



# The impact of a virtual training on BCBA reported likelihood and confidence with using differential reinforcement procedures

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## INTRODUCTION

- Autistic individuals exhibit a higher prevalence of problem behavior (self-harm, harm to others, destruction of environment) than their typically developing peers (Liptak et al., 2006).
- Board-Certified Behavior Analysts (BCBAs) often are responsible for addressing these problem behaviors using a two-step model of **assessment** and **treatment** (Roane et al., 2016).
  - Functional behavior assessment** identifies escape from task demands, access to attention, or access to preferred items as reinforcers for problem behavior.
  - Differential reinforcement** interventions decrease problem behaviors by delivering reinforcement for appropriate behavior (e.g., communication; Lindgren et al., 2020).
    - DR WITH extinction
    - DR WITHOUT extinction
    - DR within a multiple schedules arrangement
- After implementing a state-wide needs assessment, our lab showed Colorado BCBAs **sometimes deviate** from these best practices. Additionally, Colorado BCBAs reported **moderate confidence** with using DR approaches with autistic youth engaging in problem behavior.

## RESEARCH QUESTION

**Does a virtual presentation describing the benefits and limitations of DR approaches change BCBA reported likelihood and confidence with using different forms of DR to treat problem behaviors of autistic youth?**

## METHOD

### Participants, Setting, and Materials

- 54 BCBAs in the state of Colorado engaged in a virtual continuing education series discussing topics related to the behavioral assessment/treatment of autistic clients engaging in moderate-to-severe problem behaviors.
  - 14 participants answered at least one survey. We used data from the 11 participants who completed at least two surveys for this study.
- The virtual training occurred on the Zoom platform.
- Participants completed surveys using Qualtrics on their personal device 3 months, 6 months, and 9 months after starting the continuing education series.

