

SOCIAL GOALS OF ADOLESCENTS WITH ADHD: WHAT THEY ARE, HOW THEY DIFFER FROM PEERS WITHOUT ADHD, AND WHERE WE GO FROM HERE



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OVERVIEW

- Objective 1: The participant will be able to describe the importance of social goals for successful social functioning.
- Objective 2: The participant will be able to identify key differences in the social goals of adolescents with ADHD and typically-developing peers.
- Objective 3: The participant will be able to identify three implications and future directions for teachers and researchers based on the results of the study.



ADHD AND SOCIAL IMPAIRMENT

- Social impairment occurs in at least 50% of children with ADHD
 - Fewer close friends
 - Difficulty making/keeping friends
 - Appears quickly in social situations
 - Difficulty in parent-child relationship
 - Conflict with teachers
 - Often results in peer rejection

(Pelham & Hinshaw, 2002; Landau & Milich, 1991; Barkley, 1998; Hoza et al., 2005; Whalen & Henker, 1985; Greene et al., 2002)

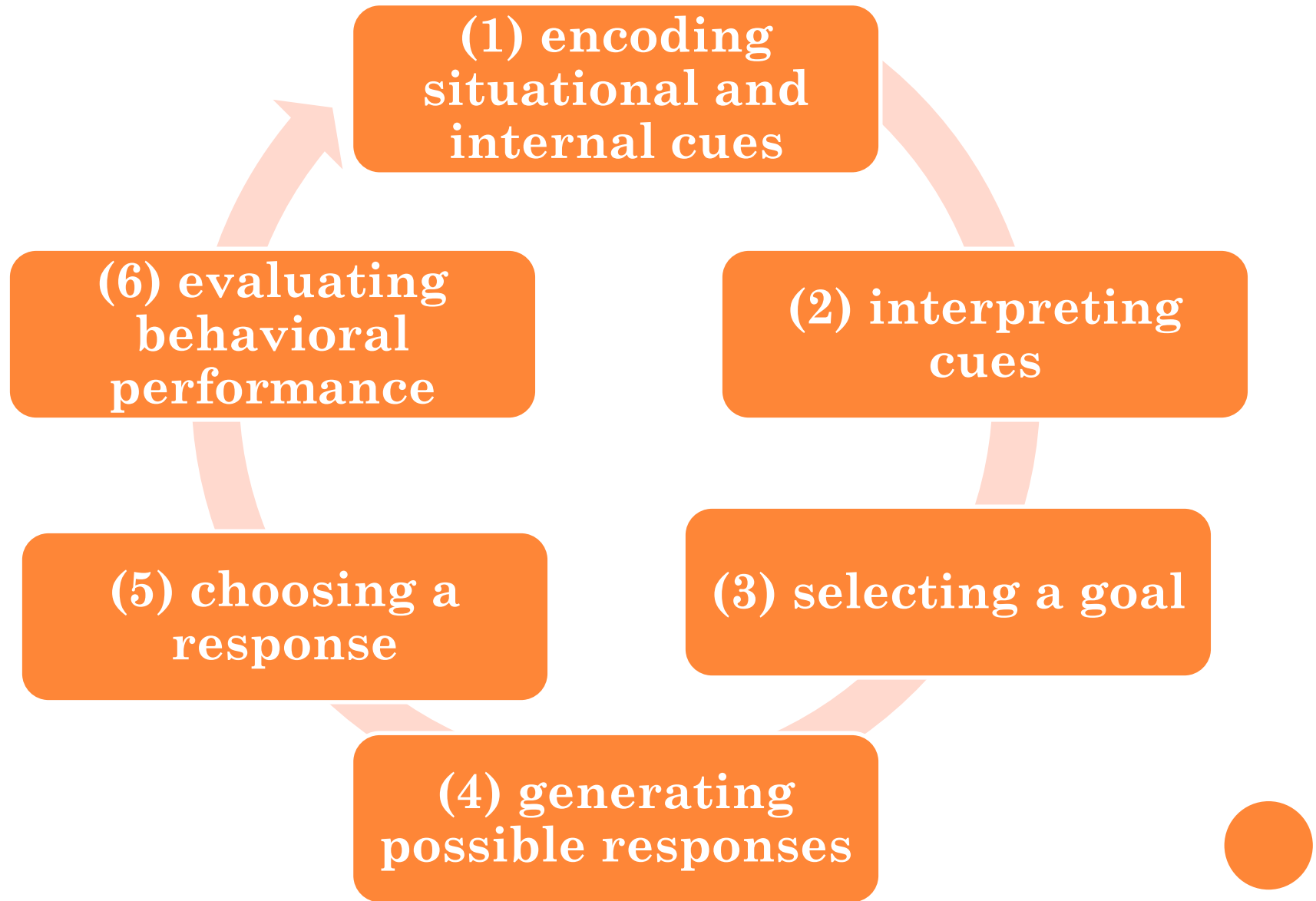


MODELS OF SOCIAL IMPAIRMENT

- Typically social impairment is thought to stem from one of two areas:
 - **Skills deficits** exist when an individual with ADHD has not learned how to perform specific social skills needed to be successful in social interactions
 - **Performance deficits** exist when an individual with ADHD has the specific social skills needed to be successful, but does not use these skills in social situations
- Lack of effective SSTs suggests skills deficit model may not be fully addressing the social impairment of youth with ADHD (e.g., (Mikami et al., 2014))



