ORGANIZATION FOR
AUTISM RESEARCH

An Evaluation of a Behaviorally Based Social Skills Group For Young Children Diagnosed with Autism Spectrum Disorder: A Randomized Control Trial

Justin B. Leaf, **Mitchell Taubman,**
John McEachin, Ronald Leaf, Jeremy Leaf, Christine Milne,
Donna-Townley Cochran, Norma Torres, Misty Oppenheim-Leaf, &
Alyne Kassardjian

Autism Partnership Foundation

A **PRELIMINARY** Evaluation of a Behaviorally Based Social Skills Group For Young Children Diagnosed with Autism Spectrum Disorder: A Randomized Control Trial

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Autism Partnership Foundation

WHY ARE TEACHING SOCIAL SKILLS IMPORTANT?

- **Promote Language**
- **Improve School Performance** (Ladd et al., 1999)
- **Peer Approval** (Bauminger & Kasari, 2000)
- **Formation of Friendships** (Bauminger & Kasari, 2000)
- **Reduced Loneliness and Depression** (Stewart et al., 2006)
- **Reduced Thoughts of Suicide** (Gorman et al., 2013)
- **Quality of Life** (Taubman et al., 2012)

INTERVENTIONS

- **Non Empirically Based or Little Empirical Evidence**
  - **Social Thinking**
  - **Social Stories (Gray & Garand, 1993)**
- **Empirical Evidence**
  - **Video Modeling (Apple, Billingsley, & Schwartz, 2005)**
  - **Script Fading (e.g., Krantz & McClannahan, 1998)**
  - **Peer Mediated Interventions (e.g., Goldstein, Schneider, & Theiman, 2007)**
  - **Discrete Trial Teaching (e.g., Leaf & McEachin, 1999)**

SOCIAL SKILLS GROUPS

- **Overview**
  - **An Opportunity For Three or More Children to Come Together and Simultaneously Learn Social Behaviors**

- **Advantages**
  - **Effective**
  - **Efficient**
  - **Peers in Close Proximity**
  - **School Readiness**

LEVELS OF EVIDENCE

- **Years of Clinical Experience**
- **Descriptive Analysis**
  - **Leaf et al., (2012)**
  - **Sartini, Knight, & Collins (2013)**
- **Single Subject Designs**
  - **Barry et al., (2003)**
  - **Ferguson, Gills, & Sevlever (2013)**
- **Group Designs**
  - **DeRosier, Swick, Davis, McMillen, & Matthews (2011**
  - **Laugeson, Frankel, Gantman, Dillon, & Mogil (2012)**

META ANALYSIS/REVIEWS

- **White, Koenig, & Scahill (2007)**
  - **"A consistent result in the evaluation of group delivered intervention to promote social reciprocity in children with PDDs is that outcome data are inconclusive"**

- **Rao, Beidel, & Murray (2008)**
  - **"… Despite its widespread clinical use, empirical support for social skills training (SST) programs for children with AS/HFA is in its infancy "**

- **Reichow & Volkmar (2010)**
  - **"Because social abilities are hindered in all individuals with ASD regardless of functioning level, more research needs to be conducted…"**

META ANALYSIS/REVIEWS

- **Cappadocia & Weiss (2011)**
  - **"Clearly, larger sample sizes and more controlled methodological designs are required to assess the effectiveness of SSTGs."**

- **Kaat & Lecavalier (2014)**
  - **"… more work is necessary before firm conclusions regarding the efficacy of SST can be made."**

AREAS OF NEED

- **Randomized Control Group Study**

- **"Higher" Functioning Participants**

- **Younger Children**

- **Comprehensive Assessments**

- **Blind Evaluators**

- **Long Term Maintenance**

- **Generalization**

PURPOSE OF THIS PROJECT

- **To Address These Areas of Need**

- **Using a Randomized Control Trial**

- **Evaluating a 16 week (32 session) Behaviorally Based Social Skills Group For High Functioning Individuals Diagnosed with ASD**
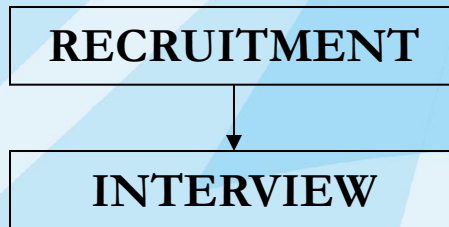
METHODS & RESULTS

The Journey and Lessons Along the Way

GENERAL SET UP

```
┌─────────────────────┐
│    RECRUITMENT      │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│     INTERVIEW       │
└─────────────────────┘
```

RECRUITMENT & INTERVIEWS

- **Recruitment**
  - **Email and Internet Blasts**
  - **Contact to Set Up an Interview**
- **Interviews**
  - **Matchmaker, Matchmaker, Make Me a Match**

INCLUSION CRITERION

- **No Previous History**

- **Independent Diagnosis**

- **Low Level of Stereotypic Behaviors**

- **IQ score of 80 at Intake**

- **Age Appropriate**
  - **Expressive Language**
  - **Receptive Language**

RECRUITMENT & INTERVIEWS

- **Recruitment**
  - **Email and Internet Blasts**
  - **Contact to Set Up an Interview**
- **Interviews**
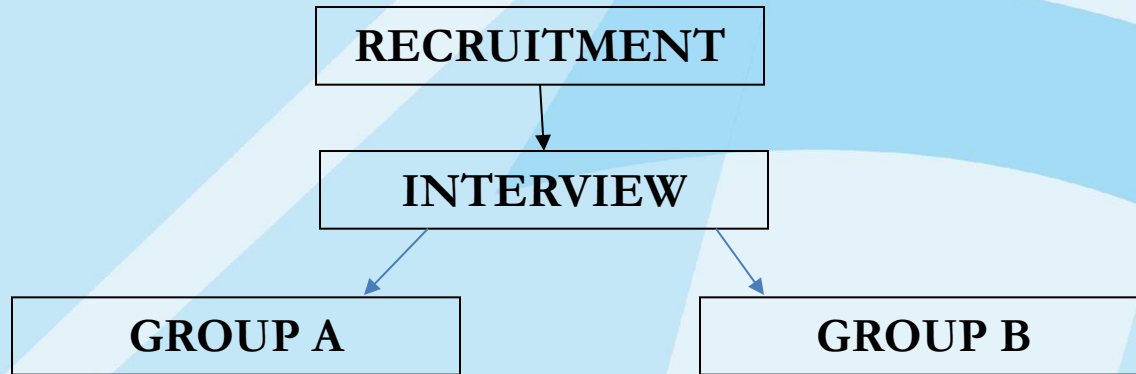 - **Matchmaker, Matchmaker, Make Me a Match**
  - **Interview at Home or in Clinical Setting**

INTERVIEWS

- **Structured Interview**
  - **20 Minute Interview**
  - **Two Teachers Present at All Times**
  - **Another Child Came to Interact When Possible**
- **Characteristics**
  - **Lack of Aberrant Behavior**
  - **Speak in Full Sentences**
  - **Answer Open-Ended Questions**
  - **Interacted with Teacher or Peer For a Long Duration**

GENERAL SET UP

```
        ┌──────────────────┐
        │   RECRUITMENT    │
        └──────────────────┘
                 │
                 ▼
        ┌──────────────────┐
        │    INTERVIEW     │
        └──────────────────┘
            ↙           ↘
┌──────────────┐    ┌──────────────┐
│   GROUP A    │    │   GROUP B    │
└──────────────┘    └──────────────┘
```

PARTICIPANT OVERVIEW

Domain	Group A	Group B	P Value	Significant Difference
Number of Participants Meeting Inclusion Criterion	8	7	N/A	N/A
Average Age in Months	55 Months	58 Months	0.555	Not Significant
Average IQ Score	101.4	105.7	0.448	Not Significant
Average Vineland Adaptive Score	83.9	82.9	0.918	Not Significant
Average Expressive 1 Word Standard Score	108.8	109.1	0.933	Not Significant
Average Peabody Picture Vocabulary Standard Score	104.2	108.6	0.435	Not Significant

SOCIAL SKILLS GROUP TEACHERS

Teacher Name	Education Level	Position at AP	Years of Experience with ABA	Years of Experience at AP	Previous History of Groups
Jeremy	Masters	Specialized Treatment Analyst	5 Years	5 Years	School Teacher Group Leader
Christine	First Year in Terminal Masters Program	Specialized Treatment Analyst	5 Years	5 Years	Group Leader
Donna	Masters	Intern	5 Years	10 Months	None
Norma	Bachelors	Treatment Analyst	3 Years	3 Years	Group Support

DEPENDENT VARIABLES

- **Single Subject Studies**
  - **Increasing Play**
  - **Increasing Specific Social Behaviors**
- **Group Design Study**
  - **Main Dependent Variable**
  - **Overall Gains Within a Group**
  - **Differences Across Groups**

GROUP DESIGN: DEPENDENT VARIABLES

- **Improvement of Standard Scores on Formal Standardized Assessments**
- **Conducted By:**
  - **Social Skills Group Teachers**
  - **Research**
  - **Blind Evaluator**
- **Observational Periods**
- **Generalization Observations**

OBSERVATIONAL PERIODS: OVERVIEW

- **Who Participated**
  - Group A
  - Group B

- **Occurred**
  - **T1 (Baseline both)**
  - **T2 (Immediately Following/Baseline)**
  - **T3 (16 Week Maintenance/Immediately Following)**
  - **T4 (32 Week Maintenance/16 Week Maintenance)**

OBSERVATIONAL PERIODS: OVERVIEW

- **Two Meetings Per Group**

- **Each Meeting Lasted 2 Hours**

- **Resembled a Play Group**

- **Blind Evaluator Present**

- **Implemented to Assess Strengths and Weakness of Each Participant**

- **Utilized to Help Scoring on Formal Assessments**

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OBSERVATIONAL PERIODS: SCHEDULE

- **Unstructured Free Play**
- **Opening Circle**
- **Structured Games**
- **Large Group Instruction**
- **Outdoors**
  - **Structured Games**
  - **Unstructured Free Play**
- **Large Group Instruction**
- **Unstructured Free Play**
- **Dismissal**

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GENERALIZATION PERIODS

- **Settings**
  - **School**
  - **Home**
  - **Community**
- **Conducted Independently By**
  - **Researcher**
  - **Social Skills Teacher**
  - **Blind Evaluator**

FORMAL ASSESSMENTS

- **Primary Formal Assessments**
  - **Social Skills Improvement System (SSiS)**

FORMAL ASSESSMENTS

- **Primary Formal Assessments**
  - **Social Skills Improvement System (SSiS)**
  - **Social Responsiveness Scale (SRS)**

FORMAL ASSESSMENTS

- **Primary Formal Assessments**
  - **Social Skills Improvement System (SSiS)**
  - **Social Responsiveness Scale (SRS)**
  - **Walker McConnell (WM)**

FORMAL ASSESSMENTS

- **Primary Formal Assessments**
  - **Social Skills Improvement System (SSiS)**
  - **Social Responsiveness Scale (SRS)**
  - **Walker McConnell (WM)**

