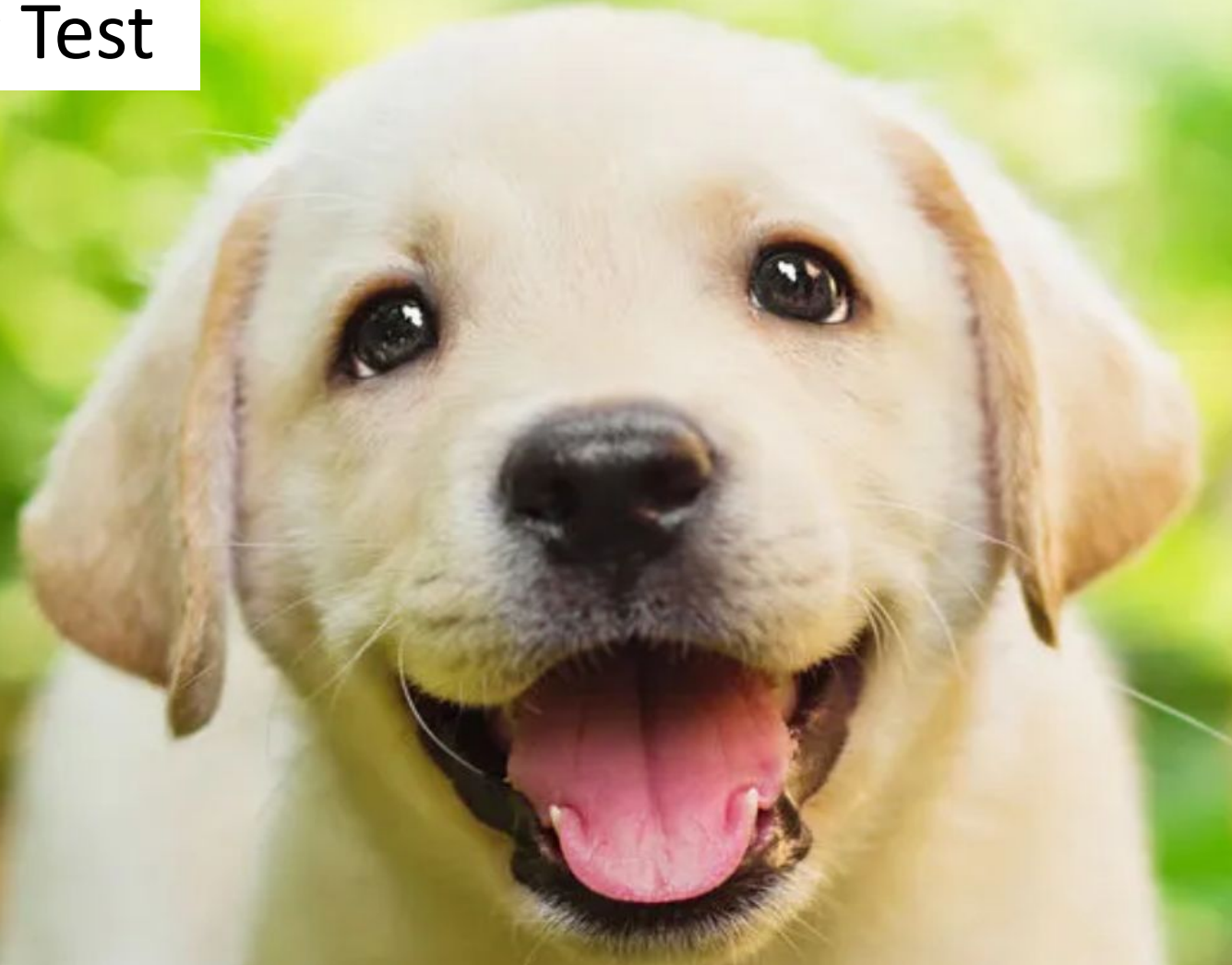# GD Bart Puppy Test

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Thank you

Guiding Eyes for the Blind

Yorktown Heights, NY

IWDBA
THE *Hero* BY YOUR SIDE

Our Agenda

1. About the GD Bart Puppy Test

2. Scoring, using results and predictions of success

3. Using physiological data for scoring puppy test?

GDBart Puppy Test

- Standardized test

- Freely available

- 21 test components

- 12-15 minutes per pup

- 8 weeks of age

- 3 People needed:

  - Scorer
  - Handler
  - Helper/Videographer
- Equipment easy to create and purchase

- Indoor test- approx 24 x 24 ft (7.3m x 7.3m)

Smaller ok

Behavior Checklist
Behavioral scoring system that standardizes behavior scoring across multiple organizations.

