

Randomized Comparison of Parent-Teacher Consultation for Students with Autism

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Introduction

- ▶ Autism remains one of the most difficult disorders to understand, diagnose, and treat.
- ▶ Autism results from an alteration of normal brain development.
- ▶ No single cause for autism has been identified to date.
- ▶ A consensus is building that autism results from multiple etiologies.
- ▶ Therefore, any single biologic or pharmacologic therapeutic solution appears distant.

- ▶ Numbers of children served IDEA has increased by more than 500% in the last decade (GAO, 2005).
- ▶ Average cost expenditure for educating a student with autism is about three times the average cost expenditure for educating a student without a disability.

Statement of the Problem

- ▶ Increased numbers of children seeking services from public-funded agencies.
- ▶ Limited translational research.
 - Move studies from lab/clinic into community
- ⇒ Community-based providers with few resources to guide service delivery and scalability.

Teacher Training Outcomes in Autism

- ▶ Collaborative Consultation and Teacher Coaching Intervention
 - National Institutes of Mental Health (MH073071)
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- ▶ Co-Investigators, Dr. John McGrew & Nancy Dalrymple

Why do we need autism-specific approaches to build an individual program?

- ▶ The diagnosis does not prescribe a treatment that works the same way for all
- ▶ The diagnosis does not describe specific educational/teaching goals
- ▶ Intervention/teaching methods are not the same as curriculum
- ▶ **INDIVIDUALIZATION is KEY**

Competence



- ▶ Competence results from the interaction between the person and his / her environment.
- ▶ Competence is when one is able to make use of *environmental and personal resources* to achieve a desirable outcome.
- ▶ The environment may contribute or hinder competence.
- ▶ *Both the person and the environment* must be considered for improving outcomes.

An Alternative View of Outcome

Ruble & Dalrymple, 1996

Quality of Life

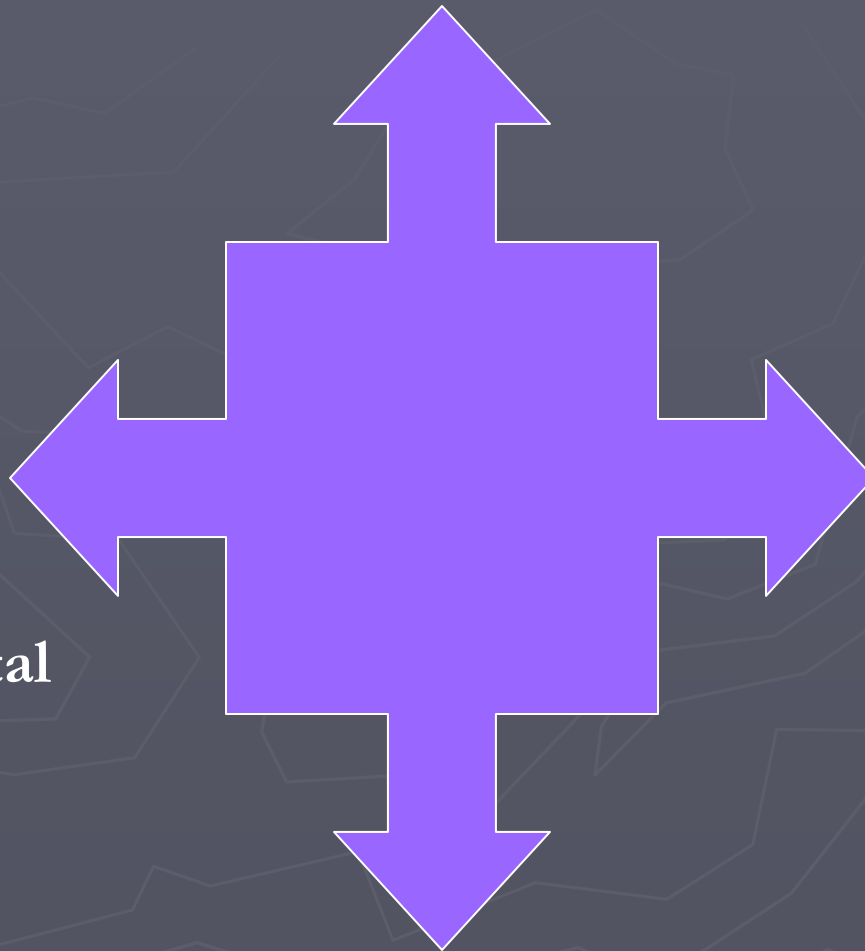
Risk Factors

**Personal &
Environmental**

Protective Factors

**Personal &
Environmental**

Competence



Speech and Language Therapy

Social Skills Training

Occupational Therapy

Functional vs Academic vs Vocational

Developmental vs Age Appropriate

Inclusion

Discrete Trial - ABA

Incidental Teaching

Structured Teaching - TEACCH

Educating Children with Autism



NATIONAL RESEARCH COUNCIL

Collaborative Model for Promoting Competence and Success (COMPASS)

- ▶ Building environmental supports through understanding how autism affects a specific individual

Other Resources on COMPASS

- ▶ Technical Assistance Manual on Autism for Kentucky Schools, 1995
- ▶ School-based consultation called COMPASS (Ruble & Dalrymple, 2002)
 - Family-centered
 - Process focused
 - Outcomes based framework

Design

- ▶ Longitudinal and prospective (school year)
- ▶ Randomized with control group (usual school program)
 - Teachers of students with autism were recruited
 - ▶ if more than 1 student, students were randomly selected

Methods

- ▶ 24 teachers, children, parents/caregivers (35 total)
- ▶ Randomized for COMPASS Consultation
 - 3 hour collaborative consultation
 - ▶ Parent and teacher
 - 4 teacher coaching sessions (1.5 hours each)
 - ▶ Parent invited, not required to attend
- ▶ Outcomes
 - Evaluator is unaware of group assignment
 - Child Achievement of IEP Goal (direct observation)

Child Participants

- ▶ All met criteria for DSM-IV-TR of autism
 - Autism Diagnostic Observation Schedule-G
 - Autism Diagnostic Interview-R
 - Childhood Autism Rating Scale