- **Secondary Formal Assessments**
  - **Aberrant Behavior Checklist (ABC)**

GENERAL SET UP

RECRUITMENT

INTERVIEW

GROUP A

GROUP B

OBSERVATIONAL PERIOD 1

SSIS

SSIS

Blind Evaluator

Social Skills Teacher

Researcher

SRS

Blind Evaluator

Social Skills Teacher

Researcher

SRS

Blind Evaluator

Social Skills Teacher

Researcher

WM

WM

ABC

Blind Evaluator

Social Skills
Teacher

Researcher
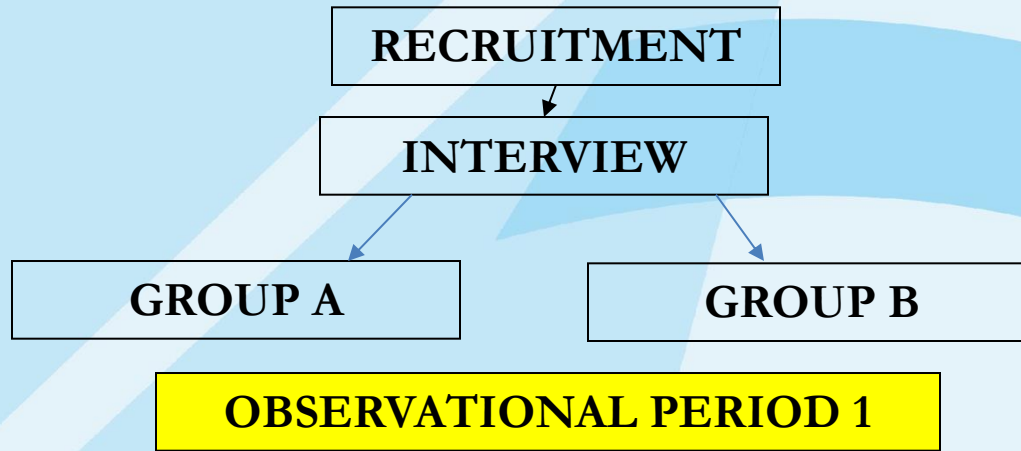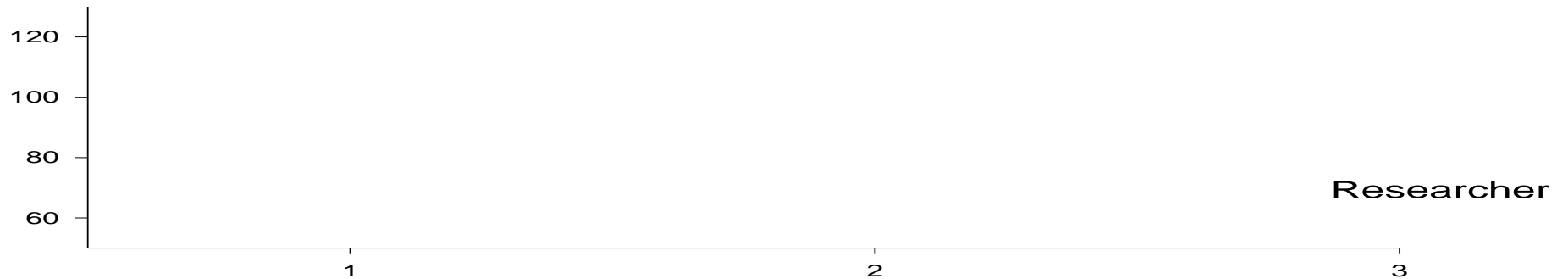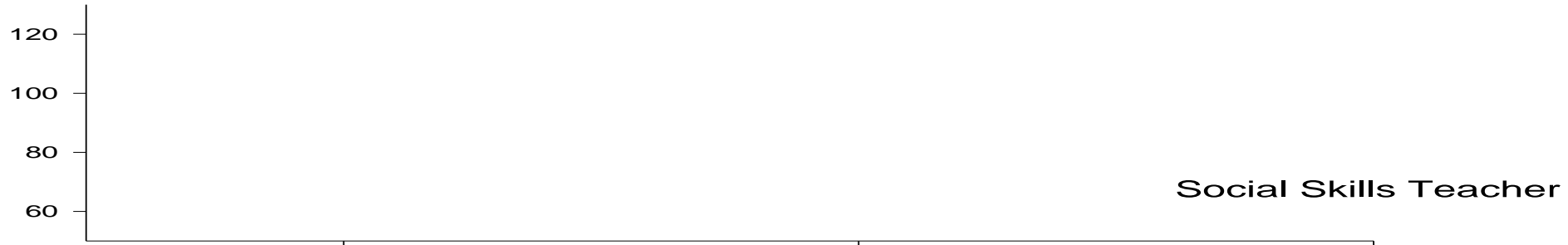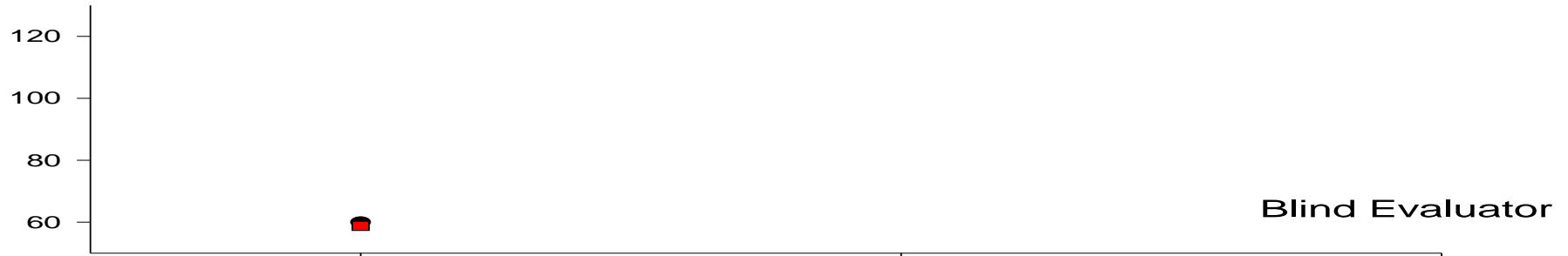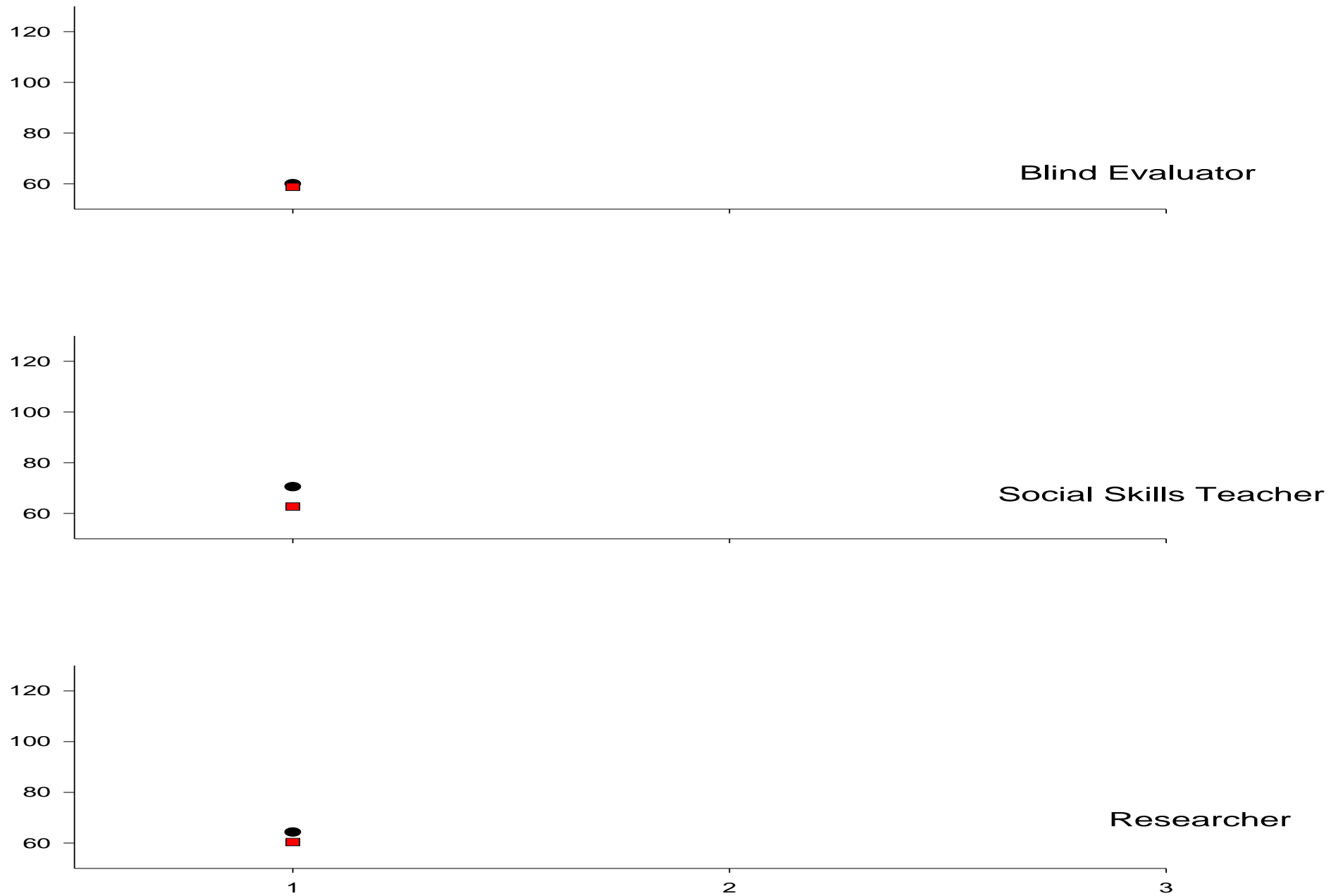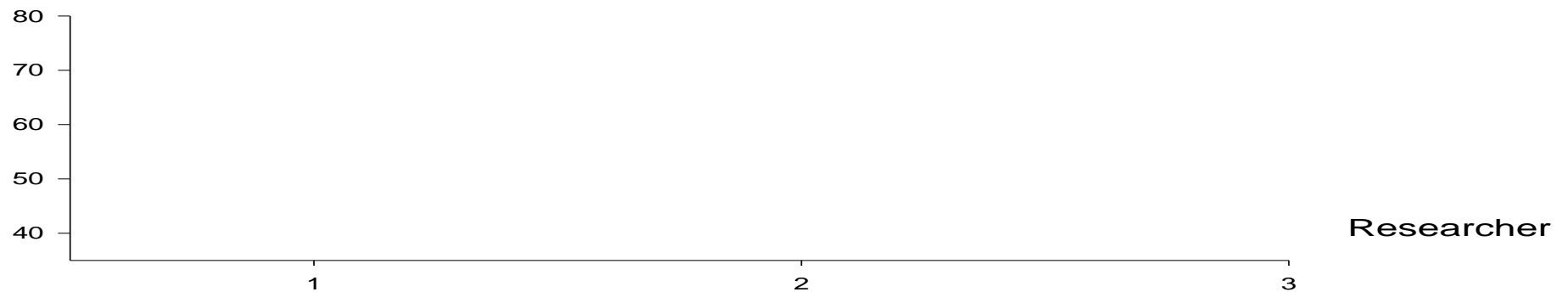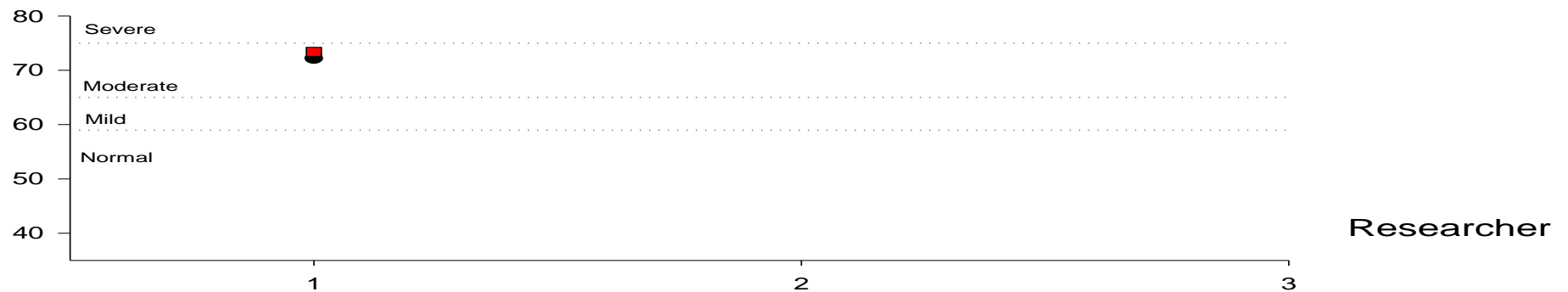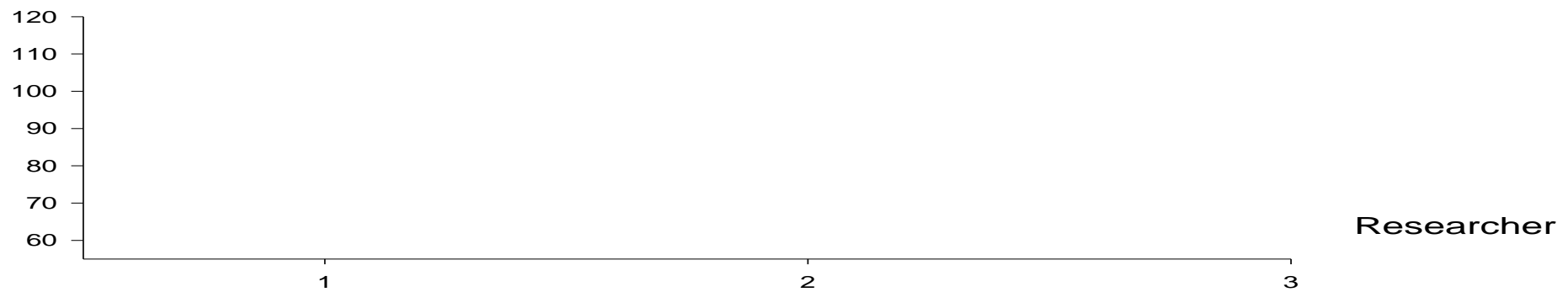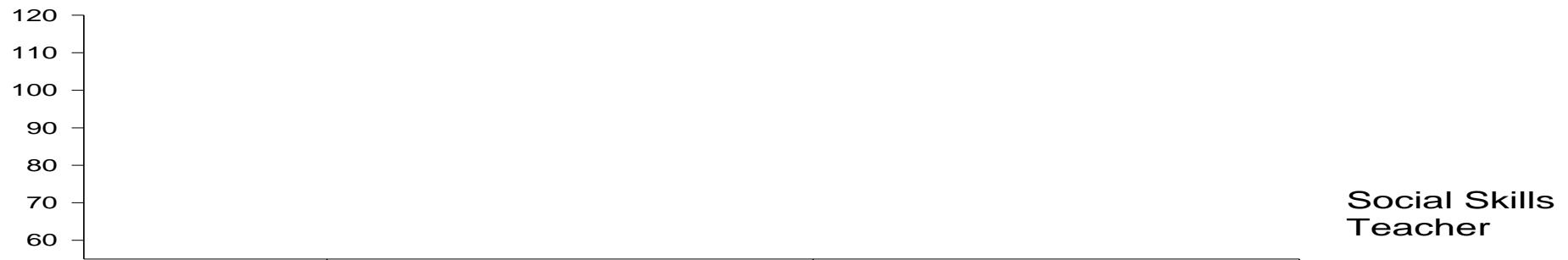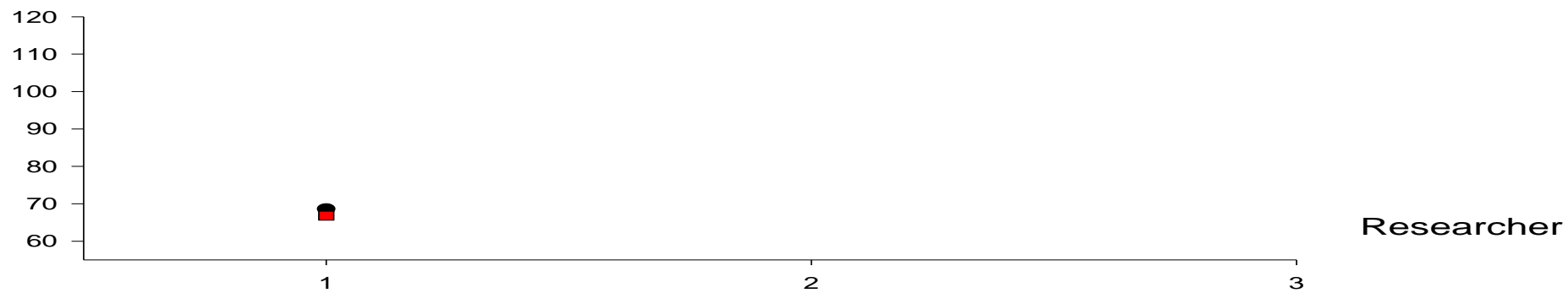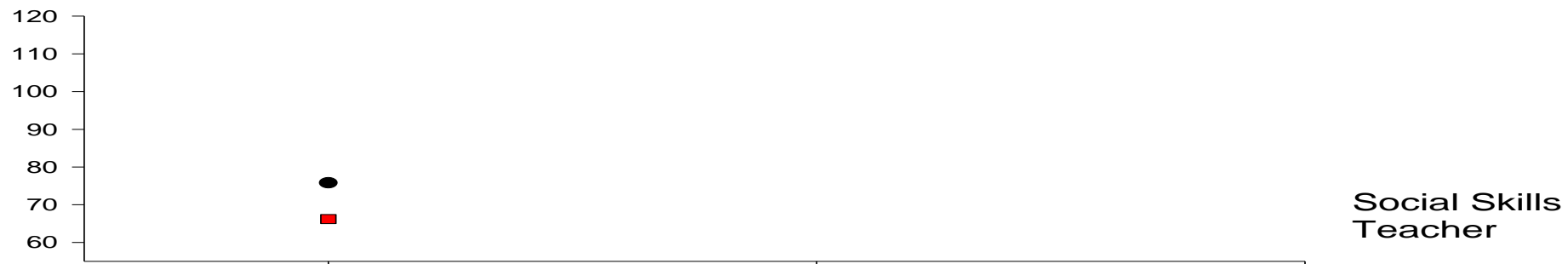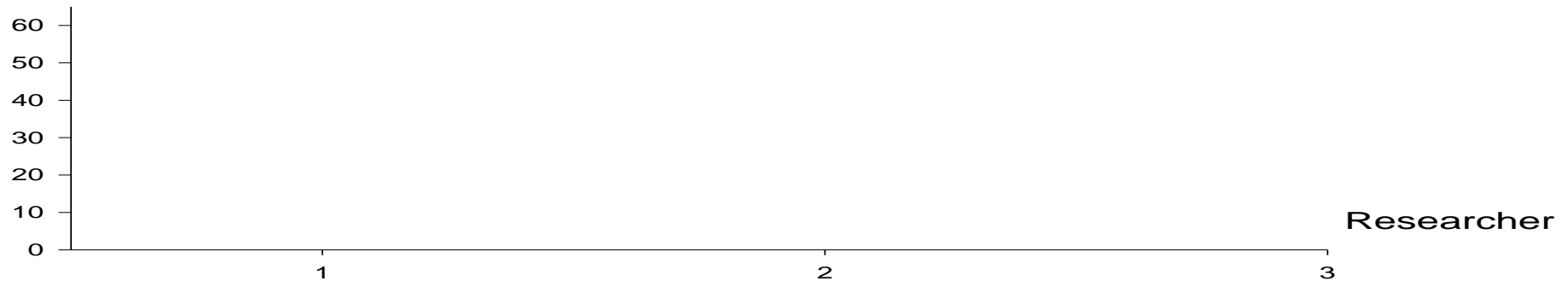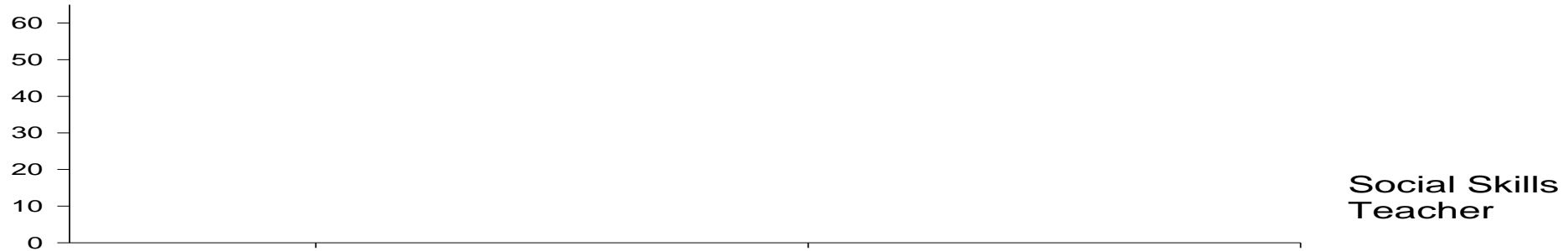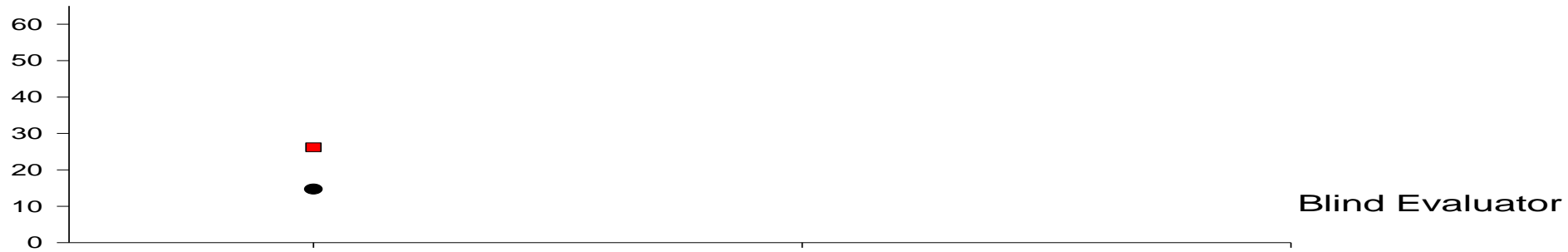
ABC
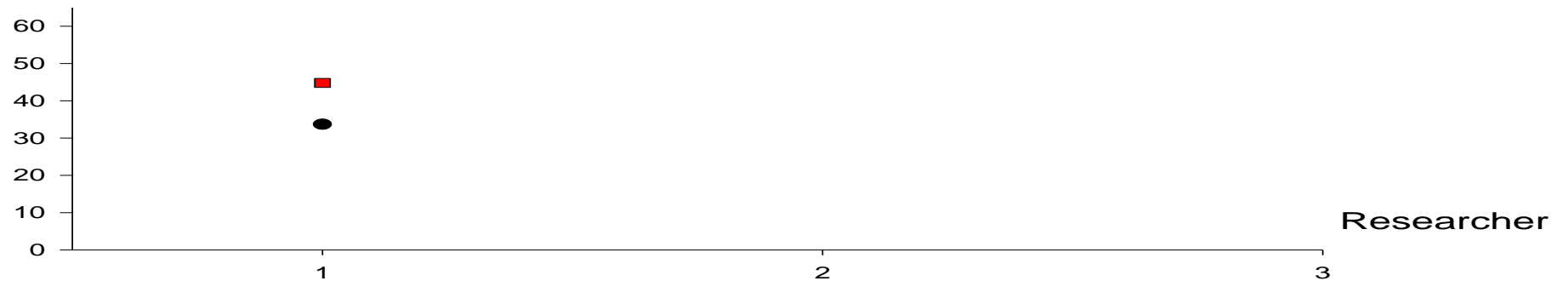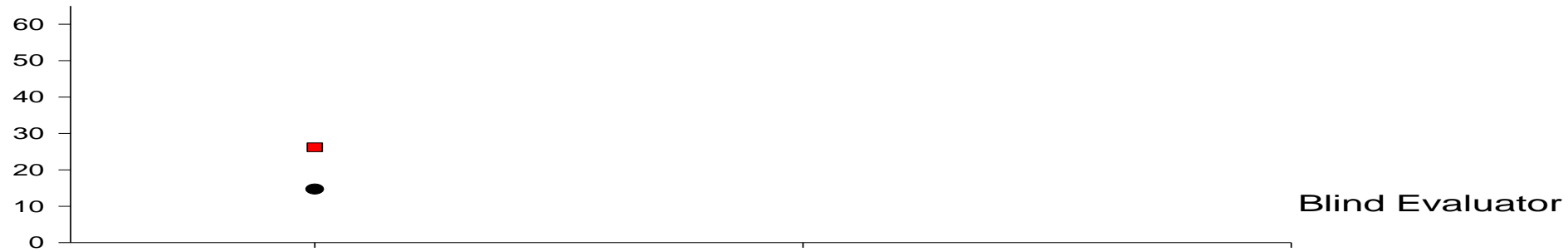
TABLE OF DIFFERENCE