Behavior Checklist, Add new

Behavior Checklist Edit

Dog	Mabel GEB 1MM15 LRBk 2015-06-28 Guiding Eyes for the Blind (GEB)
Date *	Date when BCL was scored
BCL Type *	Please select / Type of behavior checklist
Person Who Scored *	type name of who scored BCL, add new if no match / Add new
Organization Where Dog Tested *	Guiding Eyes for the Blind (GEB)
Puppy Raiser	type name, add new if no match / Add new / Who is the person who is influencing the dog's training during the time period of this behavior checklist
Number of Dogs Raised	
Video Link	

BCL items required in each observation situation listed below

Y = Yes
O = Optional

NoS = No Score Abs = Absent VMld = Very Mild Mld = Mild
Mod = Moderate Sev= Severe NA= can not score in this situation

Pup Test	Pup Program	GD Bart	Trn	Behavior Checklist Item	Released for this
Y	Y	Y	Y	**1. Anxious new situations** ○ NoS ○ Abs ○ VMd ○ Mld ○ Mod ○ Sev ○ NA Initially anxious during first visits to unfamiliar locations. Exhibited as increased or inhibited activity, cautious and/or less responsive or focused **Anxious New Situations Notes** Notes about anxiety in new situations	☐
Y	Y	Y	Y	**2. Noise sensitivity** ○ NoS ○ Abs ○ VMd ○ Mld ○ Mod ○ Sev ○ NA Startle, tense body language, hurries, escape, or displacement **Noise Notes** Notes about fear of noises	☐
Y	Y	Y	Y	**3. Fear objects** ○ NoS ○ Abs ○ VMd ○ Mld ○ Mod ○ Sev ○ NA Fearful, avoidant or suspicious of unfamiliar objects, which could be anything, but common examples are plastic bags, statues, yard equipment, balloons, etc. **Fear Objects Notes** Notes about fear of objects	☐
Y	Y	Y	Y	**4. Fear of underfootings** ○ NoS ○ Abs ○ VMd ○ Mld ○ Mod ○ Sev ○ NA Fearful, nervous, apprehensive of various walking surfaces **On Gratings** ☐ Check box if dog has fear walking on grates **SlipperyFloors** ☐ Check box if dog has fear on slippery floors **Underfooting Notes** Notes about fear of underfootings	☐
O	Y	Y	Y	**5. Fear of dogs** ○ NoS ○ Abs ○ VMd ○ Mld ○ Mod ○ Sev ○ NA	

Need Multiple Observations- include early soc observations

- Amount of early socialization impacts test reliability

- Puppies are only about 50% through their most influential critical period

- Most aspects of behavior are heavily impacted by environmental influences

- Use 3 to 6 early socialization observations PLUS GD Bart Puppy Test to score the Puppy Test Behavior Checklist

BCL Scores- General Concept

5	Absent	● Relaxed with no or rare stress signals
4	Very Mild	● Very mild stress signals ● Slightly less able to respond without support good with minimal support ● Improves when repeat, recover very quickly
3	Mild	● Mild stress signals ● Mild loss of responsiveness, better with support and reassurance ● Improves when repeat recover reasonably quickly
2	Moderate	● Moderate stress signals ● Moderate loss of responsiveness even with support ● Still stressed with repeat
1	Severe	● Severe stress signals ● Very slow to recover or can't recover even with support ● Usually worse with repeat

What to Look for When Scoring
Incorporated Into Behavior Checklist Definitions

How the dog is moving (slow, fast)
Body language (compression, scoots, scratching etc)
Coping strategies (displacement sniffing, scavenging)
Ability to response to handler

- How often does it happen?

- What causes it?

- How extreme is it?

- How long does it continue?

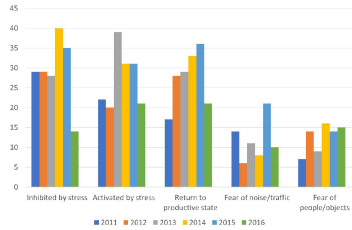•What is needed for the dog to return to a productive state?