Child Participants

Gender	20 males (83%) 4 females (17%)
Mean Age	6 yr, 2 months
Race/Ethnicity	81% Caucasian 14% African American 5% Biracial
Parent Income	39% \$25,000 – \$50,000 44% \$51,000 - \$100,000

Child Measures

Measure	Mean (SD)
Differential Abilities Scale Picture Similarities	Tscore=36.0 (19.8)
Oral and Written Language Scales	Sscore=46.9 (8.6)
Vineland Adaptive Behavior Scales (teacher report)	Sscore=60.1 (7.5)
Behavior Assessment System for Children-2 Externalizing Composite (teacher report)	Tscore=60 (7.6)
Childhood Autism Rating Scale (severe symptoms)	39.6 (7.3)

Teacher Participants

Years Teaching	Mean (SD)
In general	11 (SD=8)
Students with autism	7 (SD=7)
Demographics	Urban Rural

Outcomes

▶ Child

- Accomplishment of IEP Goals

- ▶ Goal Attainment Scaling (Kiresuk, Smith, Cardillo, 1994)

▶ Teacher

- Stress

- ▶ Index of Teaching Stress (Part B) (Greene, Abidin, Kmetz, 1997)

▶ Parent/Caregiver

- Stress

- ▶ Parenting Stress Index (Abidin, 1983)

Overview of COMPASS

- Planning is process-based by helping all members reach consensus through understanding of the child
- The child's ability to learn is based on environmental factors as well as factors within the child
- Proactive problem solving that can be done on an ongoing basis is demonstrated and encouraged
- Research-backed practices for autism are emphasized

COMPASS cont.

- Teaching plan is specific to autism (includes social, communication, and work or learning skills)
- Forms used during meeting are specific to autism
- Teaching plans are based on consensus of priority concerns
- Teaching strategies are linked to each specific skill

Holistic understanding of how autism affects a specific child

Challenges
(Risk Factors)

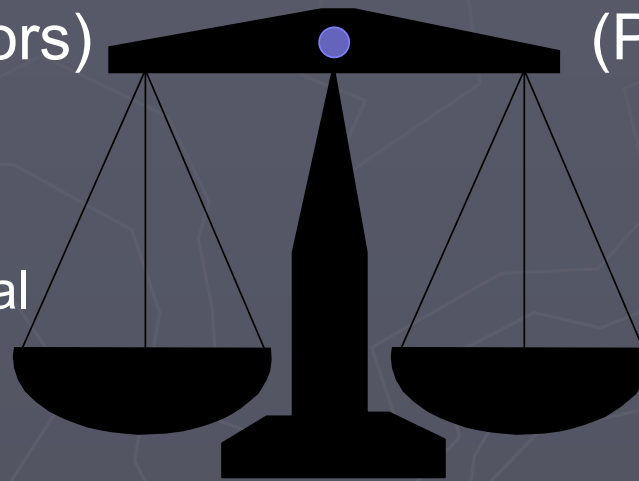
Personal

Environmental

Supports
(Protective Factors)

Personal

Environmental



Competence

Research Supported Practices

- ▶ Perry, A., & Condillac, R. (2003).
 - *Evidence-based practices for children and adolescents with autism spectrum disorders: Review of the literature and practice guide.* Toronto, ON: Children's Mental Health.
- ▶ Roberts, J.M. (2003).
 - *A review of the research to identify the most effective models of best practice in the management of children with autism spectrum disorders.* Sydney: Centre for Developmental Disability Studies.

Examples of RSP

▶ *Pro-Social and Play Related Interventions*

- Social Stories
- Peer-Mediated Instruction
- Social Script Training

▶ *Language and Communication-Based Interventions*

- Augmentative Communication
- Picture Exchange Communication System (PECS)
- Verbal Behavior Approach (VB)
- Functional Communication Training

▶ *Intervention for Challenging Behavior*

- Positive Behavioral Supports (Non-Intrusive Methods)

▶ *General Skill Building*

- Behavioral Teaching (ABA)
- Environmental Supports/Structure
- Picture Activity Schedules