Evaluator	SSIS Group A & Group B T1	SRS Group A & Group B T1	WM Group A & Group B T1	ABC Group A & Group B T1
Blind Evaluator	No Significant Difference P = 0.836	No Significant Difference P = 0.831	No Significant Difference P = 0.753	No Significant Difference P = 0.323
Social Skills Teacher	No Significant Difference P = 0.192	No Significant Difference P = 0.572	No Significant Difference P = 0.181	No Significant Difference P = 0.254
Researcher	No Significant Difference P = 0.298	No Significant Difference P = 0.770	No Significant Difference P = 0.703	No Significant Difference P = 0.427

GENERAL SET UP

RECRUITMENT

INTERVIEW

GROUP A

GROUP B

OBSERVATIONAL PERIOD 1

GROUP A INTERVENTION

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Research
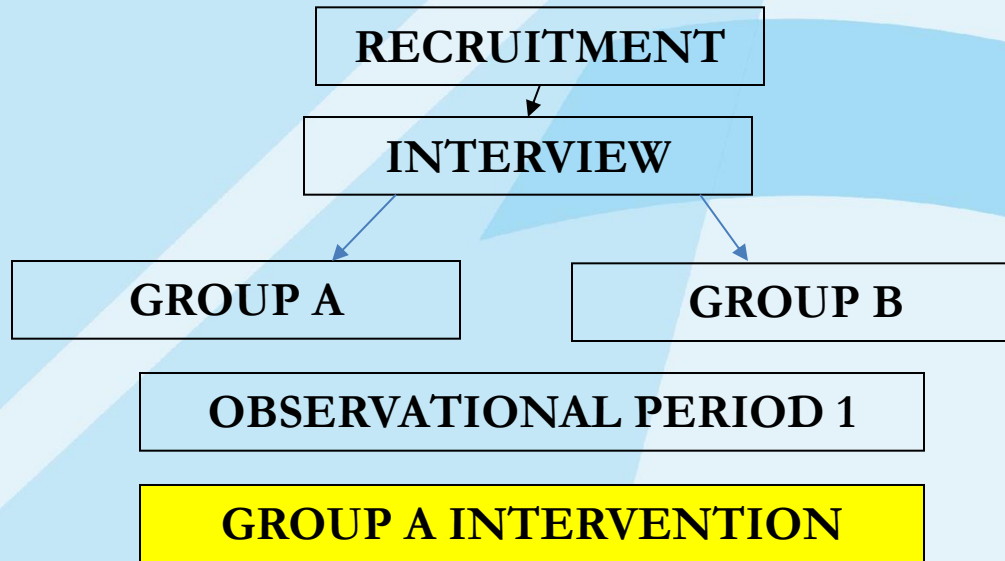
TEACHING PROCEDURES

- **Only ABA Based Strategies**
- **Structured but Flexible Approach**
- **Continuous Teaching**
- **Main Teaching Procedures**
  - **Group Discrete Trial Teaching**
  - **1 to 1 Discrete Trial Teaching (When Needed)**
  - **Cool vs Not Cool Procedure**
  - **Embedded Instructions**
  - **Incidental Teaching**
  - **Teaching Interaction Procedure**

RESEARCH SKILLS TAUGHT

- **Structured Games**
  - **Sleeping Game**
  - **Fruit Salad**
  - **Mouse Trap**
- **Specific Social Behaviors**
  - **Environmental Awareness**
  - **Joint Attention**
  - **Talking to a Friend**
  - **Pretend Play**
  - **Imaginative Play**
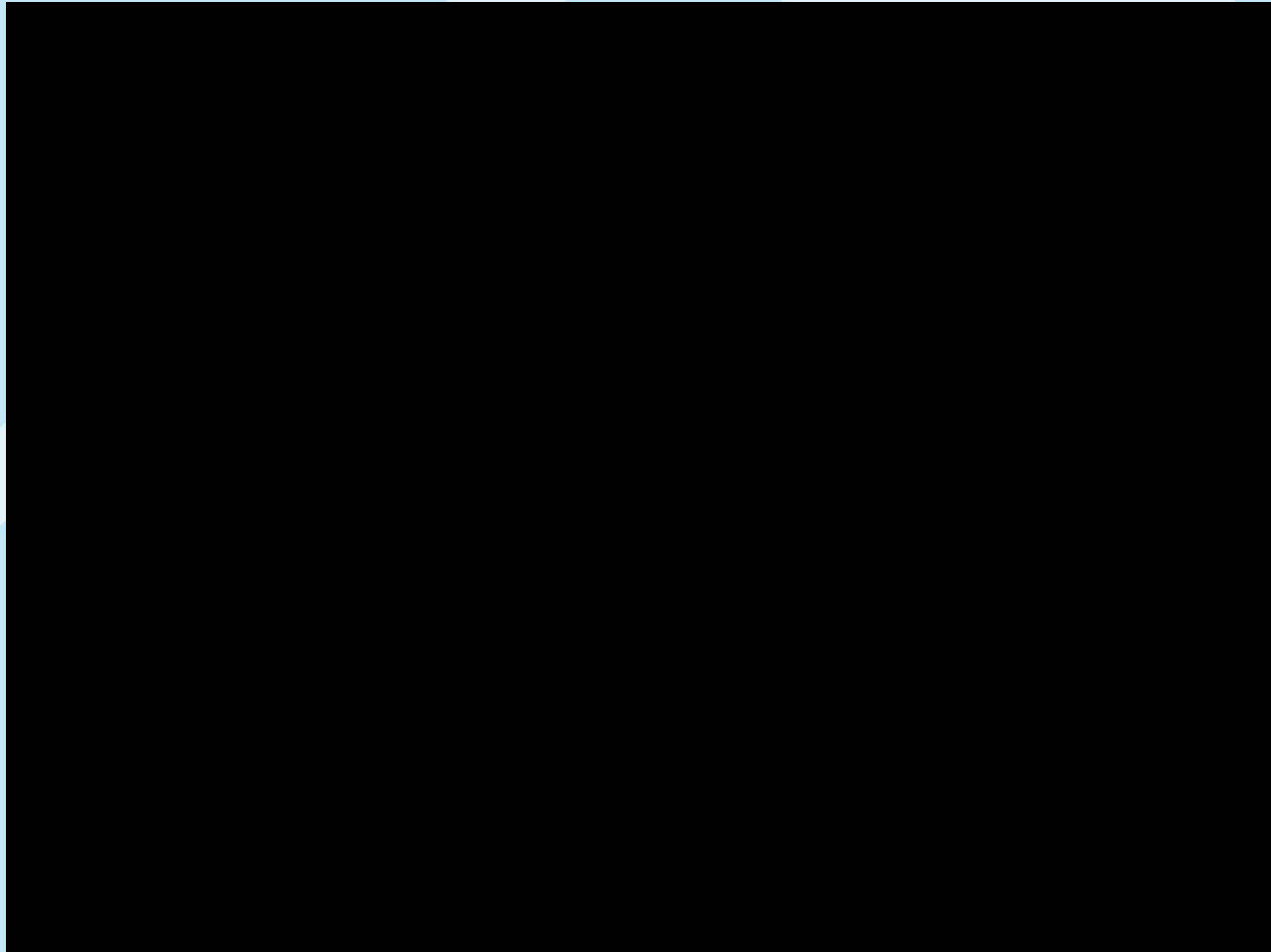
CLINICAL SKILLS TAUGHT

- Behavioral Control
- Frustration Tolerance
- Recall
- Contingencies
- Attending
- Observational Learning
- Conditional Instructions
- Receptive Instructions
- "Figuring it Out"
- Play Areas
- Duck-Duck Goose
- Positive Affect
- Learning from Feedback
- Flexibility

- Delayed Instructions
- Rule Governed Play
- General Knowledge
- Pop Culture Knowledge
- Playing with A Friend
- Asking for Help
- Joining In
- Walking in Line
- Talking to a Friend
- Responding
- Being Silly
- Losing Graciously
- Trying
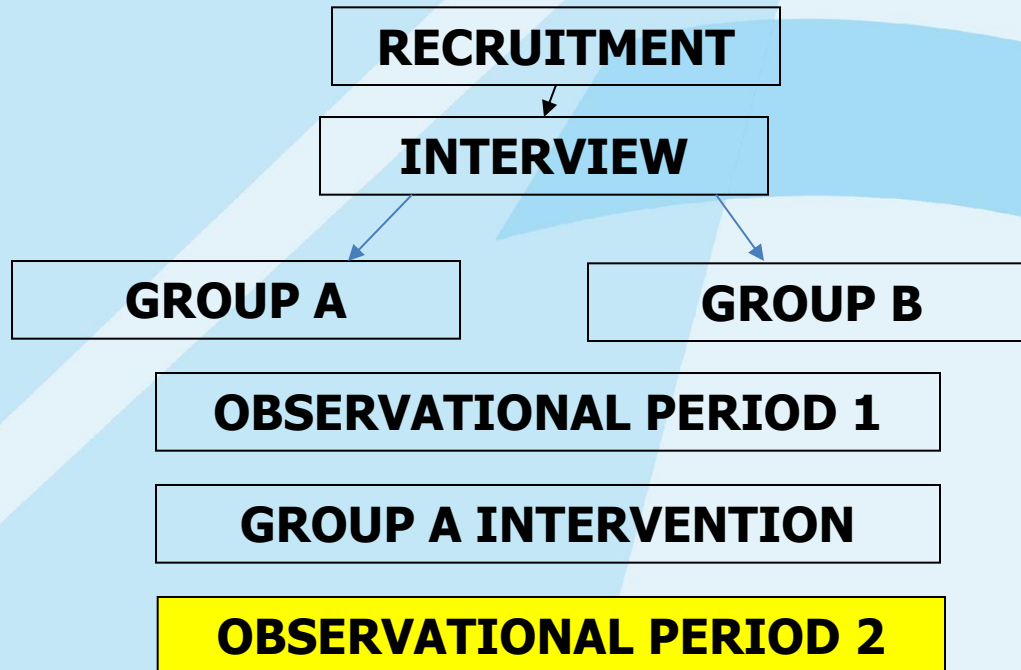- Friendship Development