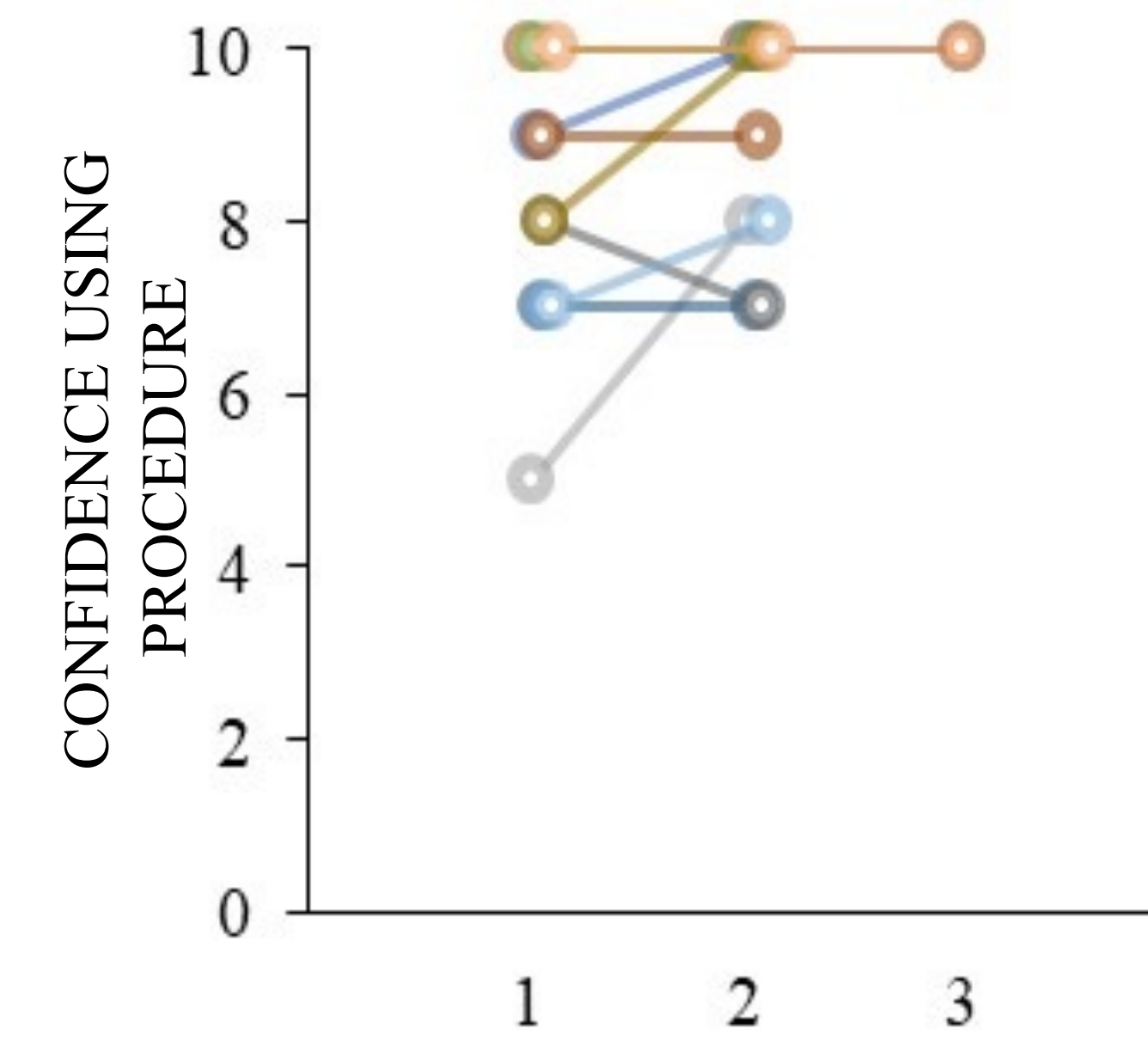
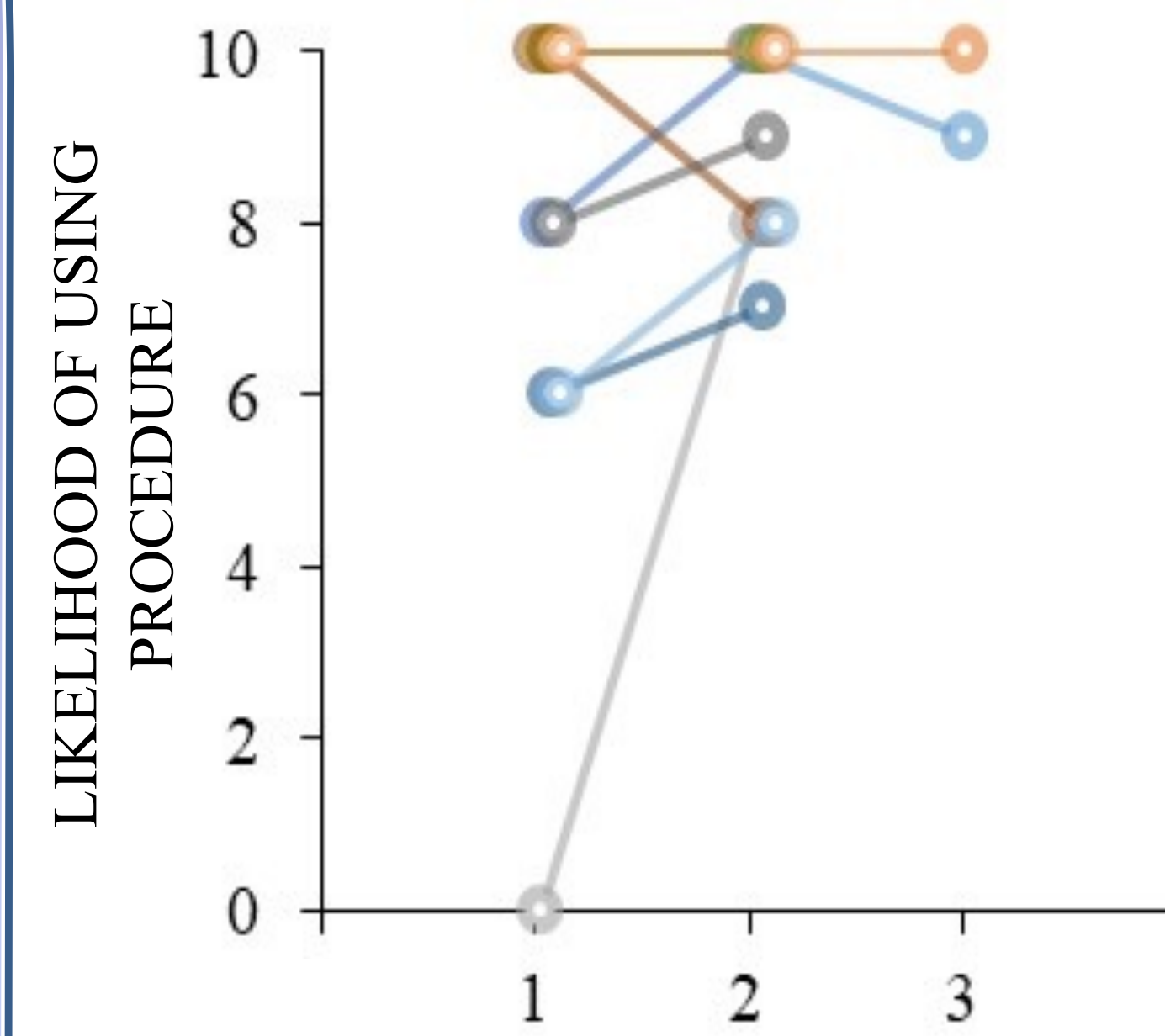
### Dependent Variables