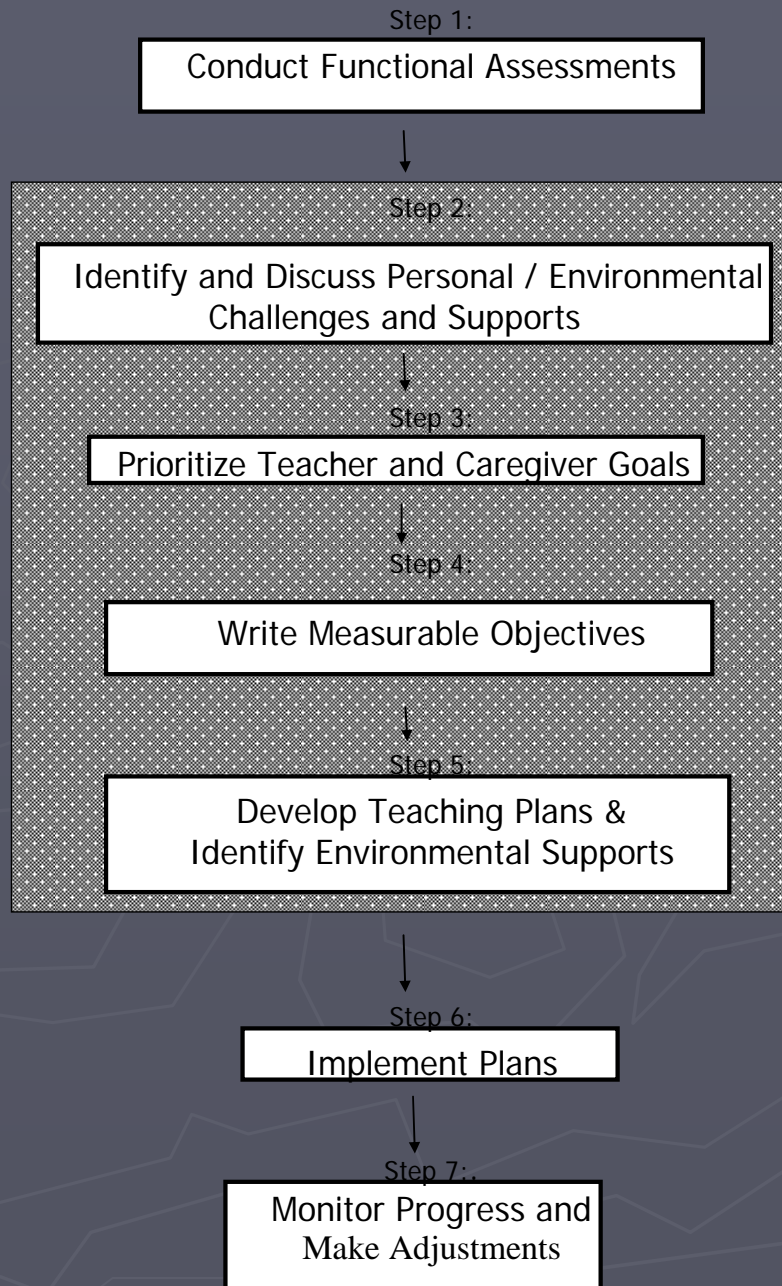
▶ *Expressive Psychotherapies*

- Cognitive Behavior Therapy (CBT)

National Research Council Recommendations for IEPs

- Social skills
- Communication
- Engagement in developmentally appropriate tasks
- Fine and gross motor skills to be utilized when engaging in age appropriate activities.
- Cognitive or thinking skills
- Replacement of problem behavior with appropriate behavior.
- “Work behaviors” important for classroom success (following instructions, completing a task)

COMPASS Action Plan for Students with Autism



COMPASS

COACHING

Step 1: Conduct Functional Assessments

- ▶ Social behaviors / skills
- ▶ Communication
- ▶ Learning / work skills (start a work activity; work until finished; indicate finished to another)
- ▶ Other areas such as fine/gross motor; cognitive; academic; etc

Step 2: Caregivers and School Personnel Identify and Discuss Personal and Environmental Challenges & Supports



Supports

PERSONAL SUPPORTS

SENSORY SUPPORTS

Sound/Auditory	Teacher	Caregiver
Likes music		
Likes to sing and/or dance		
Touch/Tactile	Teacher	Caregiver
likes to be touched		
likes hugs and cuddling when he/she initiates it		
likes to play in water		
likes baths or swimming pools		
seeks out mud, sand, clay to touch		
prefers certain textures of clothing		
likes being rolled or sandwiched between blankets/cushions		
likes rough and tumble play		
other _____		
Movement/Vestibular	Teacher	Caregiver
enjoys rocking, swinging, spinning		
likes being tossed in the air		
likes to run		
likes and needs to move		
other _____		

LIKES /PREFERENCES/INTERESTS

Teacher	Caregiver

Challenges

PERSONAL CHALLENGES

GENERAL CHALLENGES

These skills were marked as very difficult.

<i>Personal Management</i>	<i>Teacher</i>	<i>Caregiver</i>
Waiting		
Finishing a task		
Being quiet when required		
Performing basic self care independently		
Toileting		
Eating - utensils and a variety of foods		
Dressing and /or undressing		
Entertaining self in free time		
Staying within boundaries		
Changing activities		
Comments:		
<i>Responding to others</i>		
Listening		
Accepting "no"		
Answering questions		
Using yes/no appropriately		
Responding to greeting		
Accepting help		
Making a choice		
Sharing other's enjoyment		
Giving eye contact appropriately		
Accepting correction		
Comments:		

Step 3: Prioritize Parent & Teacher Goals

- ▶ Consensus is reached through discussion of pivotal skills needed for future competence
 - Communication (e.g., initiation of communication)
 - Social behaviors (e.g., turntaking)
 - Learning / work skills (e.g., working independently)

COMPASS

Summary of Concerns

Caregiver Concerns	Teacher Concerns
1.	1.
2.	2.
3.	3.

Other Concerns:

Step 4: Write Measurable Objectives for Priority Goals

- ▶ Describe present levels of performance
- ▶ Use formal and informal assessment information
 - Teacher / parent observation
 - Rating scales
 - Standardized tests

Goal Writing and Measurement

► Criteria for Objectives:

- Measurable
- Observable
- Objective

IEP Goal and Objective

Goal:

"Student will become a responsible member of the family and community including effectiveness in community service"

Benchmark:

"Student will interact with peers in small and large group activities and special area activities."