REINFORCEMENT SYSTEMS

GENERAL SCHEDULE

- **Arrival & Small Group Instruction**
- **Large Group Instruction**
- **Fun Games with Penguins**
  - **Probes**
  - **Teaching**
- **More Group Instruction**
- **Teaching Play**
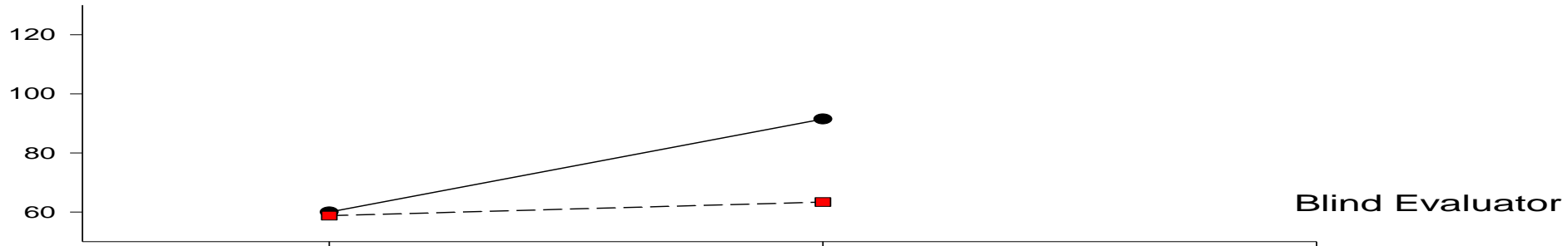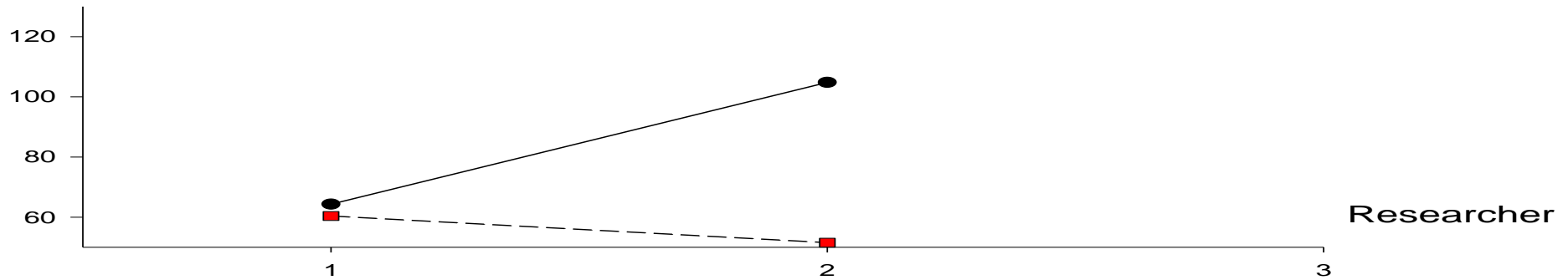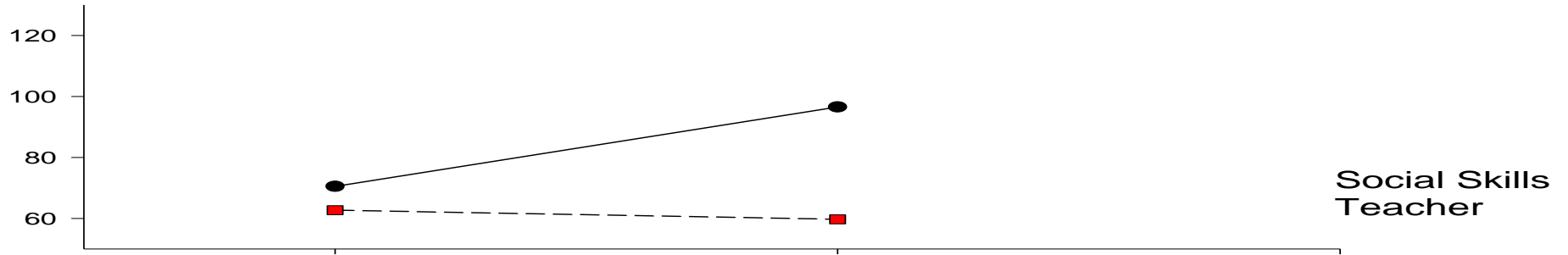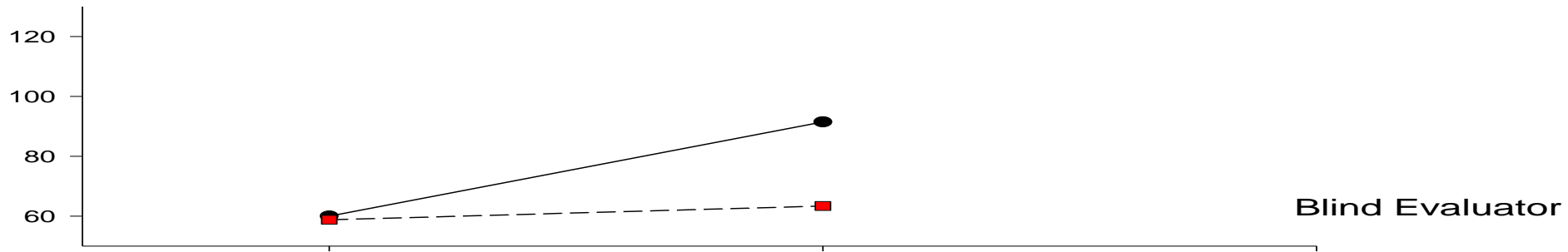- **Transition & Outdoors**
- **Cash In**

GENERAL SET UP

RECRUITMENT

INTERVIEW

GROUP A

GROUP B

OBSERVATIONAL PERIOD 1

GROUP A INTERVENTION

OBSERVATIONAL PERIOD 2

SSIS

SSIS

SSIS TABLE

Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001		No Significant Difference P = 0.498		No Significant Difference P = 0.838	Significant Difference P = <0.001	
Social Skills Teacher	Significant Difference P = 0.002		No Significant Difference P = 0.637		No Significant Difference P = 0.192	Significant Difference P = <0.001	
Researcher	Significant Difference P = <0.001		No Significant Difference P = 0.073		No Significant Difference P = 0.208	Significant Difference P = <0.001	

SSIS TABLE

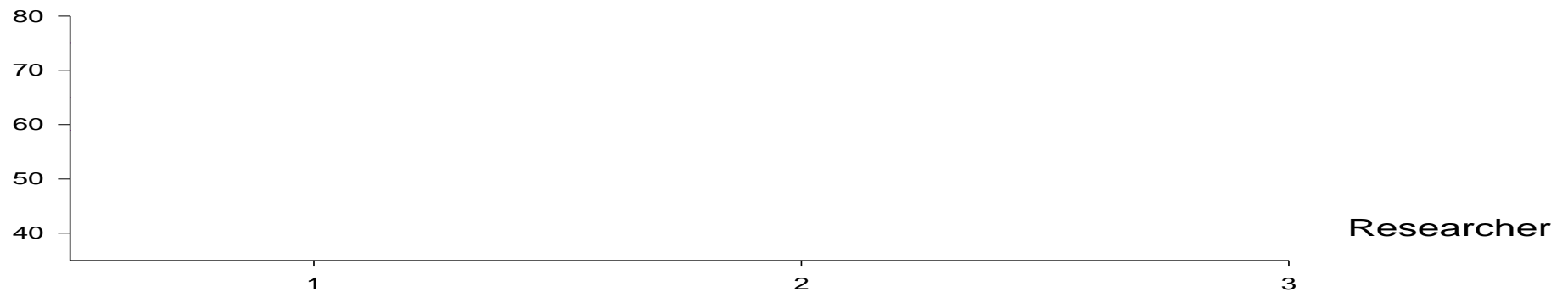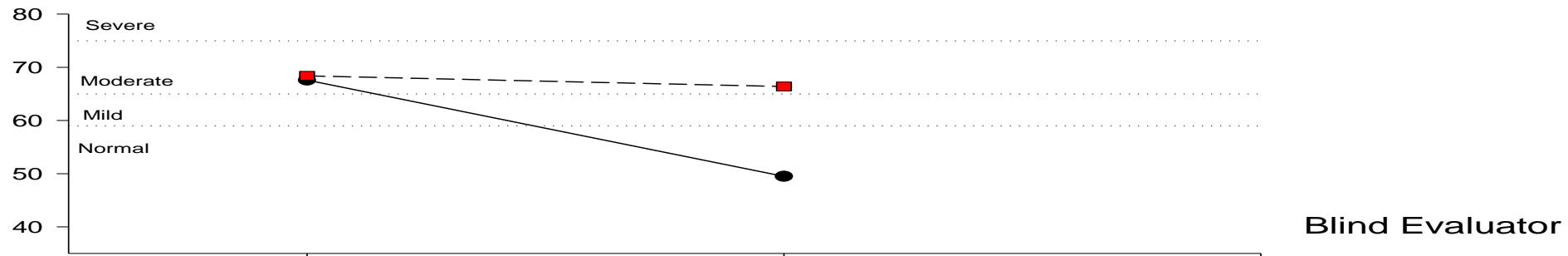| Evaluator	Group A T1–T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001		No Significant Difference P = 0.494		No Significant Difference P = 0.838	Significant Difference P = <0.001	
Social Skills Teacher	Significant Difference P = 0.002		No Significant Difference P = 0.637		No Significant Difference P = 0.192	Significant Difference P = <0.001	
Researcher	Significant Difference P = <0.001		No Significant Difference P = 0.073		No Significant Difference P = 0.208	Significant Difference P = <0.001	

SSIS TABLE

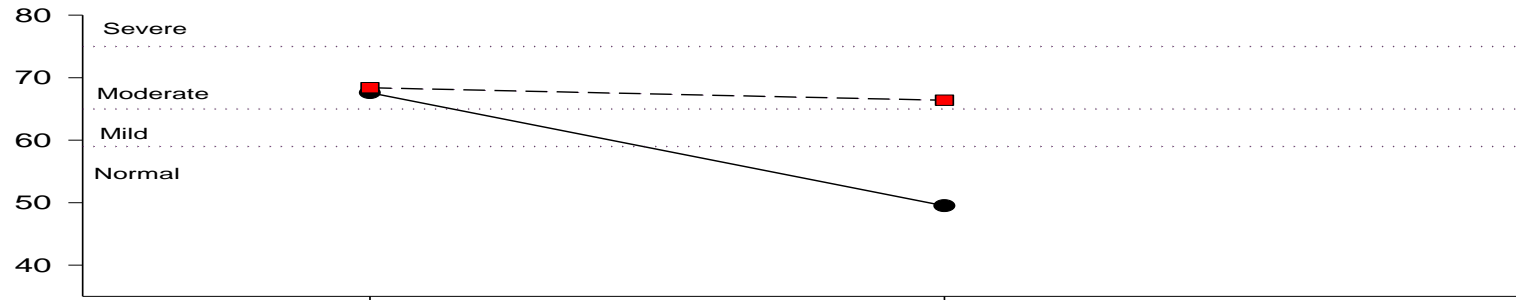| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001		No Significant Difference P = 0.494		No Significant Difference P = 0.836	Significant Difference P = <0.001	
Social Skills Teacher	Significant Difference P = 0.002		No Significant Difference P = 0.637		No Significant Difference P = 0.192	Significant Difference P = <0.001	
Researcher	Significant Difference P = <0.001		No Significant Difference P = 0.073		No Significant Difference P = 0.298	Significant Difference P = <0.001	

SRS

Blind Evaluator

Social Skills Teacher

Researcher

SRS

SRS TABLE

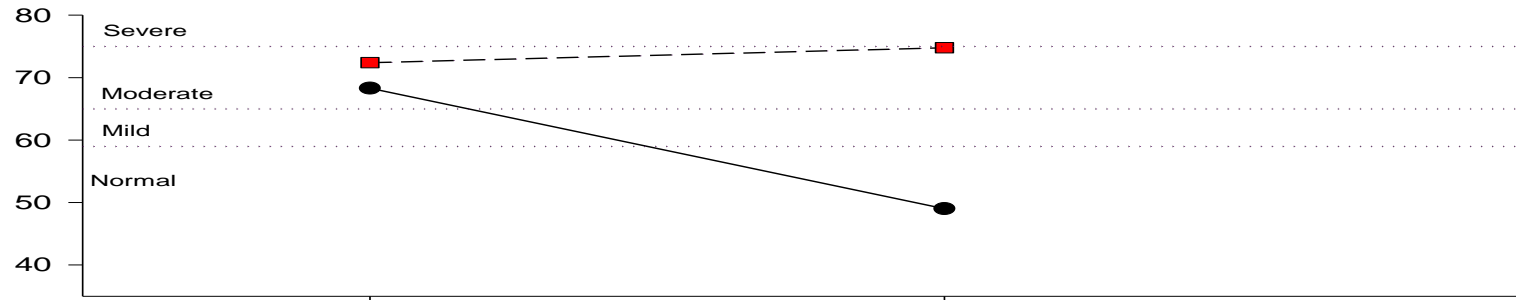| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001		No Significant Difference P = 0.681		No Significant Difference P = 0.831	Significant Difference P = <0.001	
Social Skills Teacher	Significant Difference P = <0.001		No Significant Difference P = 0.744		No Significant Difference P = 0.572	Significant Difference P = <0.001	
Researcher	Significant Difference P = <0.001		No Significant Difference P = 0.614		No Significant Difference P = 0.770	Significant Difference P = <0.001	