Stop The Test

- If the Puppy fails to return to a productive emotional state despite having support, reassurance, and time to resolve any emotional stress or conflict. This may be seen as shutting down or high arousal.
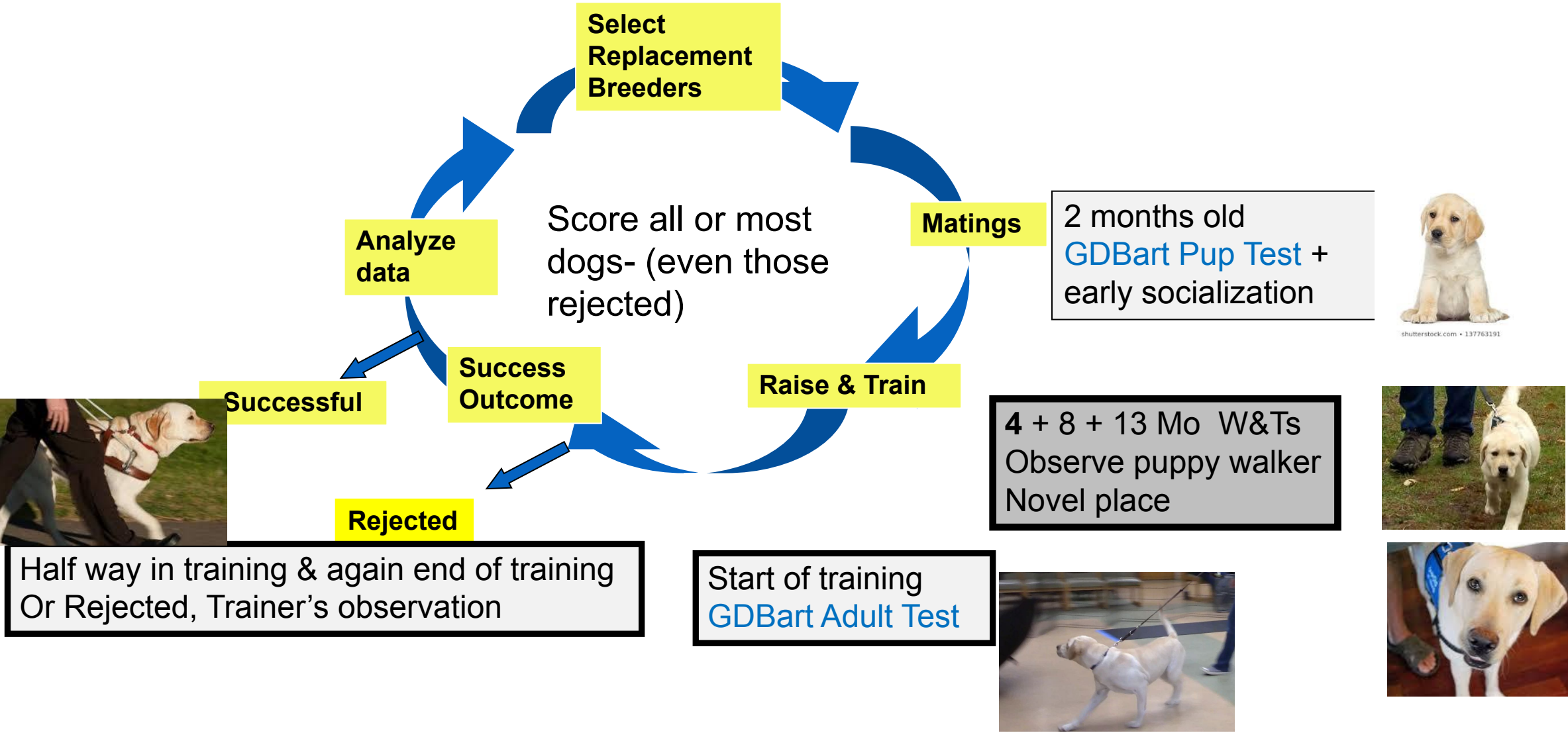
Why Do Puppy Tests?