Step 5: Develop Teaching Plans

- ▶ Identify Environmental Supports necessary for accomplishing specific goal



Planning Sheet

Name: _____

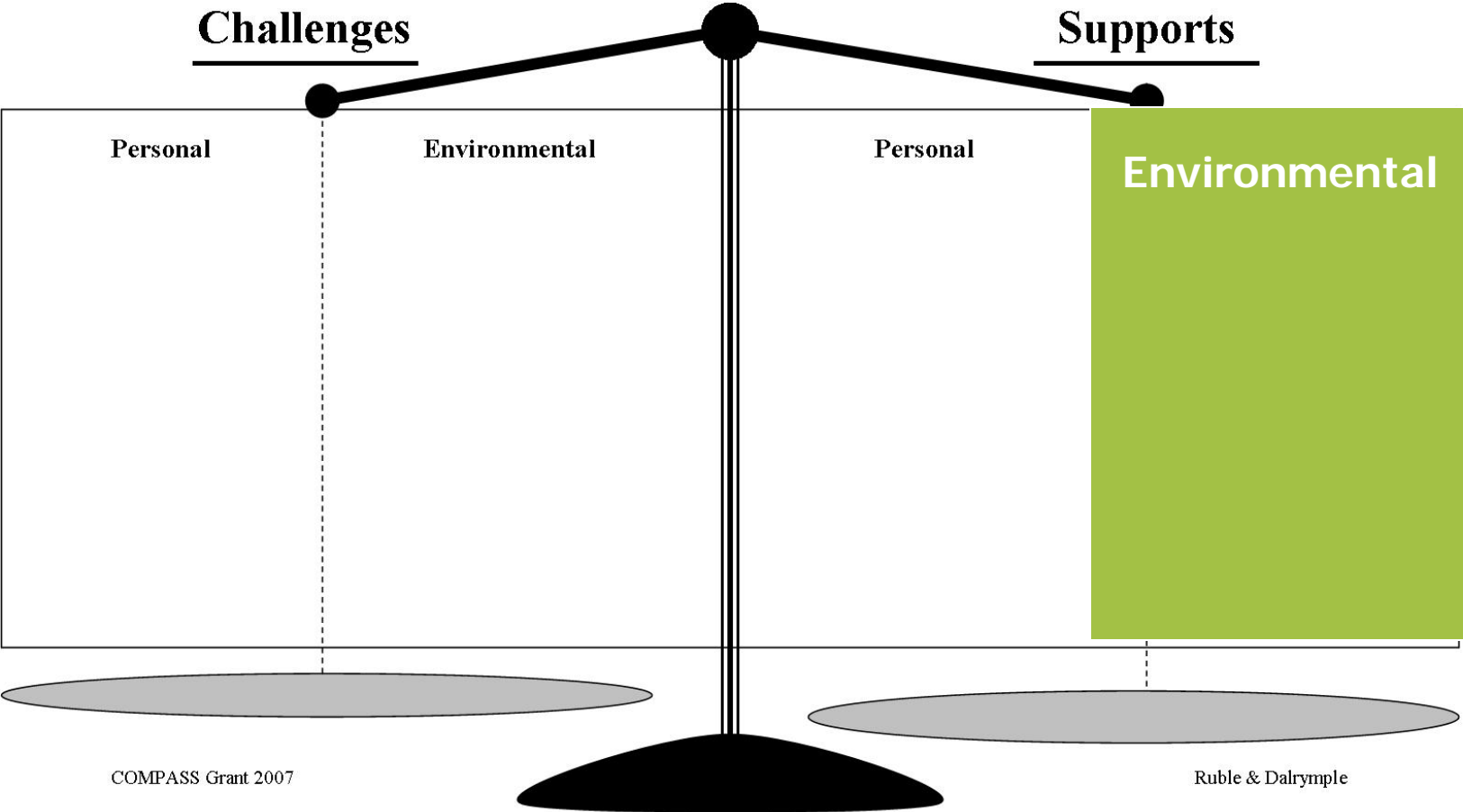
Concern/Goal Area: _____

Measurable Objectives: _____

Present Level: _____

Challenges

Supports



Environmental Supports

Name: _____

Teaching plan for _____

Teaching Methods	Materials	Who/Where/When	Data System

Step 6: Monitor Progress

▶ Coaching Sessions:

- Conduct semi-structured interview
 - ▶ How often is skill taught
 - ▶ Who is the primary teacher
 - ▶ Are data being kept
- Conduct direct observation of teacher demonstrating skill with child
 - ▶ Provide feedback, modeling, problem solving as needed

Step 6: Monitor Progress

► Data Collection

- Frequency, duration, intensity, latency recording
- Goal Attainment Scaling (GAS)

Goal Attainment Scaling GAS

- ▶ Used as broad indicator of level of progress
- ▶ Not to replace weekly data collection methods
- ▶ Steps:
 1. Identify present levels of performance (what does the child do now)
 2. Identify measurable goal
 3. Identify behaviors that indicate progress toward goal
 4. Identify behaviors that indicate more than expected level of progress

Example

Goal Attainment Scale (GAS)

Student's Name: Robbie Evaluation Date/Age: _____ Today's Date: _____

-2 Present level of performance	-1 Progress	0 Expected level of outcome (GOAL)	+1 Somewhat more than expected	+2 Much more than expected
Robbie does not respond independently to greetings from adults or peers. He does respond with verbal prompting from adults.	Given 5 opportunities throughout the school day to independently return a greeting, Robbie will return a greeting from an adult or peer 1 out of 5 times.	Given 5 opportunities throughout the school day to independently return a greeting, Robbie will return a greeting from an adult or peer 3 out of 5 times.	Given 5 opportunities throughout the school day to independently return a greeting, Robbie will return a greeting from an adult or peer 5 out of 5 times.	Robbie will initiate a greeting with peer/adult with visual cues by saying "hi" or waving.