SRS TABLE

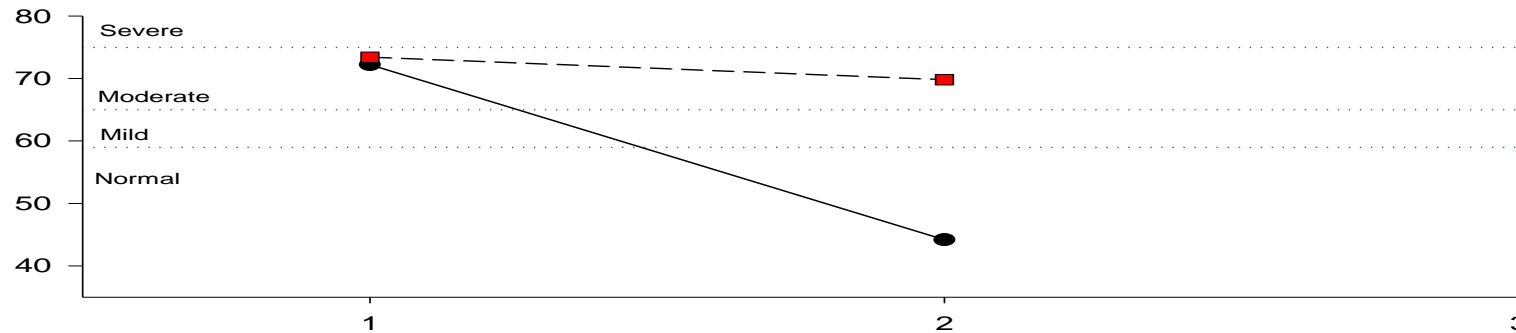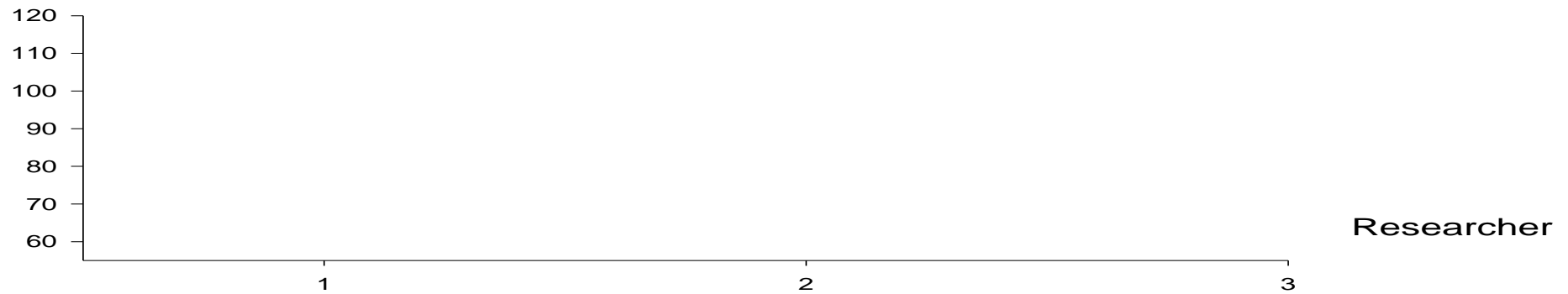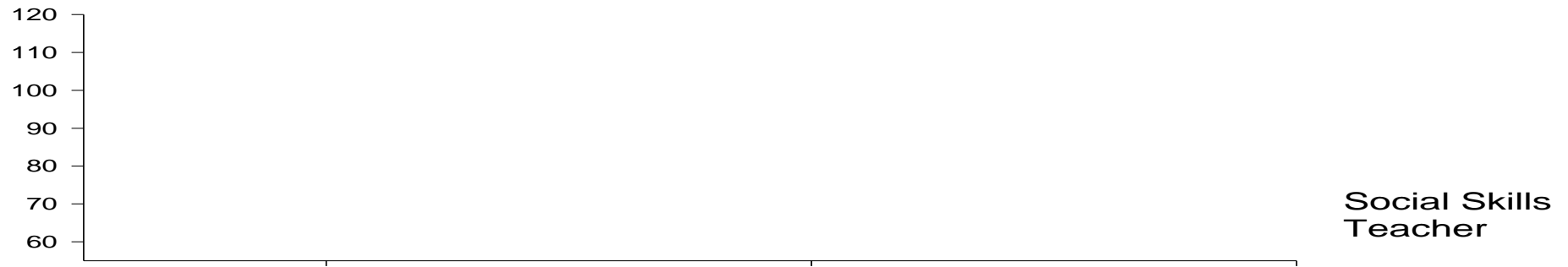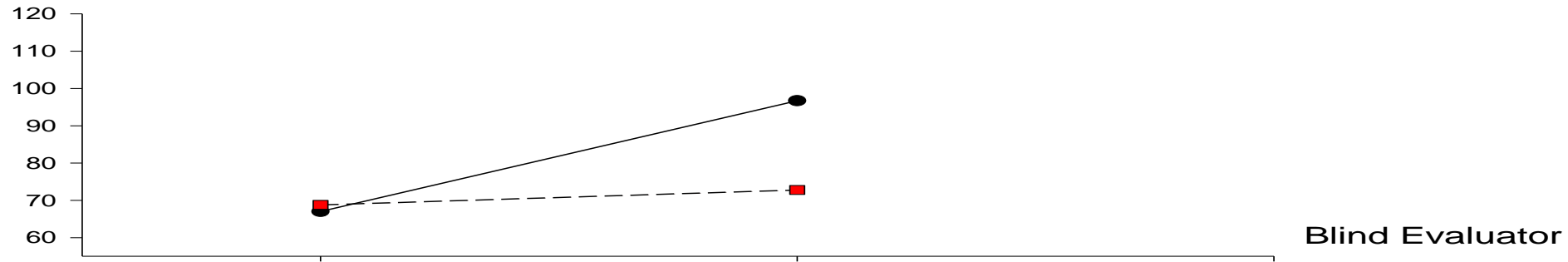| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
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Social Skills Teacher	Significant Difference P = <0.001		No Significant Difference P = 0.744		No Significant Difference P = 0.572	Significant Difference P = <0.001	
Researcher	Significant Difference P = <0.001		No Significant Difference P = 0.614		No Significant Difference P = 0.770	Significant Difference P = <0.001	

SRS TABLE

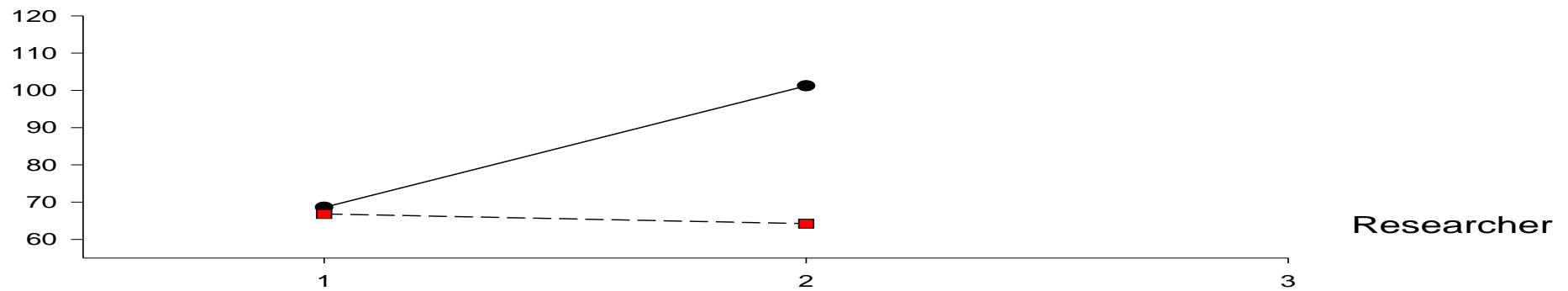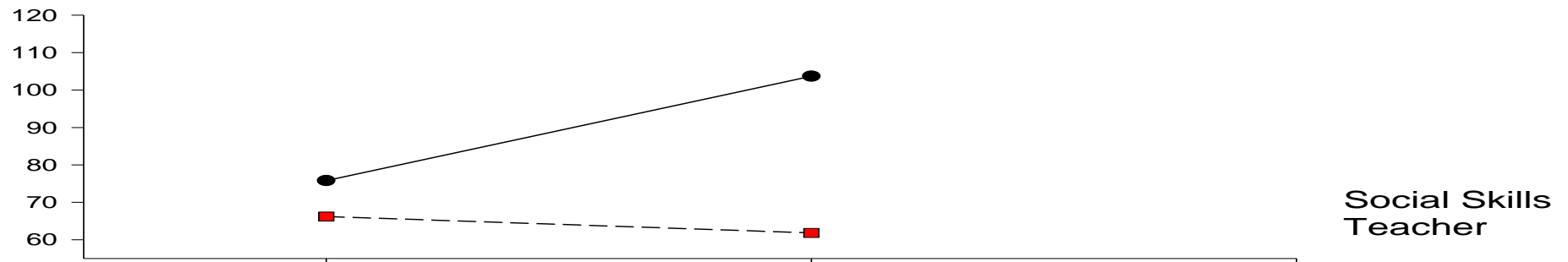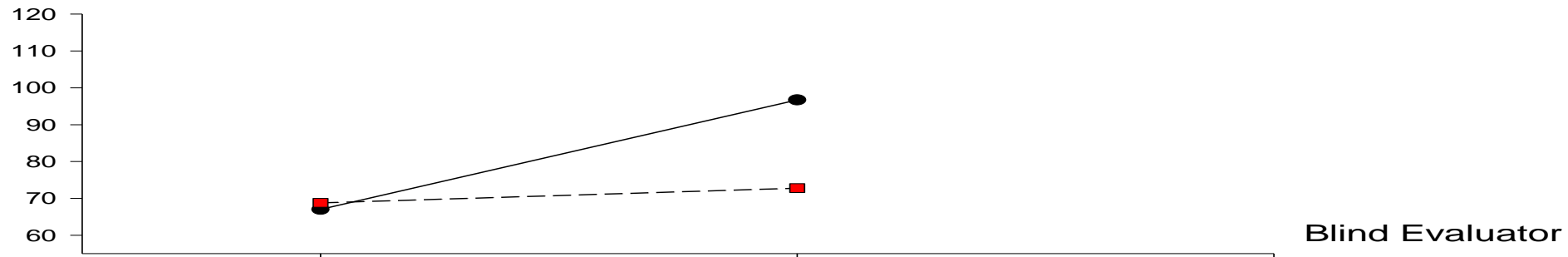| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
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Blind Evaluator

Social Skills Teacher

Researcher

WM

WM TABLE

Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001		No Significant Difference P = 0.627		No Significant Difference P = 0.753	Significant Difference P = 0.003	
Social Skills Teacher	Significant Difference P = 0.001		No Significant Difference P = 0.483		No Significant Difference P = 0.181	Significant Difference P = <0.001	
Researcher	Significant Difference P = <0.001		No Significant Difference P = 0.706		No Significant Difference P = 0.707	Significant Difference P = <0.001	

WM TABLE

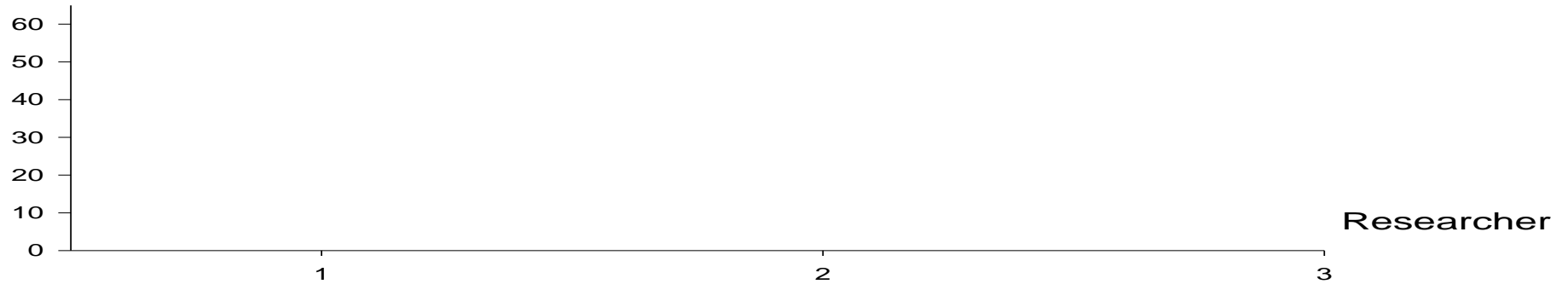| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001		No Significant Difference P = 0.627		No Significant Difference P = 0.753	Significant Difference P = <0.001	
Social Skills Teacher	Significant Difference P = 0.001		No Significant Difference P = 0.483		No Significant Difference P = 0.181	Significant Difference P = <0.001	
Researcher	Significant Difference P = <0.001		No Significant Difference P = 0.706		No Significant Difference P = 0.707	Significant Difference P = <0.001	

WM TABLE

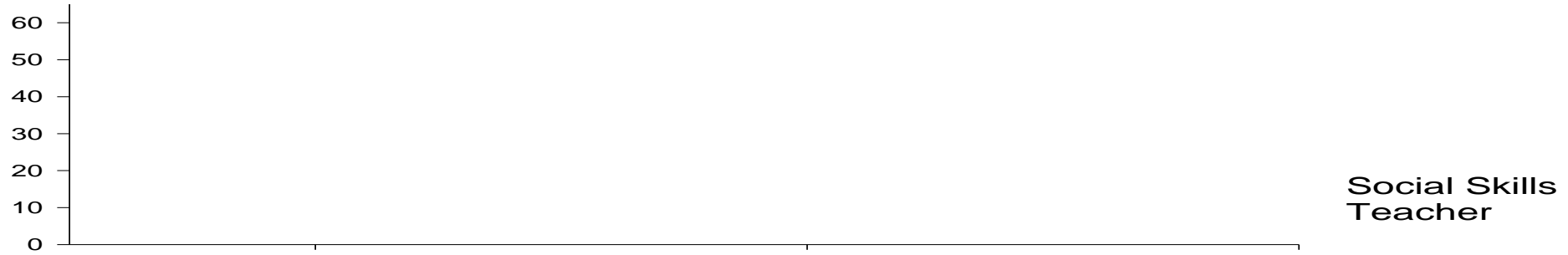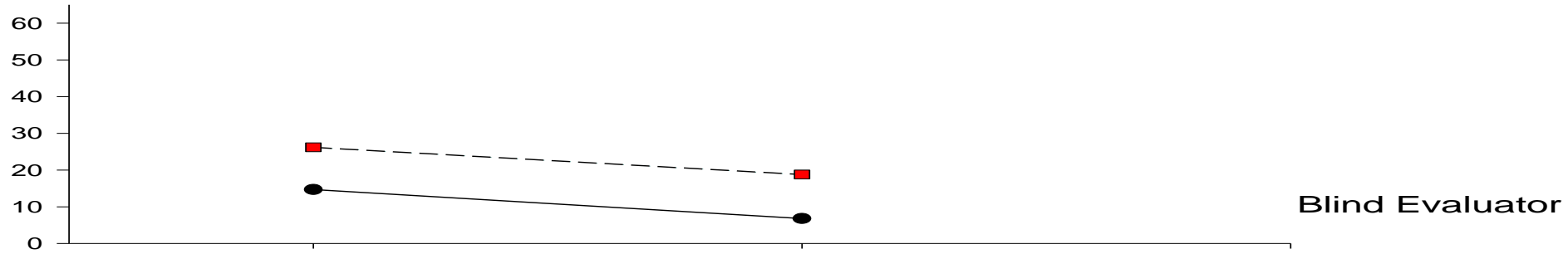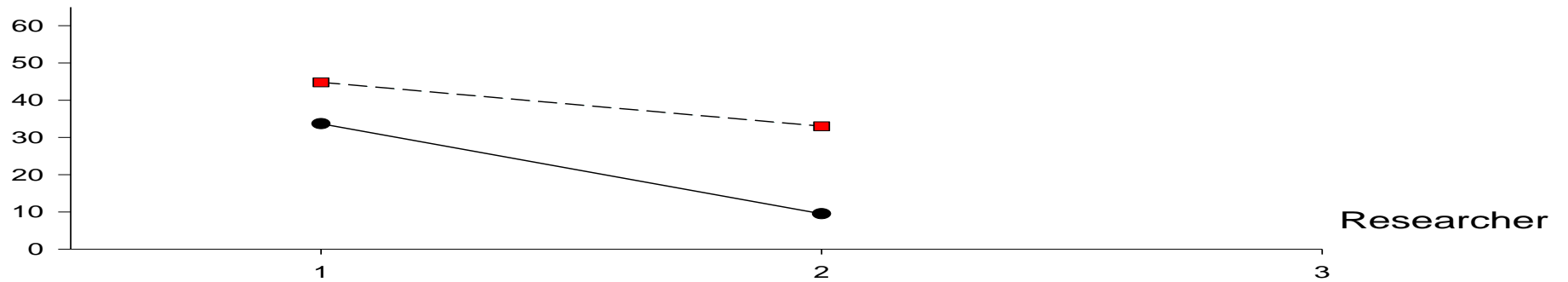| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001		No Significant Difference P = 0.627		No Significant Difference P = 0.753	Significant Difference P = 0.005	
Social Skills Teacher	Significant Difference P = 0.001		No Significant Difference P = 0.483		No Significant Difference P = 0.181	Significant Difference P = <0.001	
Researcher	Significant Difference P = <0.001		No Significant Difference P = 0.706		No Significant Difference P = 0.703	Significant Difference P = <0.001	