Match pup with raiser

Give you an overview of trends over time e.g. what's improving or getting worse
Evaluate effectiveness of program changes e.g. changes in socialization protocols
See what traits are produced by your broods and studs when bred multiple times
Use some of data in EBV calculations if heritable (trait controlled enough by genes)

Identify dogs that need behavioral or emotional help and
can intervene and provide support before it potentially
gets worse

Puppy Test Is Part Of Longitudinal Data when using the Behavior Checklist

Select Replacement Breeders

Score all or most dogs- (even those rejected)

Matings

Analyze data

2 months old
GDBart Pup Test +
early socialization

Successful

Success Outcome

Raise & Train

Rejected

4 + 8 + 13 Mo W&Ts
Observe puppy walker
Novel place

Half way in training & again end of training
Or Rejected, Trainer's observation

Start of training
GDBart Adult Test

As of March 2018

Accuracy of Predicting Outcome Increases with Age

Environmental influence modifies genetic potential

Age	Prediction of success
2 month	34.4%
4 month	57.4%
8 month	56.0%
13 month	61.4%
In for training	66.5%
Prelim blindfold	73.3%
Final blindfold	85.1%

Courtesy of Jamie Fratkin, U. Texas 2014, based on Guiding Eyes data
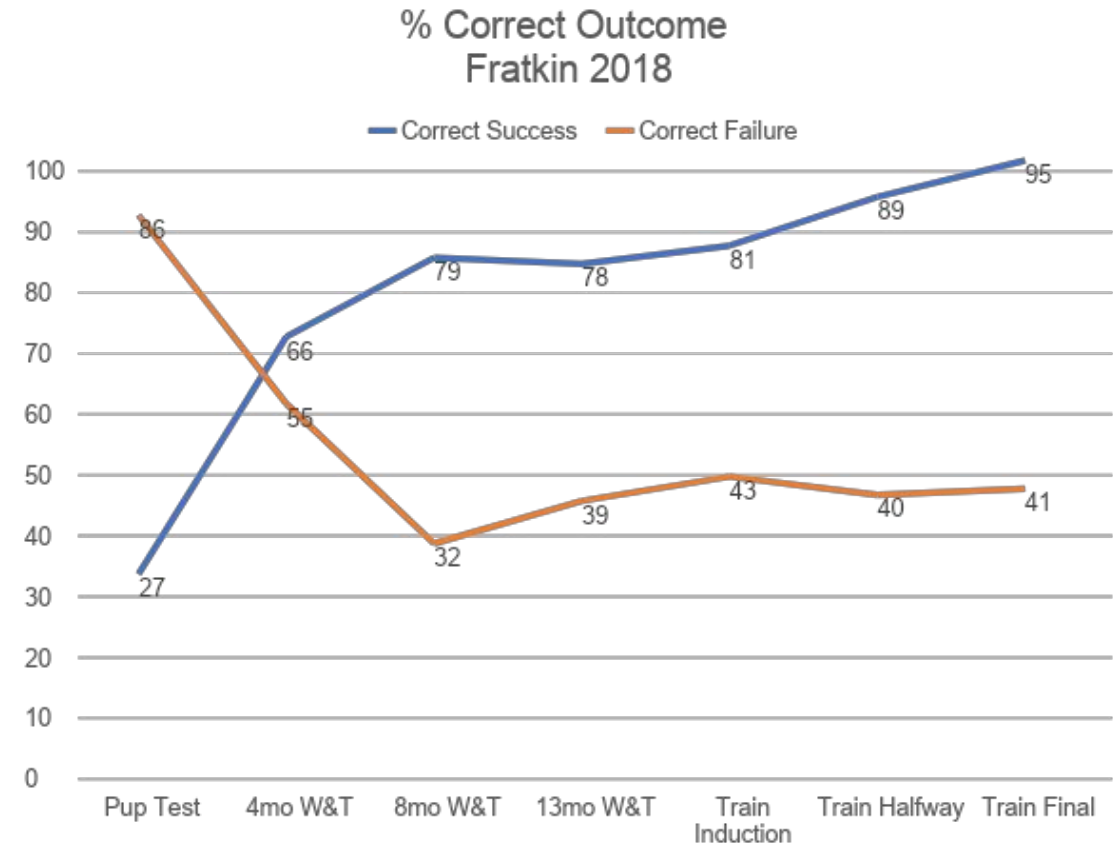
Guiding Eyes
for the Blind

Should You Career Change Puppies Based On Puppy Test?