Step 7: Make Adjustments

- ▶ Data Based Decision Making



Results

▶ Factorial Analysis of Variance

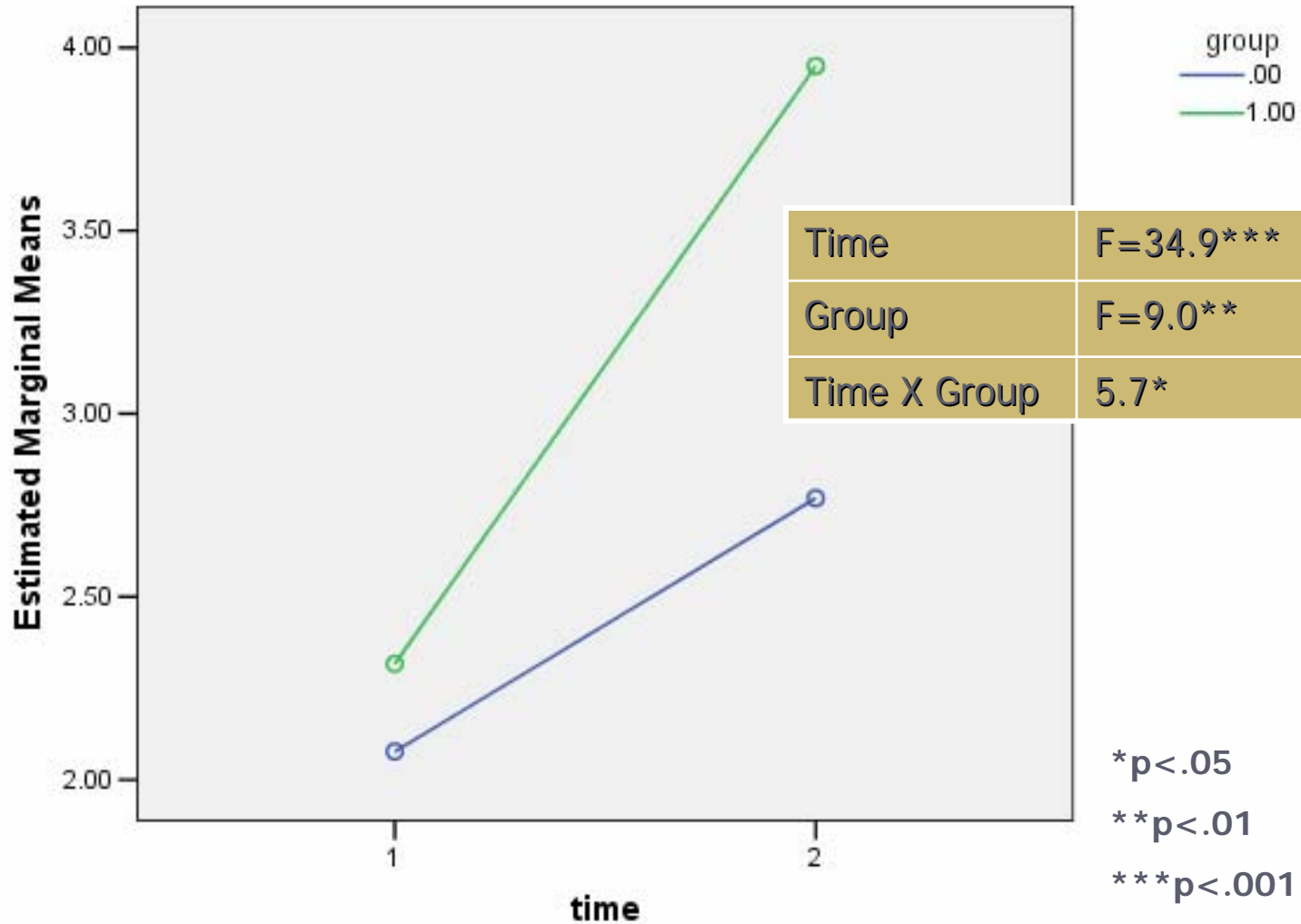
- Independent Variables

- ▶ Time (pre and post)
- ▶ Group (exp and control)

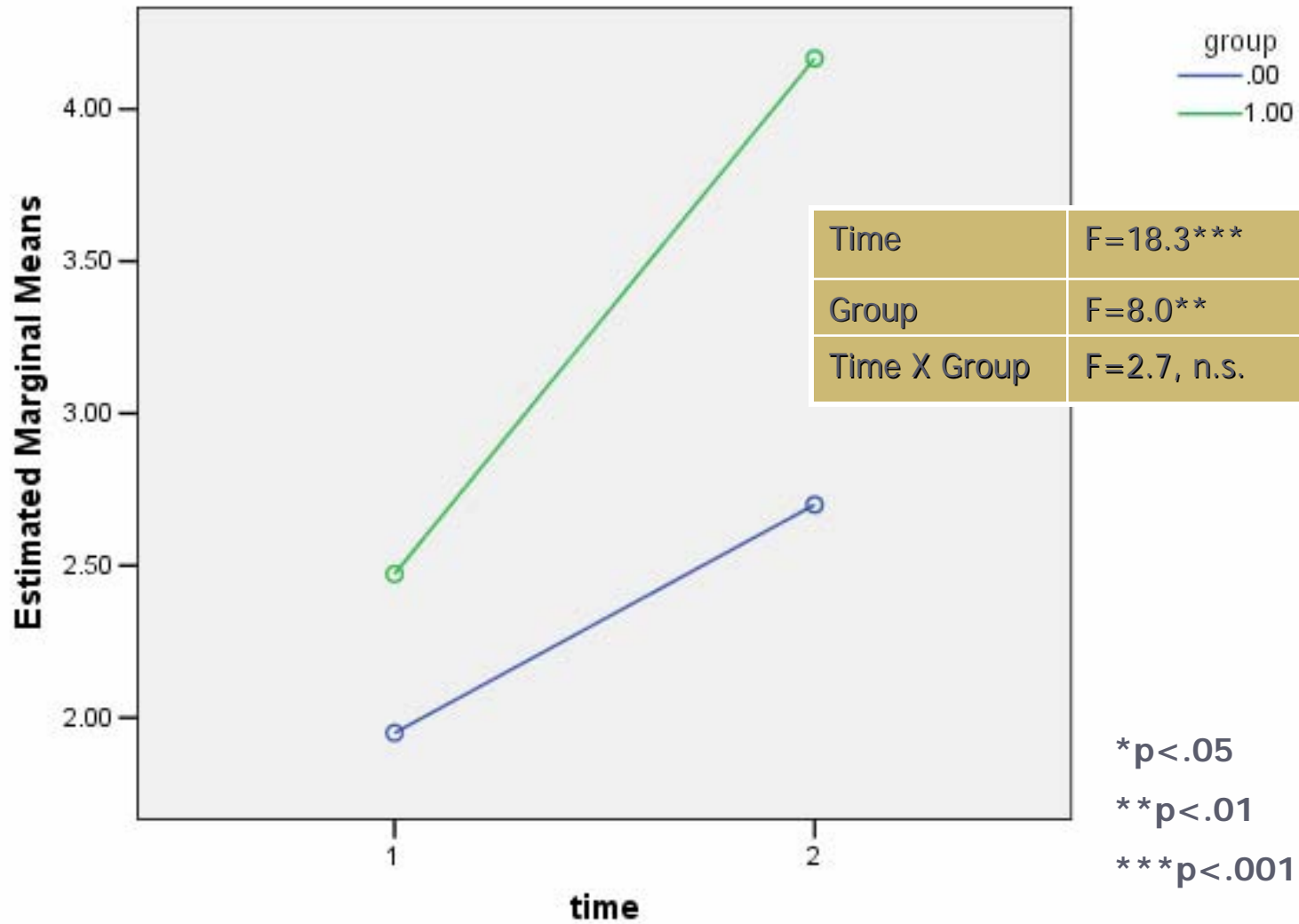
- Dependent Variable

- ▶ Child: Gas Score (Total and by learning domain)
- ▶ Teacher: Stress
- ▶ Parent: Stress