ABC

Blind Evaluator

Social Skills
Teacher

Researcher

ABC

ABC TABLE

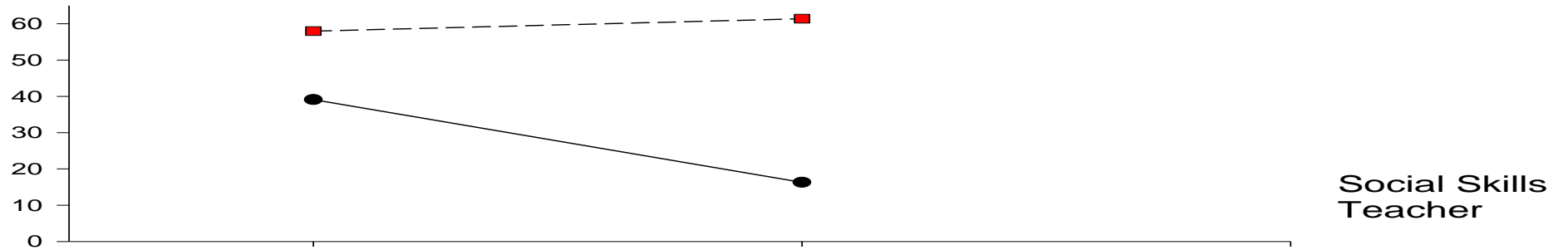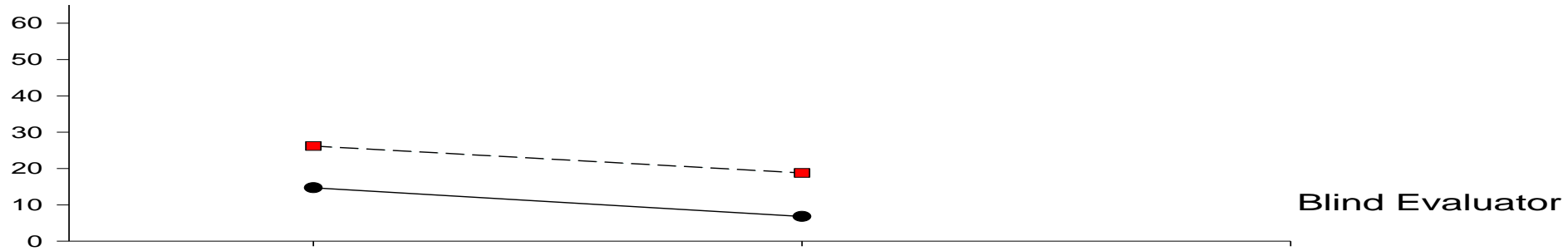| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	No Significant Difference $P = 0.249$		No Significant Difference $P = 0.522$		No Significant Difference $P = 0.323$	No Significant Difference $P = 0.058$	
Social Skills Teacher	No Significant Difference $P = 0.389$		No Significant Difference $P = 0.837$		No Significant Difference $P = 0.254$	Significant Difference $P = 0.003$	
Researcher	No Significant Difference $P = 0.051$		No Significant Difference $P = 0.416$		No Significant Difference $P = 0.327$	No Significant Difference $P = 0.058$	

ABC TABLE

Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	No Significant Difference P = 0.349		No Significant Difference P = 0.522		No Significant Difference P = 0.323	No Significant Difference P = 0.058	
Social Skills Teacher	No Significant Difference P = 0.389		No Significant Difference P = 0.837		No Significant Difference P = 0.254	Significant Difference P = 0.003	
Researcher	No Significant Difference P = 0.051		No Significant Difference P = 0.416		No Significant Difference P = 0.437	No Significant Difference P = 0.051	

ABC TABLE

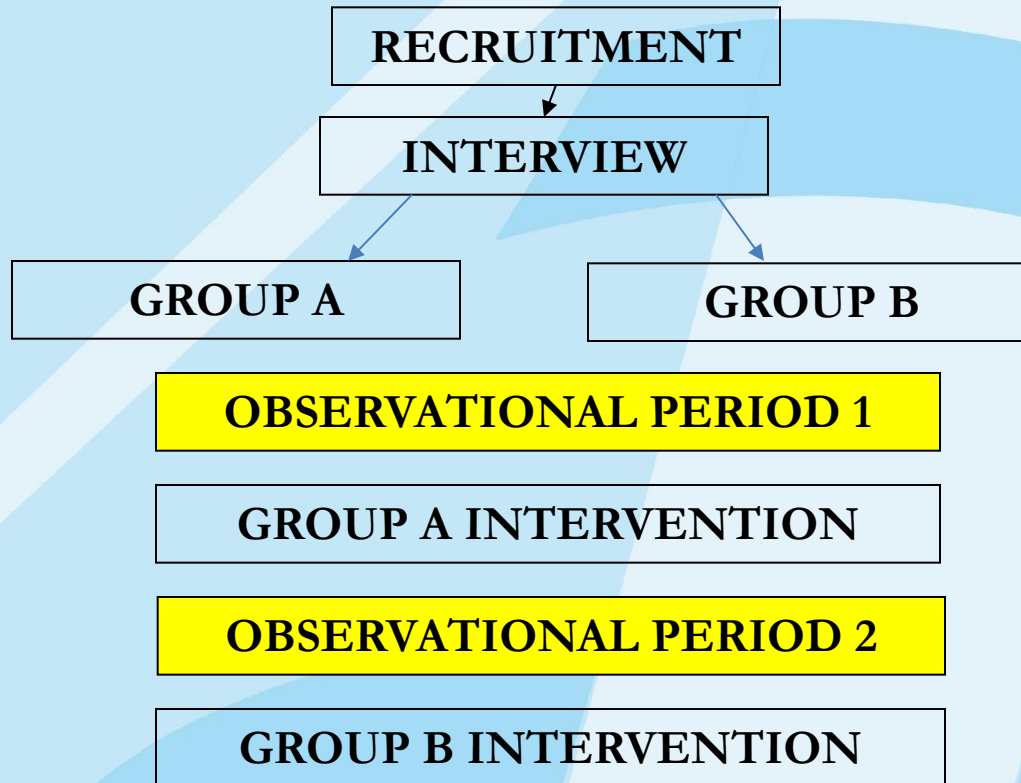| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	No Significant Difference P = 0.349		No Significant Difference P = 0.522		No Significant Difference P = 0.323	No Significant Difference P = 0.058	
Social Skills Teacher	No Significant Difference P = 0.389		No Significant Difference P = 0.837		No Significant Difference P = 0.254	Significant Difference P = 0.003	
Researcher	No Significant Difference P = 0.051		No Significant Difference P = 0.416		No Significant Difference P = 0.427	No Significant Difference P = 0.051	

GENERAL SET UP

RECRUITMENT

INTERVIEW

GROUP A

GROUP B

OBSERVATIONAL PERIOD 1

GROUP A INTERVENTION

OBSERVATIONAL PERIOD 2

GROUP B INTERVENTION

GENERAL SET UP

RECRUITMENT

INTERVIEW

GROUP A GROUP B

OBSERVATIONAL PERIOD 1

GROUP A INTERVENTION

OBSERVATIONAL PERIOD 2

GROUP B INTERVENTION

OBSERVATIONAL PERIOD 3

SSIS

SSIS

SSIS TABLE

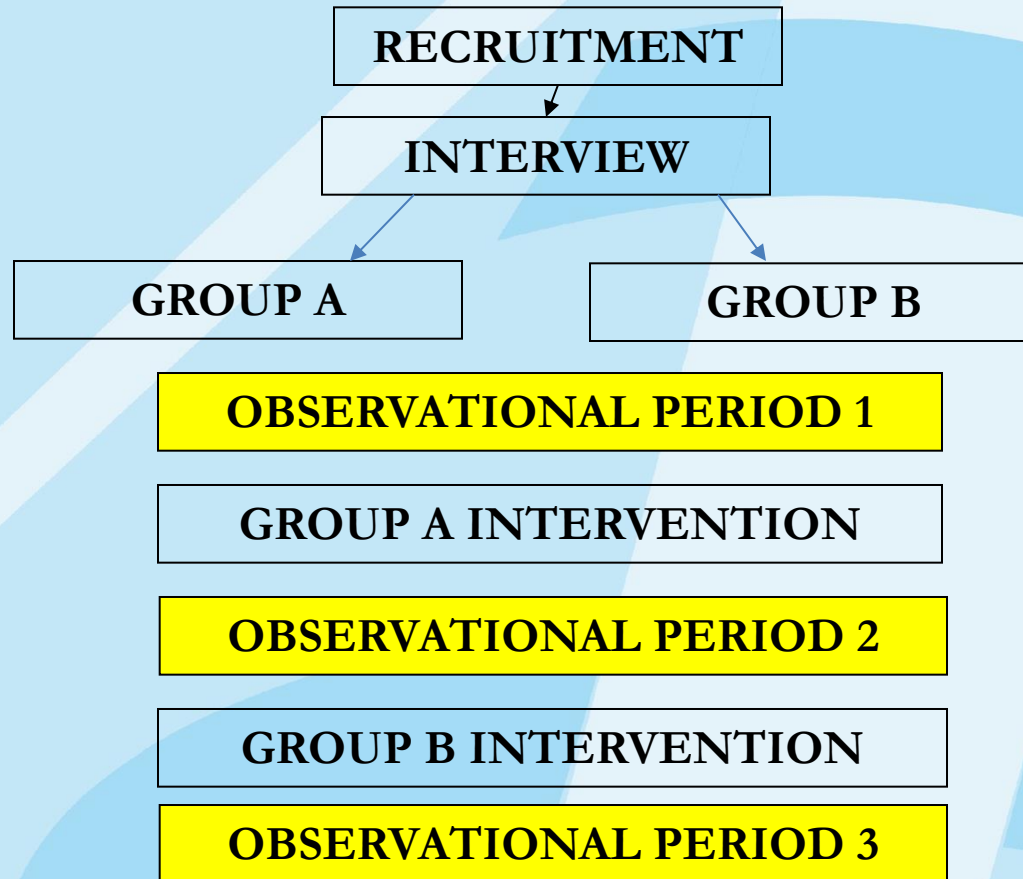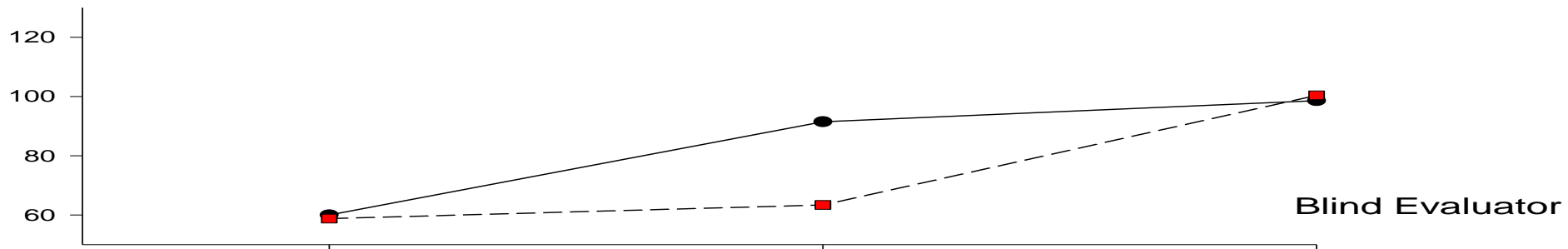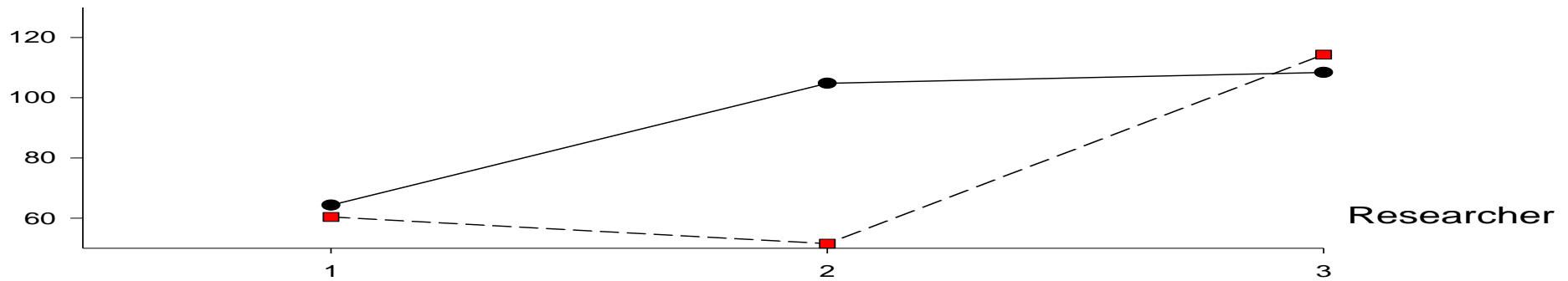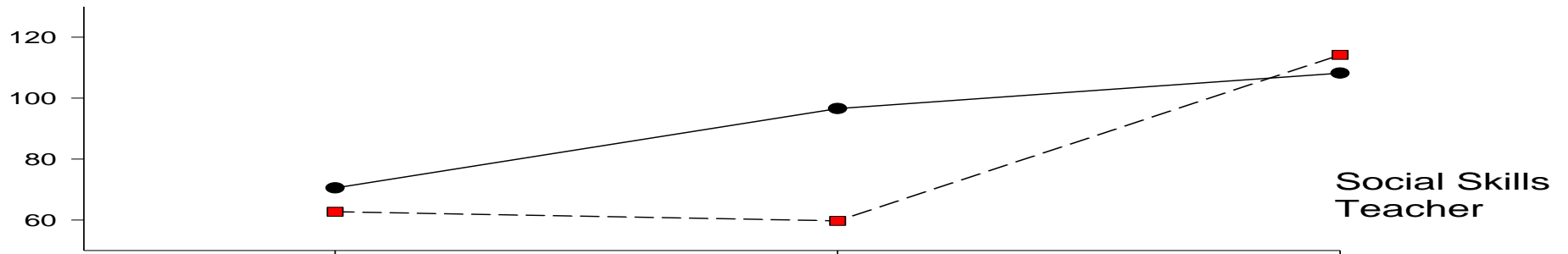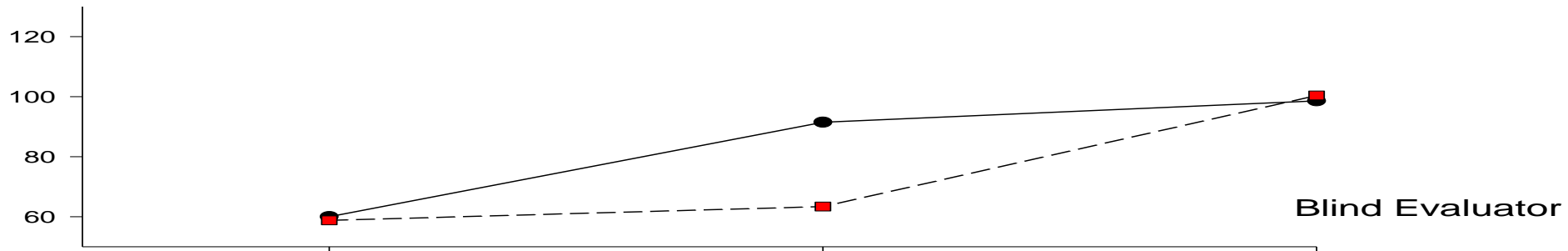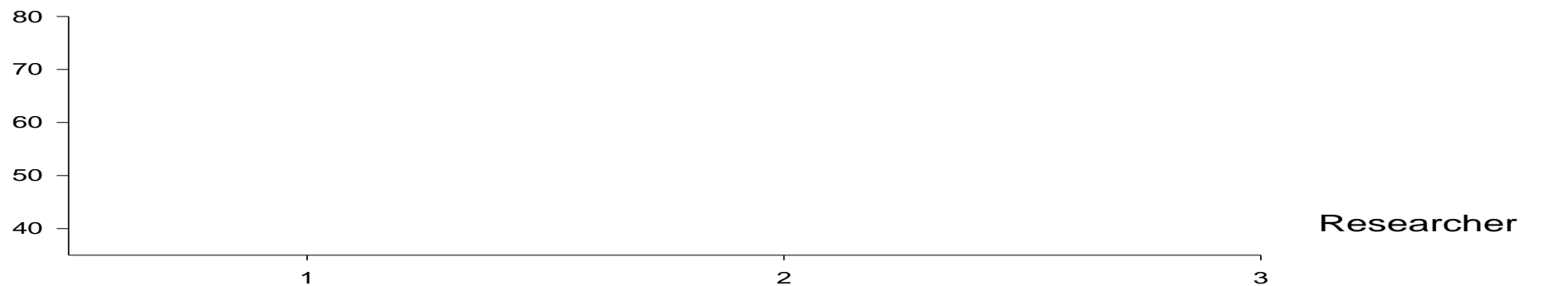| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001	No Significant Difference P = 0.244	No Significant Difference P = 0.494	Significant Difference P = <0.001	No Significant Difference P = 0.838	Significant Difference P = <0.001	No Significant Difference P = 0.725
Social Skills Teacher	Significant Difference P = 0.002	No Significant Difference P =0.084	No Significant Difference P = 0.637	Significant Difference P = <0.001	No Significant Difference P = 0.192	Significant Difference P = <0.001	No Significant Difference P = 0.125
Researcher	Significant Difference P = <0.001	No Significant Difference P = 0.514	No Significant Difference P = 0.073	Significant Difference P = <0.001	No Significant Difference P = 0.208	Significant Difference P = <0.001	No Significant Difference