- Participants rated the likelihood and confidence of using treatment approaches according to a 0 – 10 likert-type scale (0 = not at all likely to use the procedure or not at all confident using procedure / 10 = Very likely to use procedure or very confident)

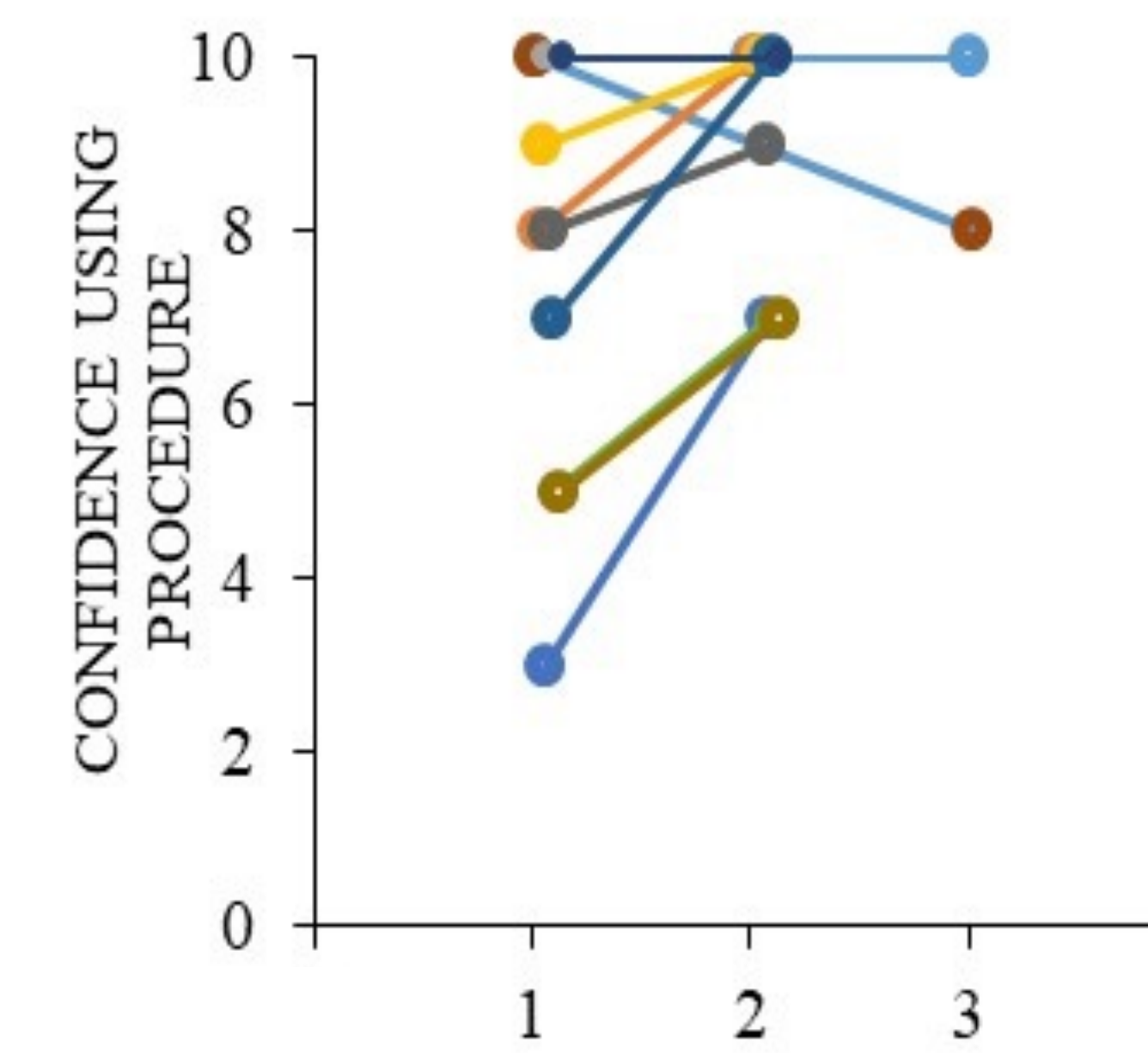
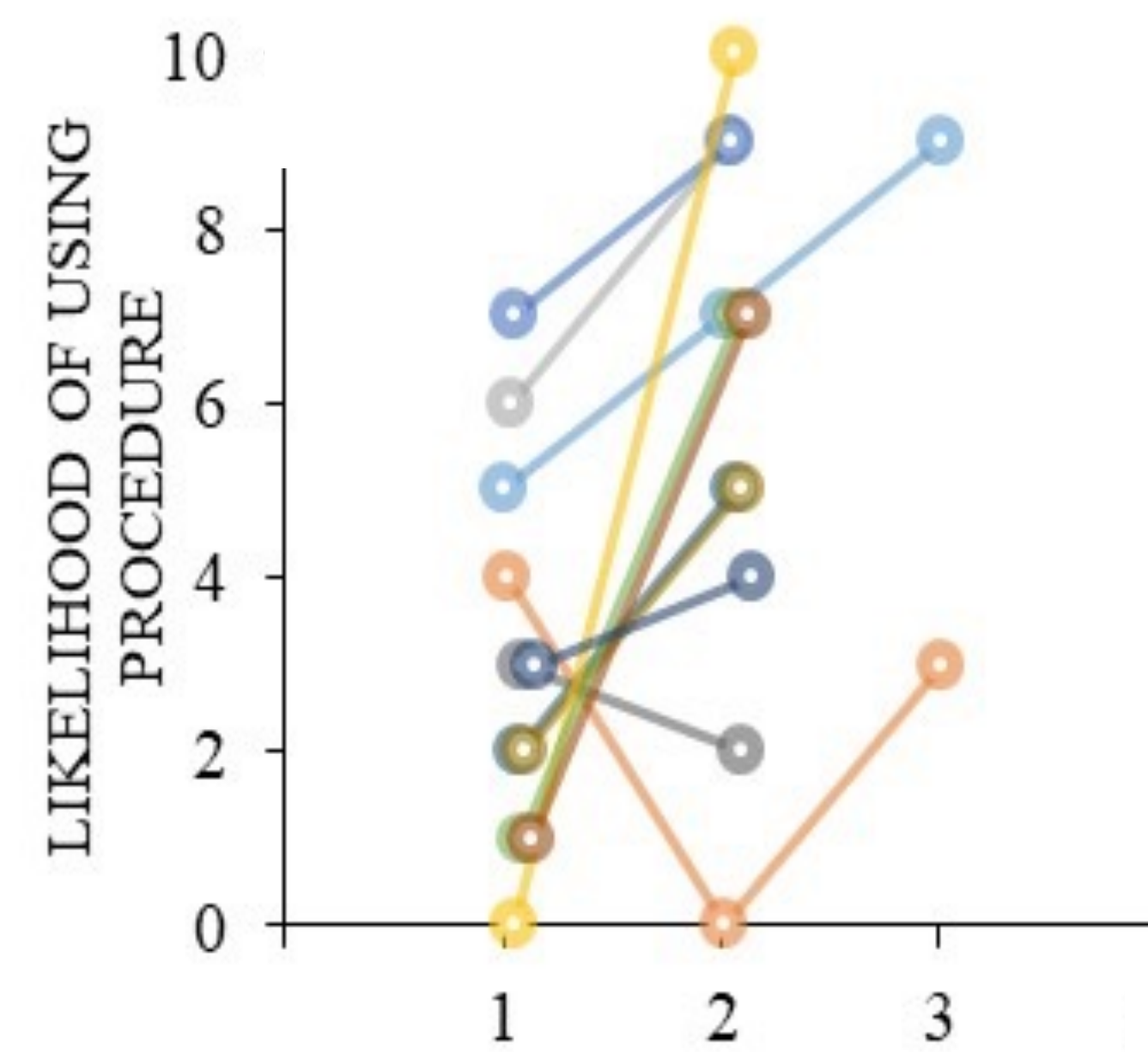
### Procedures