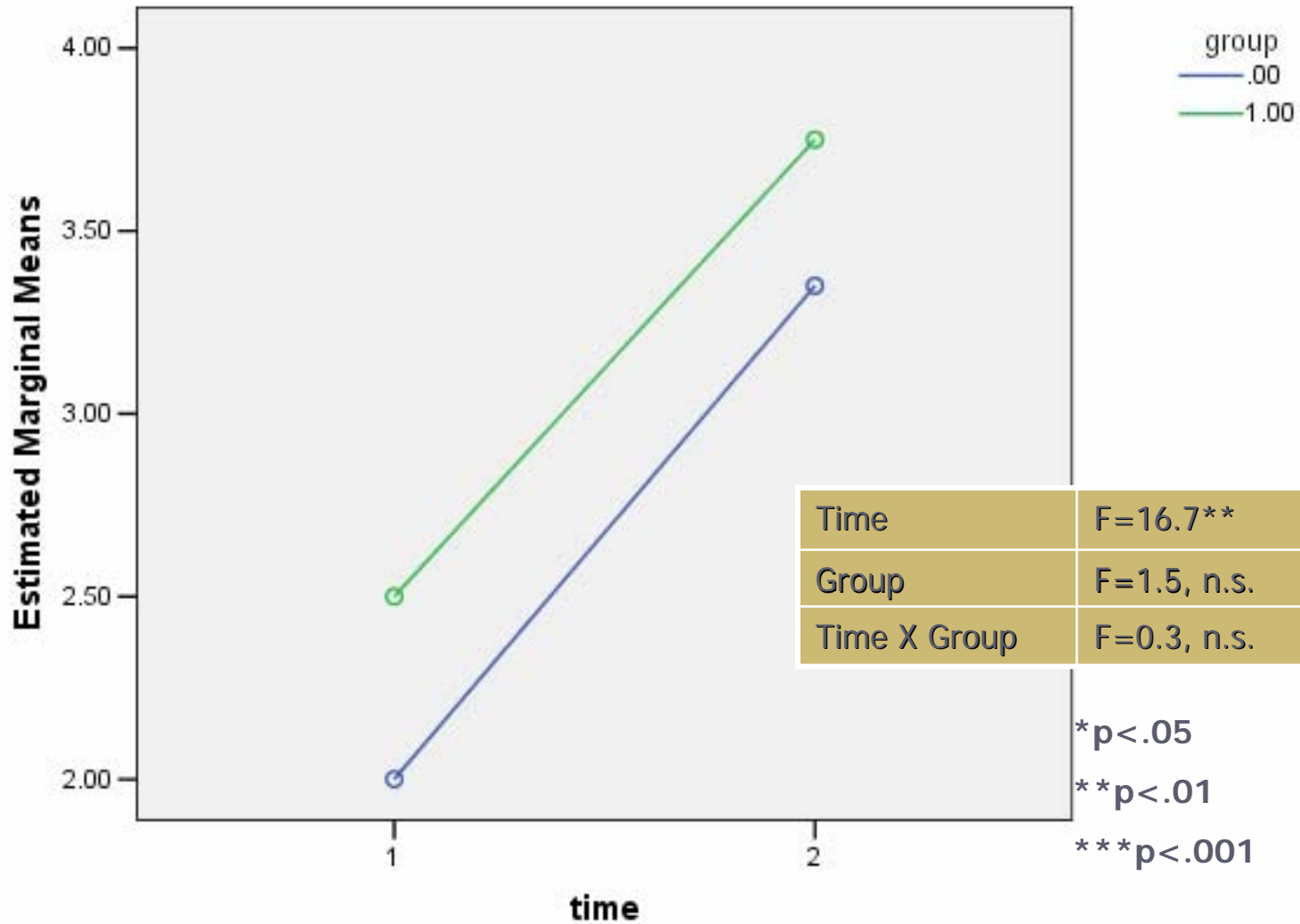
Estimated Marginal Means of GAS Scores



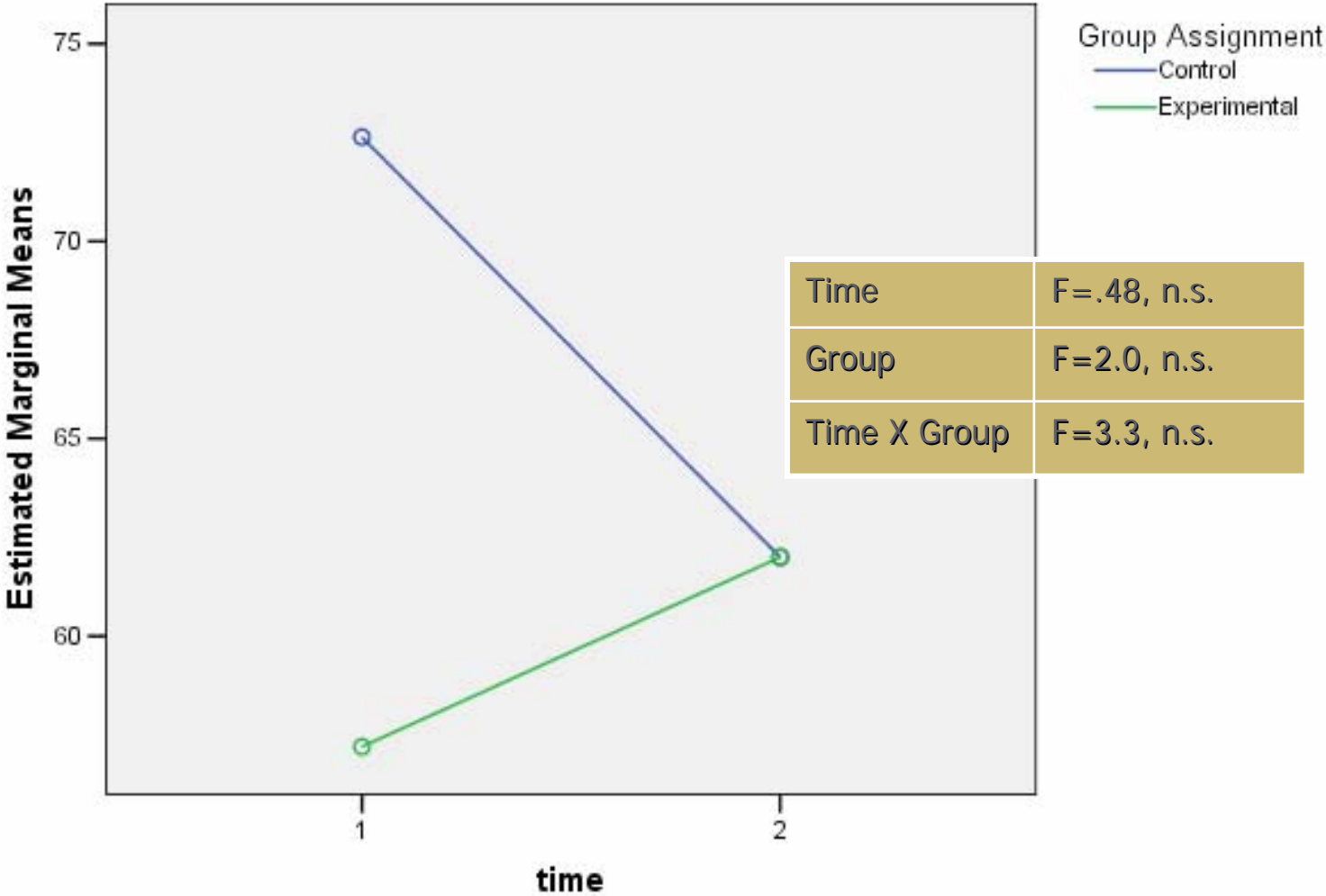