SSIS TABLE

Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference $P = <0.001$	No Significant Difference $P = 0.244$	No Significant Difference $P = 0.494$	Significant Difference $P = <0.001$	No Significant Difference $P = 0.838$	Significant Difference $P = <0.001$	No Significant Difference $P = 0.725$
Social Skills Teacher	Significant Difference $P = 0.002$	No Significant Difference $P = 0.084$	No Significant Difference $P = 0.637$	Significant Difference $P = <0.001$	No Significant Difference $P = 0.192$	Significant Difference $P = <0.001$	No Significant Difference $P = 0.125$
Researcher	Significant Difference $P = <0.001$	No Significant Difference $P = 0.514$	No Significant Difference $P = 0.073$	Significant Difference $P = <0.001$	No Significant Difference $P = 0.208$	Significant Difference $P = <0.001$	No Significant Difference

SSIS TABLE

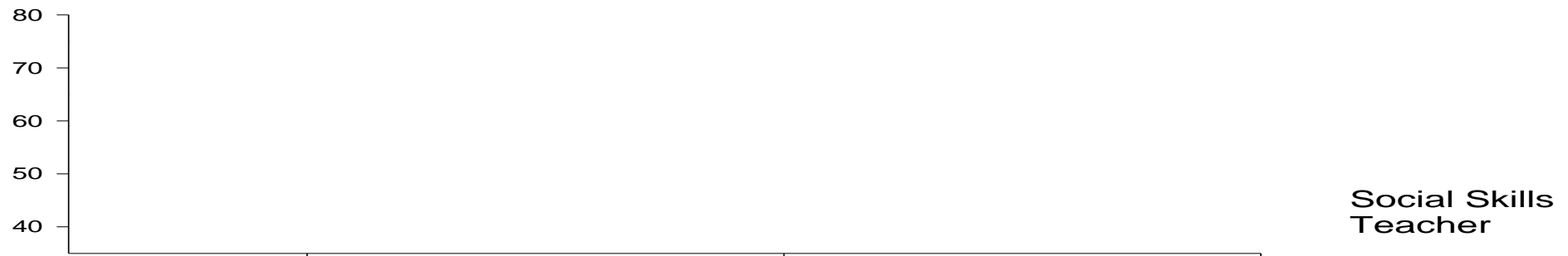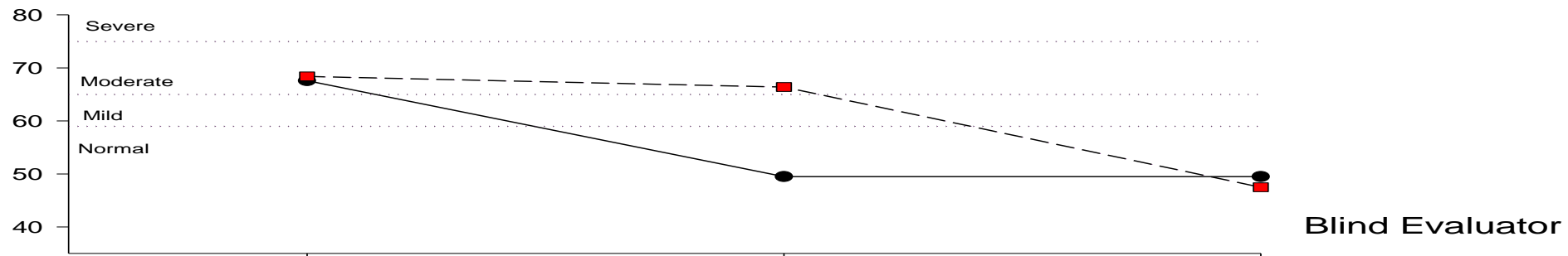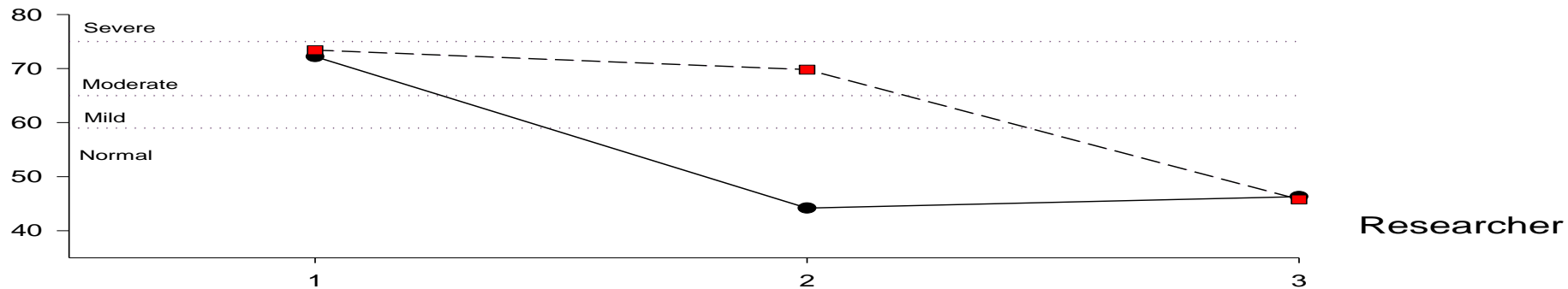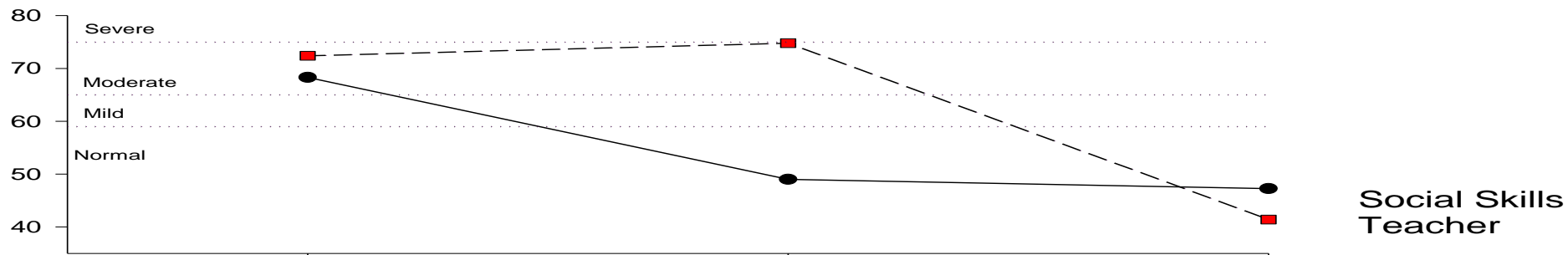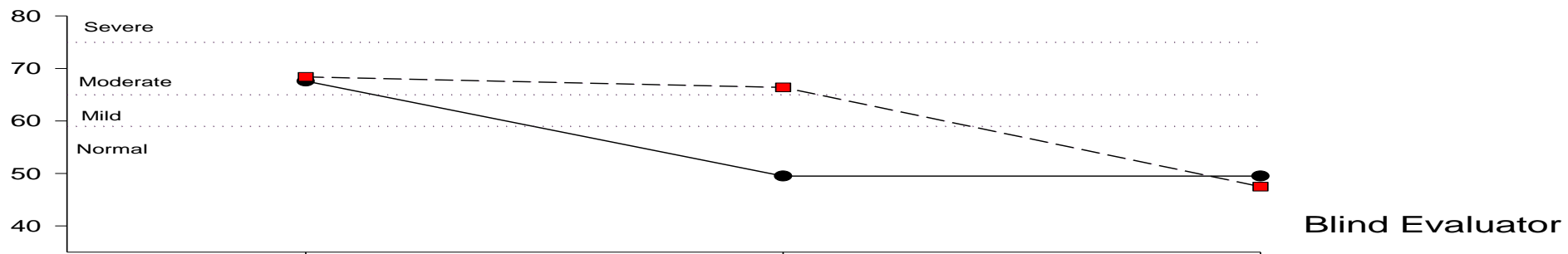| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001	No Significant Difference P = 0.244	No Significant Difference P = 0.498	Significant Difference P = <0.001	No Significant Difference P = 0.838	Significant Difference P = <0.001	No Significant Difference P = 0.724
Social Skills Teacher	Significant Difference P = 0.002	No Significant Difference P = 0.084	No Significant Difference P = 0.637	Significant Difference P = <0.001	No Significant Difference P = 0.192	Significant Difference P = <0.001	No Significant Difference P = 0.125
Researcher	Significant Difference P = <0.001	No Significant Difference P = 0.514	No Significant Difference P = 0.073	Significant Difference P = <0.001	No Significant Difference P = 0.208	Significant Difference P = <0.001	No Significant Difference P = 0.156

SRS

Blind Evaluator

Social Skills
Teacher

Researcher

SRS

Blind Evaluator

Social Skills Teacher

Researcher

SRS TABLE

Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001	No Significant Difference P = 1.000	No Significant Difference P = 0.681	Significant Difference P = <0.001	No Significant Difference P = 0.831	Significant Difference P = <0.001	No Significant Difference P = 0.307
Social Skills Teacher	Significant Difference P = <0.001	No Significant Difference P = 0.538	No Significant Difference P = 0.744	Significant Difference P = <0.001	No Significant Difference P = 0.572	Significant Difference P = <0.001	Significant Difference P = 0.027
Researcher	Significant Difference P = <0.001	No Significant Difference P = 0.301	No Significant Difference P = 0.614	Significant Difference P = <0.001	No Significant Difference P = 0.770	Significant Difference P = <0.001	No Significant Difference P = 0.037

SRS TABLE

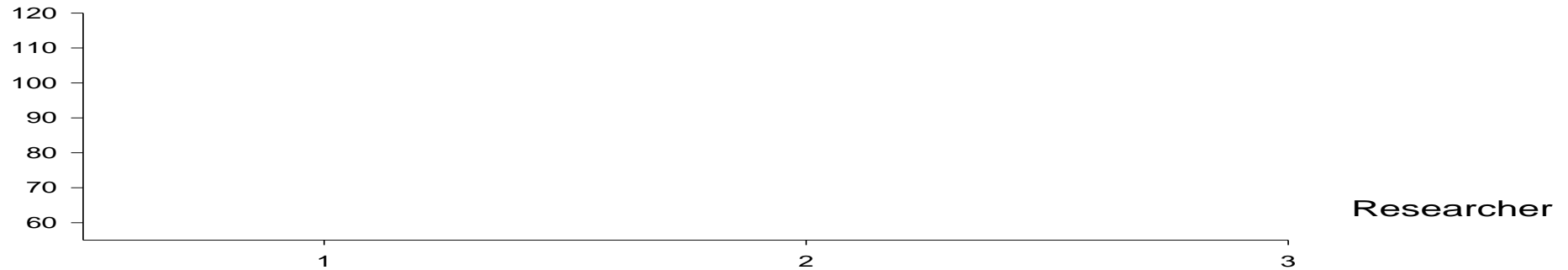| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
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Social Skills Teacher	Significant Difference $P = <0.001$	No Significant Difference $P = 0.538$	No Significant Difference $P = 0.744$	Significant Difference $P = <0.001$	No Significant Difference $P = 0.572$	Significant Difference $P = <0.001$	Significant Difference $P = 0.027$
Researcher	Significant Difference $P = <0.001$	No Significant Difference $P = 0.301$	No Significant Difference $P = 0.614$	Significant Difference $P = <0.001$	No Significant Difference $P = 0.770$	Significant Difference $P = <0.001$	No Significant Difference $P = 0.027$

SRS TABLE

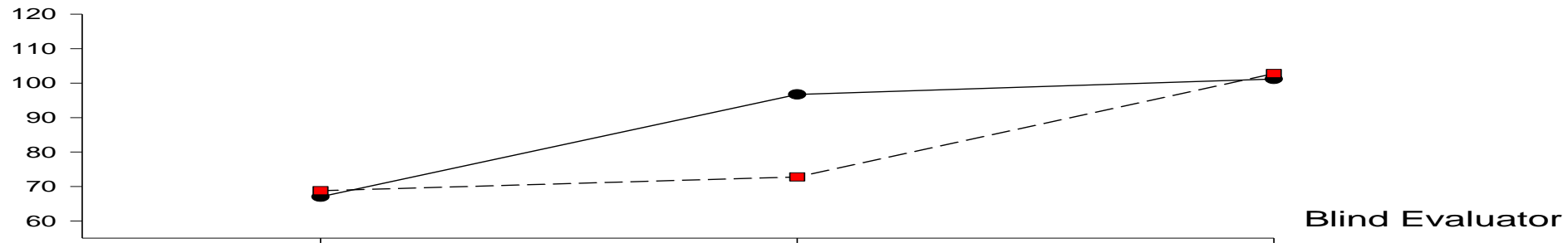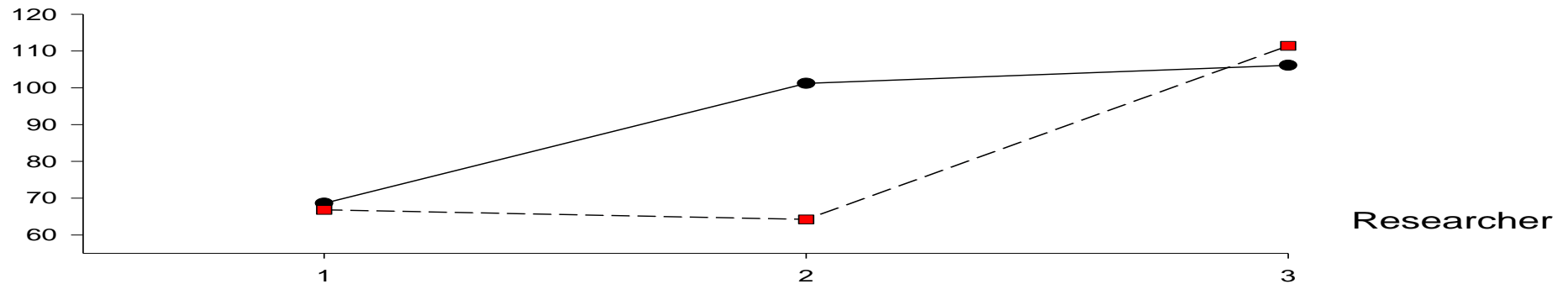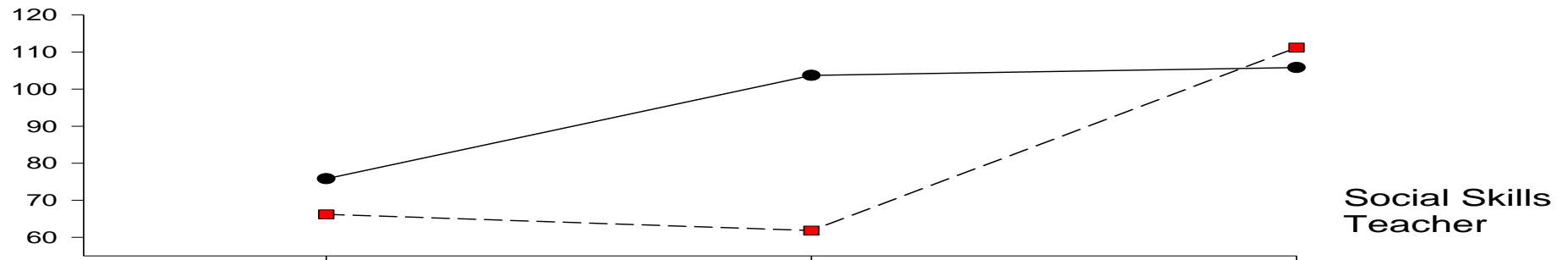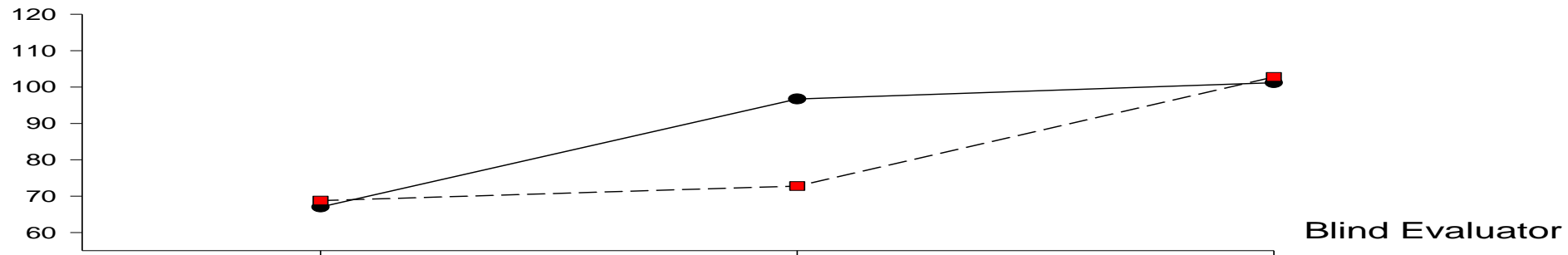| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
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Social Skills Teacher	Significant Difference P = <0.001	No Significant Difference P =0.538	No Significant Difference P = 0.744	Significant Difference P = <0.001	No Significant Difference P = 0.572	Significant Difference P = <0.001	Significant Difference P = 0.027
Researcher	Significant Difference P = <0.001	No Significant Difference P = 0.301	No Significant Difference P = 0.614	Significant Difference P = <0.001	No Significant Difference P = 0.770	Significant Difference P = <0.001	No Significant Difference P = 0.776