- Upon enrolling in the continuing education series, the research team sent participants the Qualtrics survey via email.
- Participants were e-mailed a Zoom invitation to log into the virtual training on behavioral treatment approaches.
- The training lasted 2 hours, and consisted of didactic and group discussion.
- 3 months, 6 months, and 9 months after this training, a member of the research team sent participants the Qualtrics link to complete the survey again.

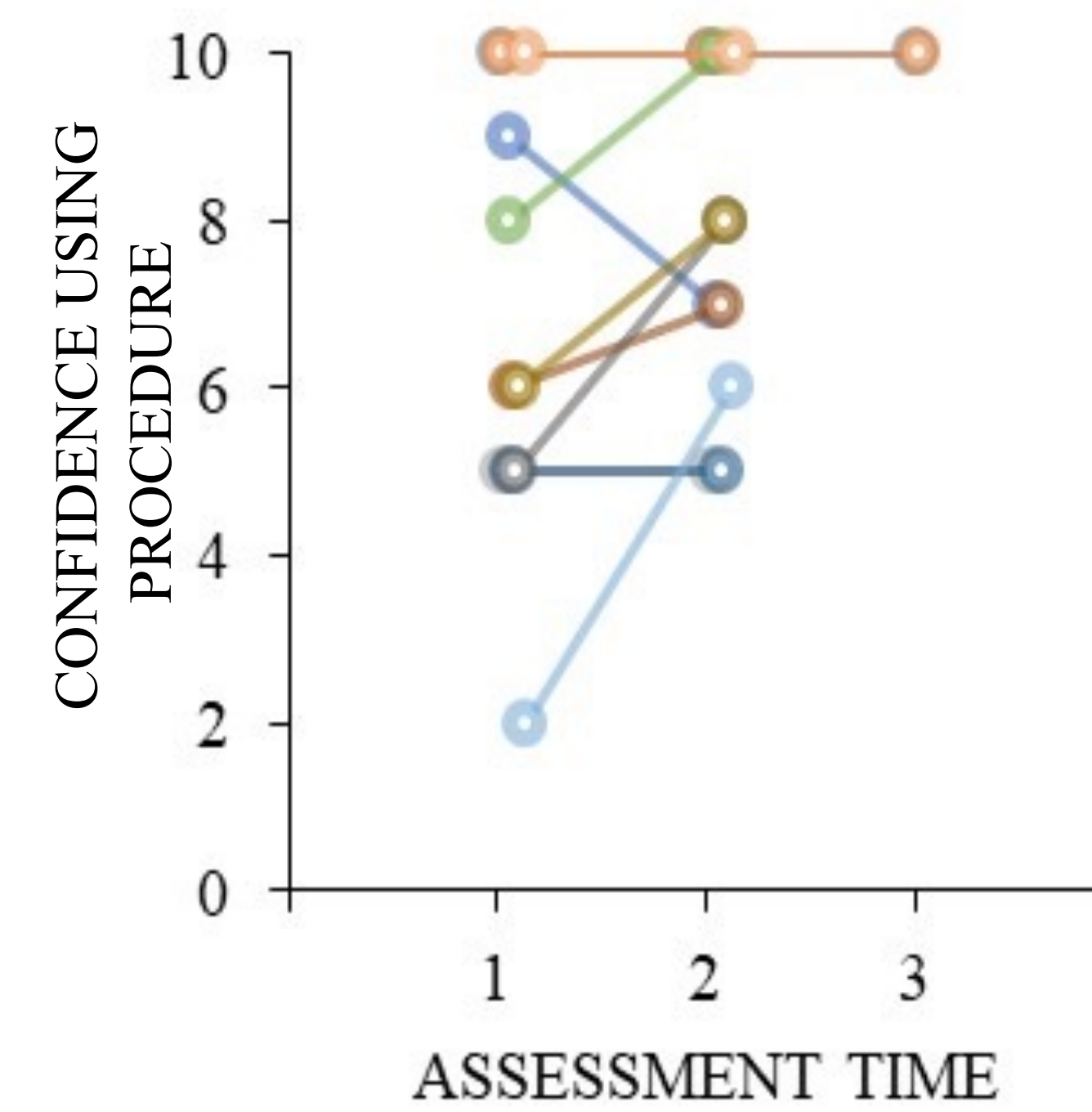
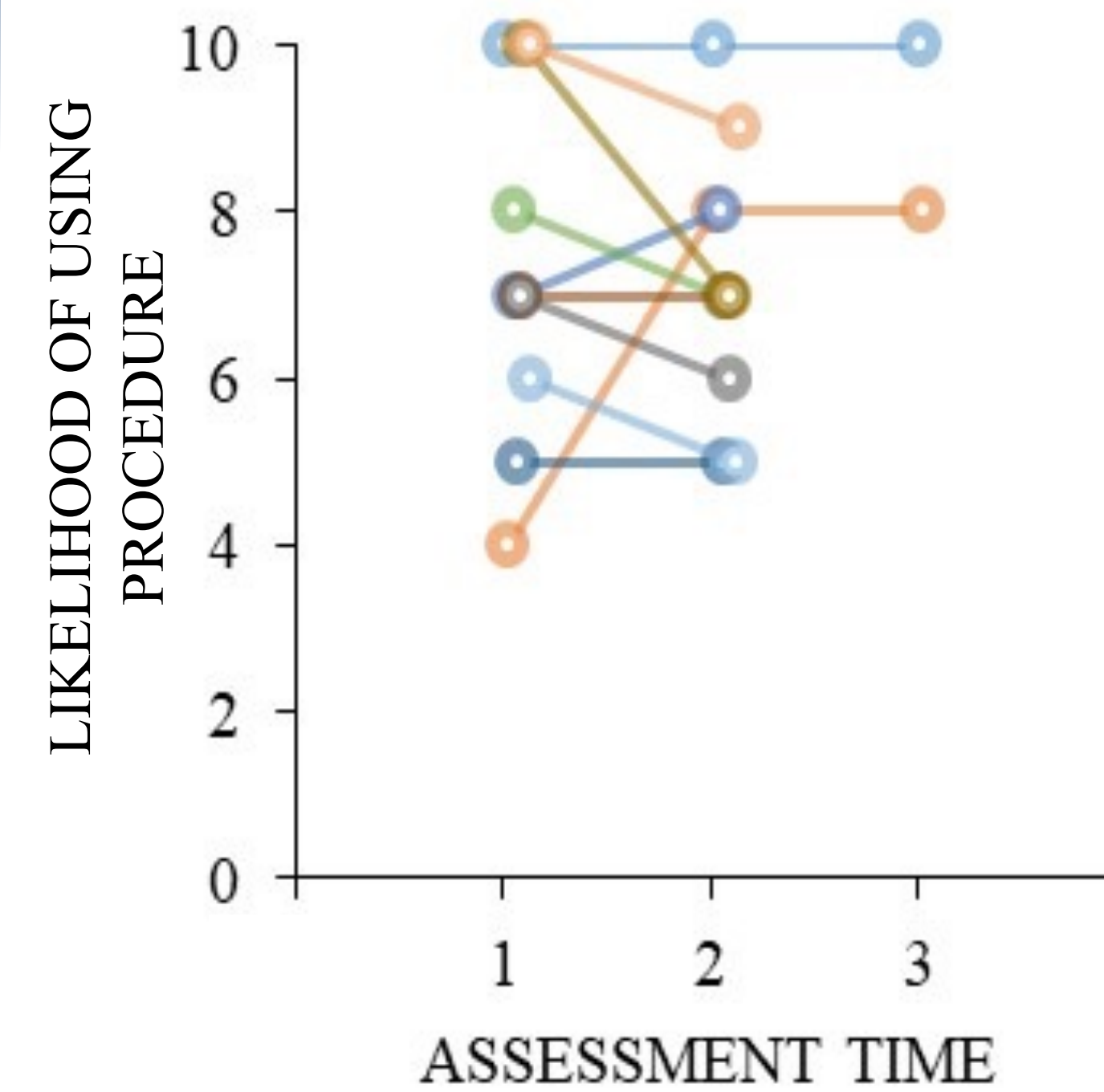
### Differential Reinforcement WITHOUT Extinction