Estimated Marginal Means of Social GAS Score



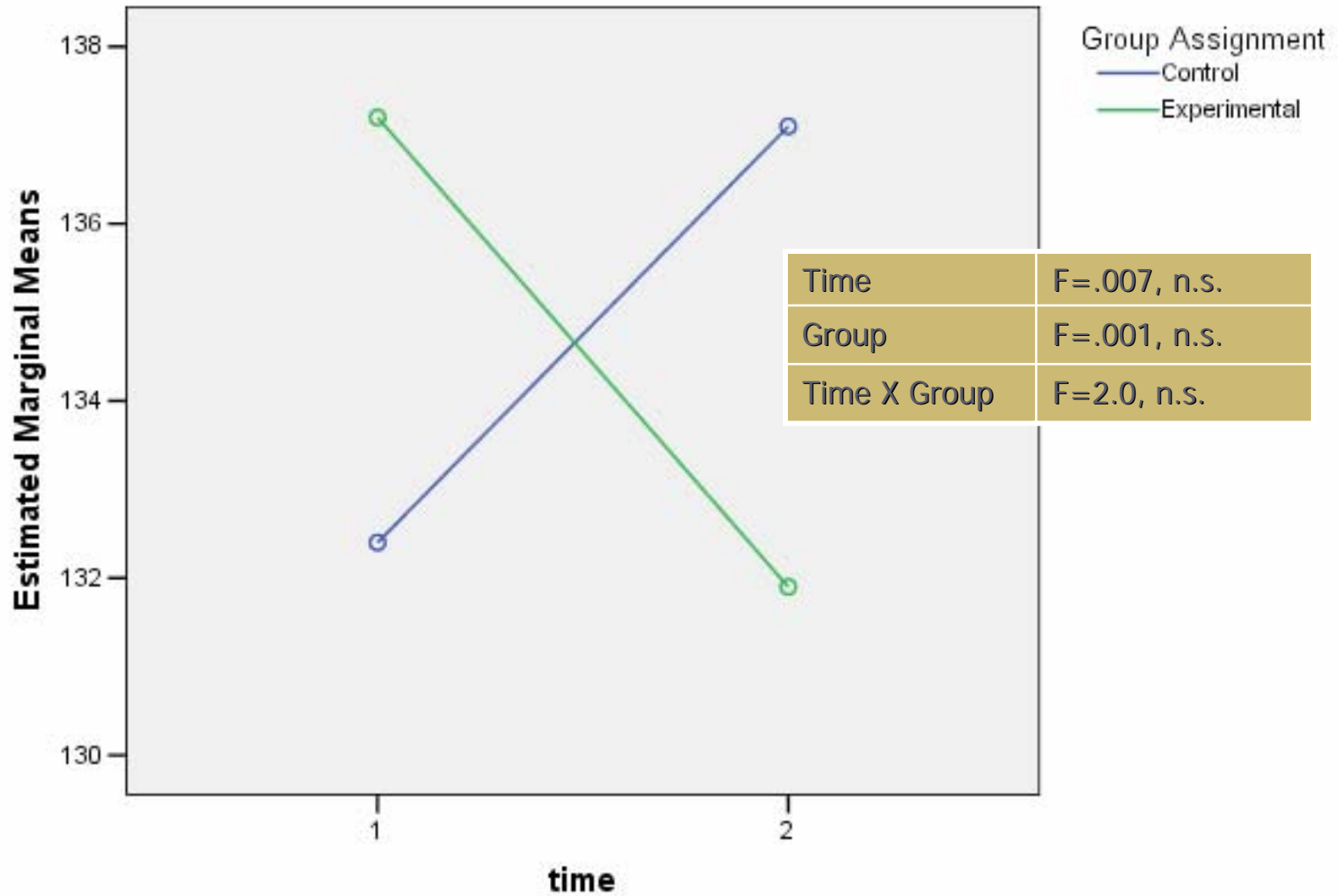
Estimated Marginal Means of Communication GAS Score