WM

WM

WM TABLE

Evaluator	Group A T1–T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
Blind Evaluator	Significant Difference P = <0.001	No Significant Difference P = 0.396	No Significant Difference P = 0.627	Significant Difference P = 0.002	No Significant Difference P = 0.753	Significant Difference P = 0.005	No Significant Difference P = 0.768
Social Skills Teacher	Significant Difference P = 0.001	No Significant Difference P = 0.700	No Significant Difference P = 0.483	Significant Difference P = <0.001	No Significant Difference P = 0.181	Significant Difference P = <0.001	No Significant Difference P = 0.139
Researcher	Significant Difference P = <0.001	No Significant Difference P = 0.801	No Significant Difference P = 0.706	Significant Difference P = <0.001	No Significant Difference P = 0.703	Significant Difference P = <0.001	No Significant Difference P = 0.208

WM TABLE

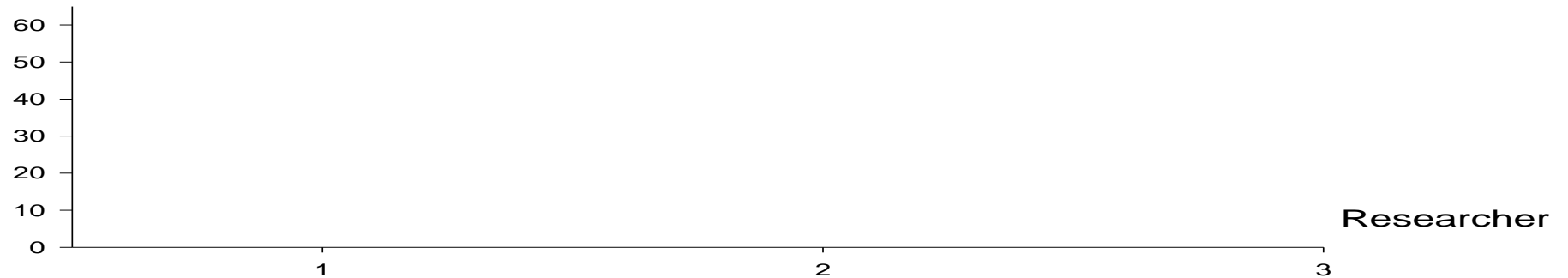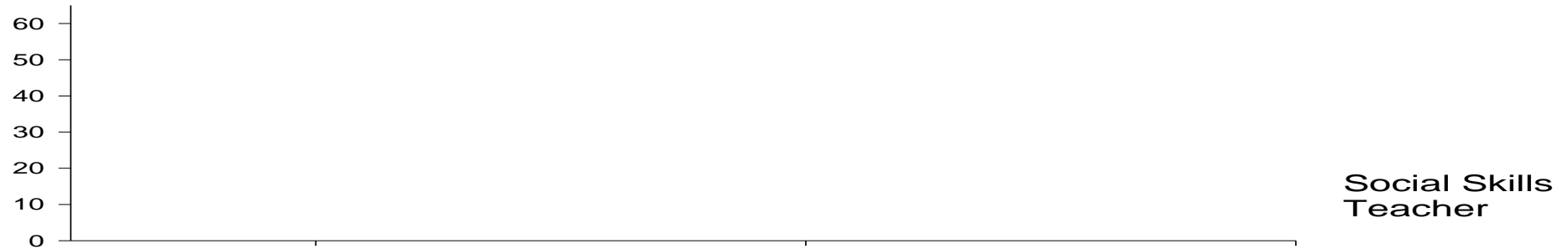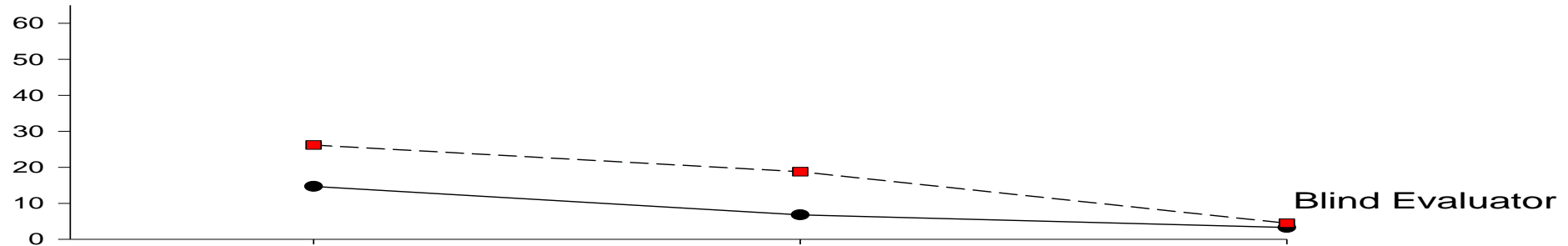| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
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Social Skills Teacher	Significant Difference P = 0.001	No Significant Difference P = 0.700	No Significant Difference P = 0.483	Significant Difference P = <0.001	No Significant Difference P = 0.181	Significant Difference P = <0.001	No Significant Difference P =0.139
Researcher	Significant Difference P = <0.001	No Significant Difference P = 0.801	No Significant Difference P = 0.706	Significant Difference P = <0.001	No Significant Difference	Significant Difference	No Significant Difference

WM TABLE

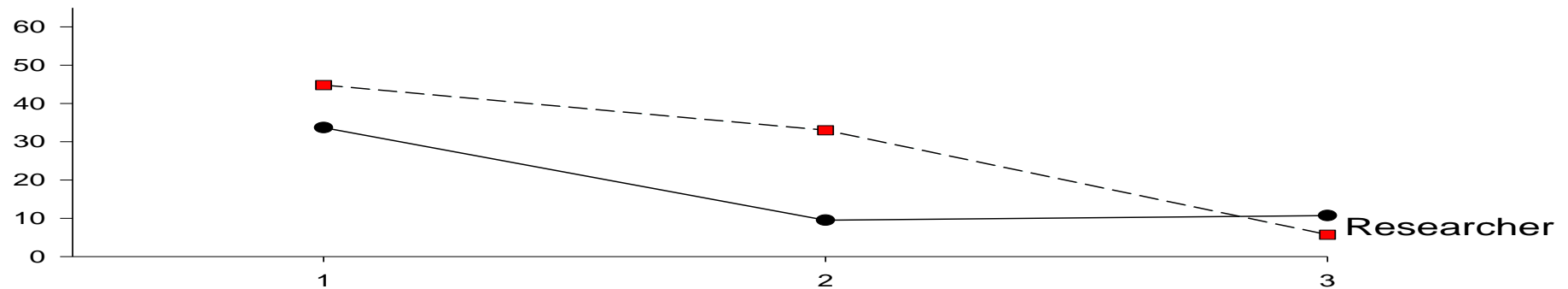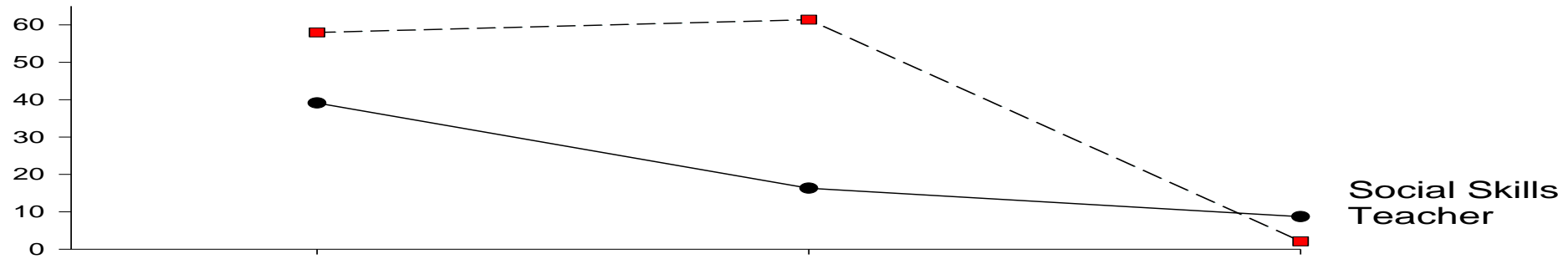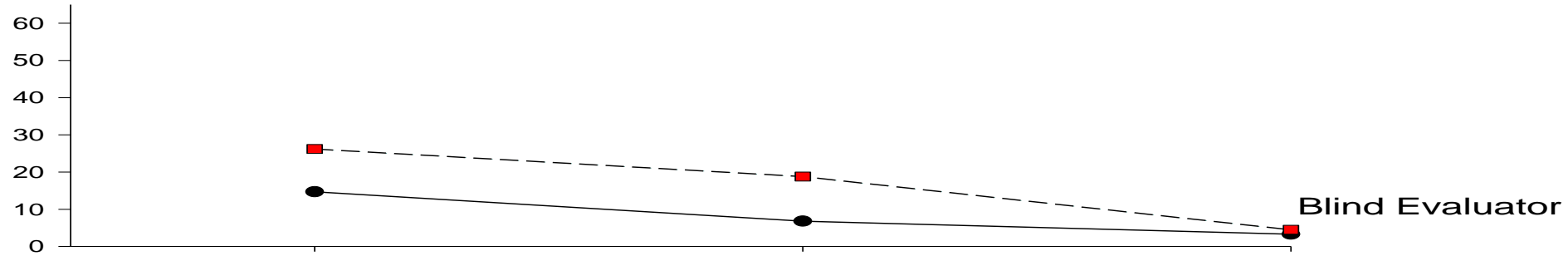| Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
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ABC

ABC

ABC TABLE

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Blind Evaluator	No Significant Difference P = 0.349	No Significant Difference $P = 0.312$	No Significant Difference P = 0.522	Significant Difference P = 0.020	No Significant Difference P = 0.123	No Significant Difference P = 0.058	No Significant Difference P = 0.386
Social Skills Teacher	No Significant Difference P = 0.389	No Significant Difference $P =0.389$	No Significant Difference P = 0.837	Significant Difference P = <0.001	No Significant Difference P = 0.254	Significant Difference P = 0.003	Significant Difference P = 0.024
Researcher	No Significant Difference P = 0.051	No Significant Difference 0.857	No Significant Difference	Significant Difference P = 0.017	No Significant Difference	No Significant Difference	No Significant Difference

ABC TABLE

Evaluator	Group A T1 –T2	Group A T2-T3	Group B T1-T2	Group B T2-T3	Group A & Group B T1	Group A & Group B T2	Group A & Group B T3
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Researcher	No Significant Difference P = 0.051	No Significant Difference 0.857	No Significant Difference P = 0.416	Significant Difference P = 0.017	No Significant Difference P = 0.127	No Significant Difference P = 0.053	No Significant Difference P = 0.265

SOCIAL VALIDITY

- **"We have loved being part of this study. Very impressed with the quality of teachers and instructions."**

- **"He has most definitely made huge leaps and gains in his social awareness and standing amongst his peers especially the typical ones."**

- **"He has made significant strides but he still has a little ways to go and again many of those strides were because of you guys and for that we thank you!!!"**

- **"We have we have seen a BIG difference thanks to you and the THERAPIST."**

SOCIAL VALIDITY

Question	Group A	Group B	Both Groups
Satisfaction Learning Social Skills	5.8	6.5	6.1
Satisfaction Learning Play Skills	5.8	6.5	6.1
Satisfaction Learning School Readiness Skills	6.2	6.75	6.4
Satisfaction with the Teachers	6.2	7	6.6
Satisfaction with Teachers Ability to Connect With Your Child	6.4	6.75	6.6
Satisfaction with the Communication	6	6.5	6.2
Satisfaction with the Teaching Procedures	6	6.75	6.3
Overall Satisfaction	6.4	7	6.1

GENERAL SET UP

RECRUITMENT

INTERVIEW

GROUP A

GROUP B

OBSERVATIONAL PERIOD 1

GROUP A INTERVENTION

OBSERVATIONAL PERIOD 2

GROUP B INTERVENTION

OBSERVATIONAL PERIOD 3

16 WEEKS

GENERAL SET UP

RECRUITMENT

INTERVIEW

GROUP A

GROUP B

OBSERVATIONAL PERIOD 1

GROUP A INTERVENTION

OBSERVATIONAL PERIOD 2

GROUP B INTERVENTION

OBSERVATIONAL PERIOD 3

16 WEEKS

OBSERVATIONAL PERIOD 4

Advancing Excellence in
Autism Treatment and
Research

OVERVIEW OF RESULTS

- **Clinical Results**

- **Single Subject Results**

- **Group Design Results**

- **Social Validity Results**

- **Overall Results**

DISCUSSION

RESEARCH & CLINICAL IMPLICATIONS

- **Research**
  - **High Functioning Participants**
  - **Randomized Sample**
  - **Blind Evaluator**
  - **Formal Assessments**
  - **Generalization**
- **Clinical**
  - **Effective in Changing Behavior**
  - **Without Full Programming**
  - **Not Just Any Type of Social Skills Group**

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Autism Treatment and
Research

LESSONS LEARNED

- **Recruitment Issues**
- **Generalization Issues**
    - **Home**
    - **School**
- **Standardized Assessment Issues**
- **Blind Evaluation Concerns**
- **Studies on Group Instruction Are Difficult**

MORE WORK TO DO

- **Replication**

- **Maintenance**

- **Better Defining the IV's**

- **Evaluating Other DV's**

- **Dissemination**

- **Training Others**

- **Future Areas of Research**

CONCLUSION

THANK YOU

JBLAUTPAR@AOL.COM