Accuracy of predicting outcome ⬆ with age
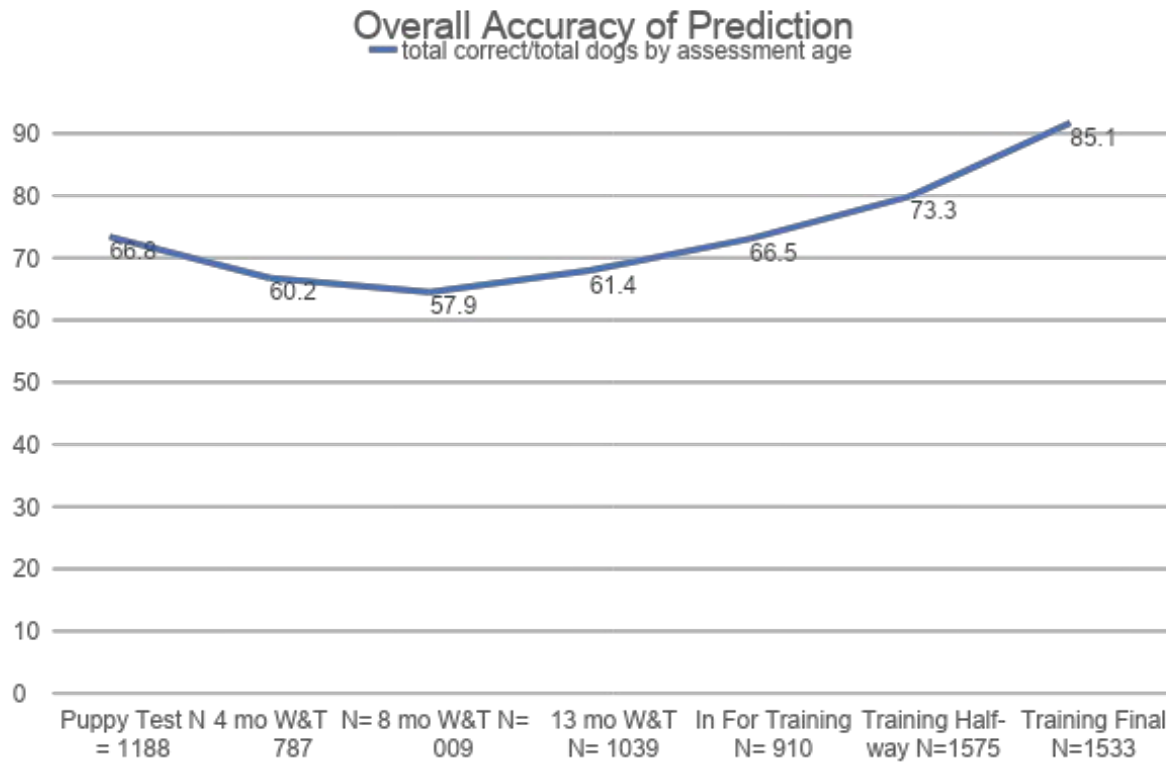
Early Ages better at predicting failure,
Older Ages-better at predicting success