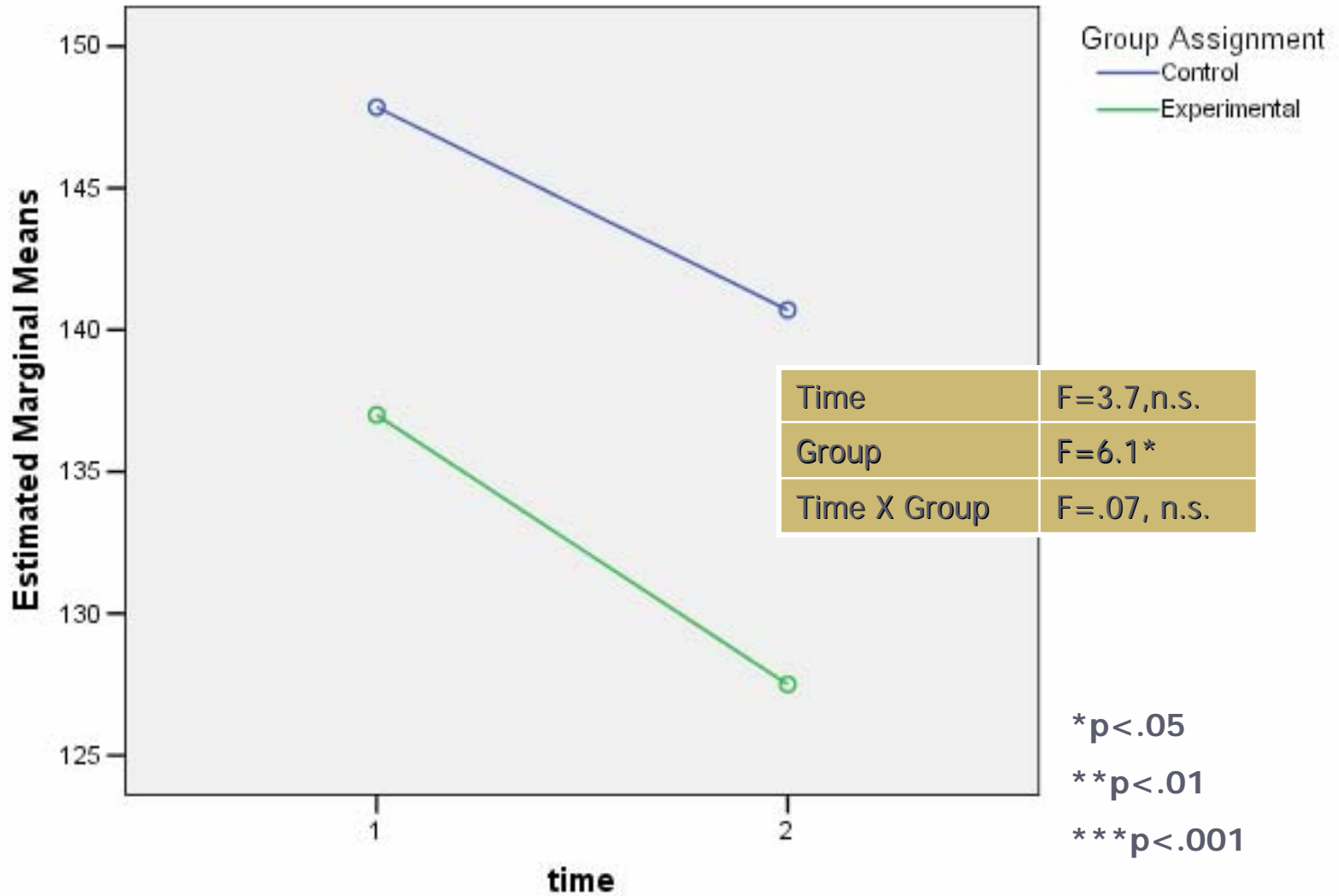
Estimated Marginal Means of Teacher Stress (Part B Raw Score)



Estimated Marginal Means of Parent Stress - Parent Domain



Estimated Marginal Means of Parent Stress-Child Domain



Conclusion

► Child Outcomes

- Overall goal attainment was better in exp group
- Social and Communication skill goal attainment did not differ as a function of the intervention

Conclusion

▶ Teacher Outcomes

- There was no difference teacher stress
 - ▶ Need to evaluate further, teachers completed forms when aware of group assignment
 - ▶ Need to build in supports

▶ Parent Outcomes

- No difference between groups on stress as function of intervention
 - ▶ Need further study, parents completed forms when aware of group assignment

Conclusion

- ▶ Consultation with teacher is not enough
 - Consultation must include follow-up sessions
 - Consultation must include whole team for generalization, especially parents and speech pathologists
- ▶ Data Collection is a challenge
 - IEP objectives must be measurable
 - Coaching sessions must include data collection training and interpretation for planning
- ▶ Collaborative parent-teacher consultation facilitated achievement of IEP objectives
 - Need more research on ways to impact core symptoms of autism

Questions

- ▶ Does consultation & coaching increase teacher stress – why and what to do?
 - Need to build in more supports to teachers

Future Research

- ▶ Consultation research is difficult!
 - Teacher (cognitions and behaviors)
 - Parent
 - Child
 - Other factors (School variables)
- ▶ More research conducted in schools, using real teachers and real situations
- ▶ More studies with training school personnel as consultants
- ▶ More studies with meaningful outcomes
 - Teacher report not adequate – need direct observation

Thank you!

- ▶ Parents and teachers, Indiana & Kentucky
- ▶ Children
- ▶ Nancy Dalrymple, Consultant
- ▶ Dr. John McGrew, Indiana Un. – Purdue Un.
- ▶ Dr. Angie Miller, Un. Kentucky
- ▶ Research team
 - Melissa Wheatley
 - Alex Nounopolous
 - April Young