### Differential Reinforcement WITH Extinction



### Differential Reinforcement within a Multiple Schedules Arrangement



## RESULTS

### DR Without Extinction

- For the likelihood of using DR without extinction, participants reported a **likelihood** of using this procedure in practice at 8 (range, 0 – 10) at Time 1, 9.09 (range, 7 - 10) at Time 2, and 9.5 (range, 9 – 10) at Time 3. With respect to **confidence**, the participants reported confidence using this procedure as 8.45 (range, 5-10) at Time 1, at 9 (range, 7-10) at Time 2, and 10 at Time 3

### DR With Extinction

- For the likelihood of using DR with extinction, participants reported a **likelihood** of using this procedure in practice at 3.13 (range, 0 – 7) at Time 1 and 6.12 (range, 0 - 10) at Time 2, and 6 (range, 3–9) at Time 3. With respect to **confidence**, the participants reported confidence using this procedure as 7.73 (range, 3-10) at Time 1, at 9 (range, 7-10) at Time 2, and 9 (range, 8 – 10) at Time 3.

### DR Within Multiple Schedule Arrangement

- For the likelihood of using DR with extinction and a multiple schedules arrangement, participants reported a **likelihood** of using this procedure in practice at 7.52 (range, 4 – 10) at Time 1 and 7.26 (range, 5 - 10) at Time 2 and 9 (range, 8 – 10) at Time 3. With respect to **confidence**, the participants reported confidence using this procedure as 6.9 (range, 2-10) at Time 1, at 7.93 (range, 5-10) at Time 2, and 10 for Time 3.

## DISCUSSION

- The current project evaluated the effect of a virtual training on BCBA reported likelihood that they would use three different treatment approaches as well as their confidence using these approaches.
  - With respect to **likelihood** of using these treatment procedures, BCBAs rated **increased likelihood** of using DR with and without extinction after the virtual training. There was a **small decrease** in likelihood of using DR within a multiple schedules arrangement.
    - DR with extinction showed the largest change in likelihood of being used
  - BCBA reported **confidence** with these procedures showed a **similar pattern**. Again, the biggest change in confidence occurred with the DR with extinction treatment arrangement.
- In general, didactic trainings have not consistently shown effectiveness with changing reported use of healthcare procedures (O'Brien et al., 2009). Areas for future research include studying the following aspects of our study that may have led to the results.
  - Combination of didactic and group discussion opportunities
  - Small group setting
- A limitation of our study was attrition. Future research might incentivize participation or have participants complete the survey at the end of the meeting before leaving.

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### References/Resources