Overall Accuracy of Prediction
— total correct/total dogs by assessment age

% Correct Outcome
Fratkin 2018
— Correct Success — Correct Failure

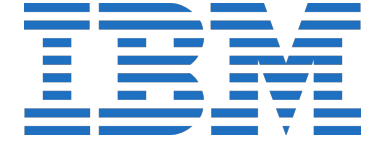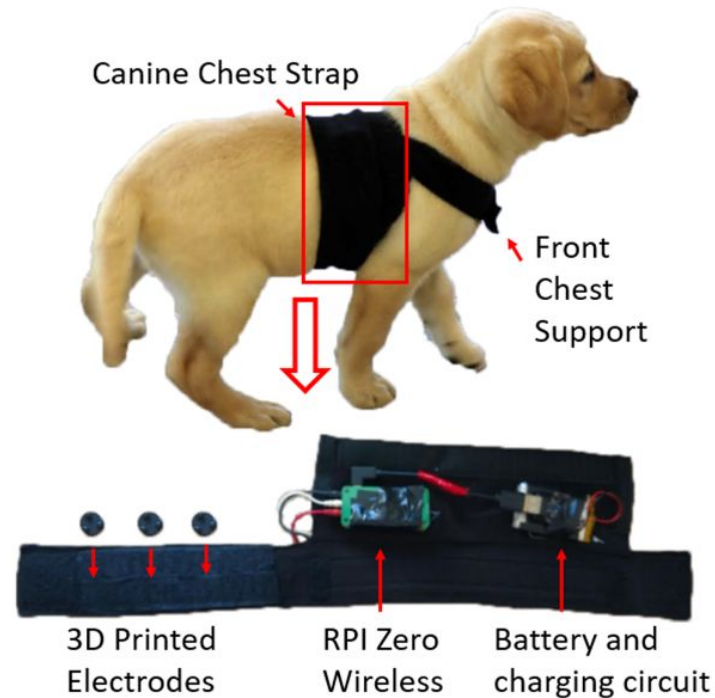Courtesy of Jamie Fratkin, U. Texas 2014, based on Guiding Eyes data

Summary
What We Have Learned In Past 35 Years

- Need multiple observations- include early soc observations (5wks to 8wks) with puppy test for first Behavior Checklist scoring
- Quantity and quality of socialization impacts scores

- Need skilled observers/scorers

- Technique of the handler and type of equipment used matters

- Confidence typically improves especially through 16 weeks old when socialized effectively

- Prediction- More accurate predicting failure of extreme puppies

Is the BCL measuring what we think it is?

Canine Chest Strap

Front Chest Support

3D Printed Electrodes

RPI Zero Wireless

Battery and charging circuit

M. Foster, P. Erb, B. Plank, H. West, J. Russenberger, M. Gruen, M. Daniele, D. L. Roberts, and A. Bozkurt, "3D-Printed Electrocardiogram Electrodes for Heart Rate Detection in Canines," in IEEE BioCAS Proceedings, 2018.

IBM

Machine Learning
Cloud storage

NC STATE UNIVERSITY

Guiding Eyes for the Blind

Chest-strap:
- IMU
- Heart rate

Computer:
- Coding / Reports

Predicting human-expert temperament evaluations

Conclusion

Results indicate that temperament can evaluated using physiological data

Table 6. Table showing the accuracy of the minimum, mean, and maximum metrics as well as the standard deviation.

Task	Min	Mean	Max	Stdev
Stairs	86.57%	92.25%	100.00%	0.067
Underfootings	84.93%	92.46%	99.73%	0.074
Umbrella	86.67%	93.05%	99.87%	0.066
Movement mop	86.53%	92.95%	100.00%	0.067
Explore	85.09%	92.62%	99.91%	0.074
Greet/feed/ignore	86.67%	92.97%	100.00%	0.067
Vacuum	85.13%	92.66%	99.88%	0.074
Elevated surface/ Exam	86.73%	93.16%	99.82%	0.065
Can drop	85.33%	92.89%	99.89%	0.073
Fan	86.86%	92.68%	99.86%	0.065
Tunnel	78.86%	91.64%	100.00%	0.106
Mean	85.40%	92.67%	99.90%	

Problem: Temperament evaluation of guide dog puppies has historically been subjective

Solution: Use objective data (Raw ECG) to predict expert BCL scores

Outcomes: Approximately 93% accuracy rate of expert BCL prediction.

Learning to Score the BCL & Assess Dogs

Open access
https://www.iwdr.org/master-knowledge-base/bcl-general-overview/

Behaviour Scoring

📄 BCL General Overview

📄 BCL Form Downloads

📄 BCL Definitions Download

› BCL Items & Videos

Behavior Testing

› Service & Guide GDBART

› Service/Guide dog Puppy Testing

Requires login to
www.IWDR.org
Free to ADI, IGDF members & IWDR Users

Create a free account
https://www.iwdr.org/register/bcl-access/

⌄ Learning Materials

  📄 Behavioral Expressions of Emotion: Interactive Learning

⌄ Training Resources

  ⌄ BCL Practice Videos

    📄 How to use this resource

    📄 Behavior Checklist Series 1 - Scoring Concepts

    📄 Behavior Checklist Series 2 - Practice Scoring Adult Dogs

    📄 Behavior Checklist Series 3 - Practice Scoring Puppies