SOCIAL INFORMATION PROCESSING



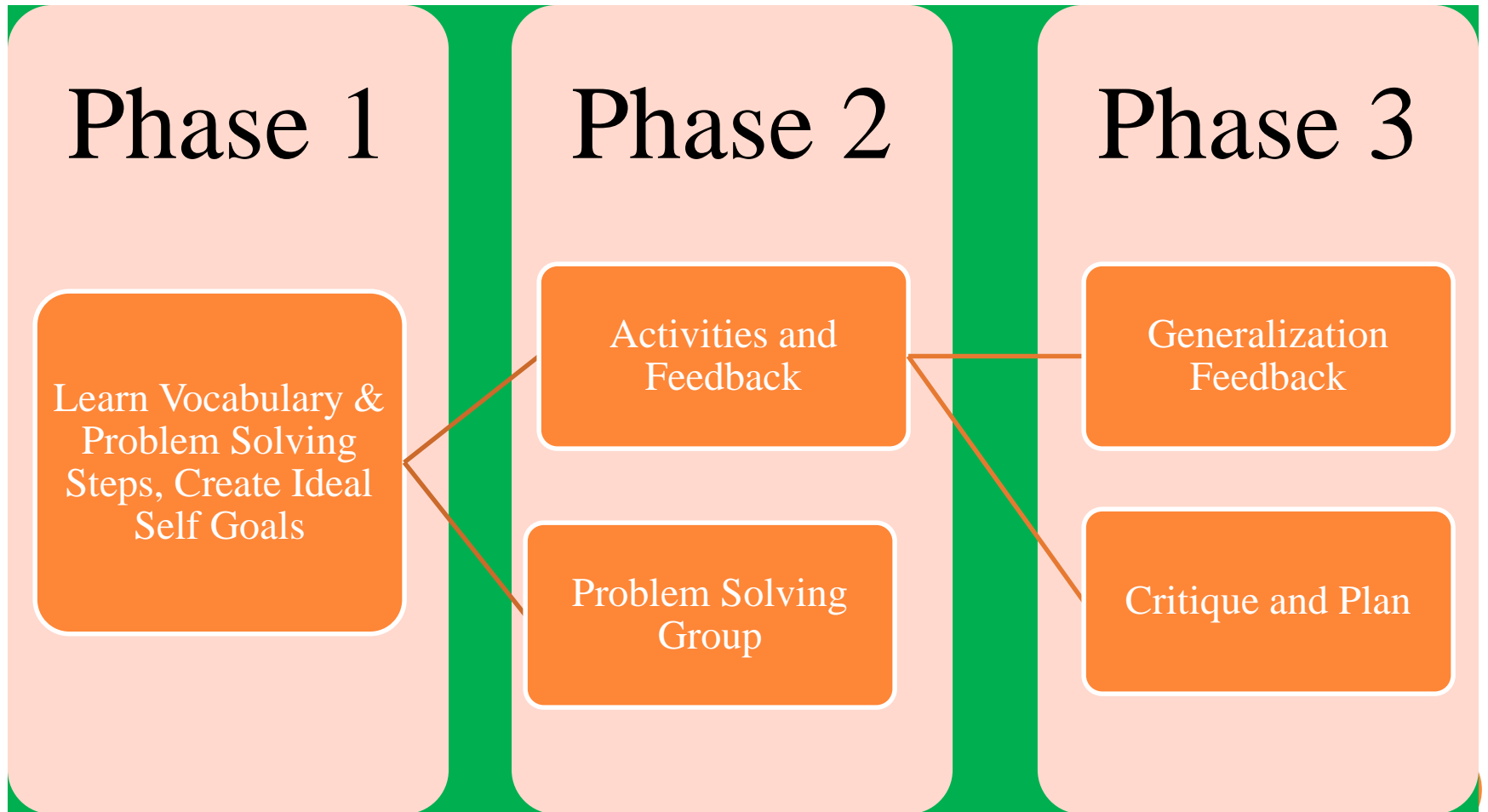
(CRICK & DODGE, 1994)

INTERPERSONAL SKILLS GROUP

- Targets the ability of adolescents with ADHD to establish goals for how they wish to be perceived and modify their behavior while participating in social activities to achieve these goals
- Adolescents learn to attend to feedback from others, interpret it in relation to their goals, and use it to inform subsequent behavior



DESCRIPTION OF ISG



EVALUATION OF ISG

○ Challenging Horizons Program

- Moderate improvements in parent-rated social functioning

○ High School Project

- Moderate decreases in parent-rated social impairment for treatment condition as compared to the small decreases in control condition
- Those who mastered the intervention were rated by parents as less socially impaired at the end of treatment than those who did not



SOCIAL GOAL SELECTION

- Problematic behavior in youth may be related to selection of social goals that are inappropriate to the situation (Renshaw & Asher, 1982).
 - Social goals differ based on sociometric status and behavioral characteristics (Crick & Ladd, 1990; Rabiner & Gordon, 1993).
 - Social goal prioritization has been found to be related to social and behavioral functioning as well as social problem-solving abilities (Lochman et al., 1993).



SOCIAL GOALS IN YOUTH IN GENERAL

- Previous research has documented differences in social goal selection patterns according to group differences such as sociometric status and behavioral characteristics, such as aggression
- Boldizar and colleagues (1989) reported a relationship between social goals and the maladaptive behavior of children, as well as social status.
- Additional research investigating social goals in aggressive and non-aggressive adolescent males indicates that social goals were related to social and behavioral functioning reported by teachers, peers, and adolescents themselves (Lochman et al., 1993).
- Social goal prioritization was found to be related to the social problem-solving differences between aggressive and nonaggressive males (Lochman et al., 1993).
- These results indicate that social goal prioritization does vary in adolescents based on a variety of factors, such as behavioral difficulties, substance use, delinquency, and aggression.



SOCIAL GOALS IN YOUTH WITH ADHD

- Minimal research exists on the social goals of youth with ADHD
- Differences in rankings of social goals youth with ADHD who were considered to have high-aggression and low aggression and their peers (Melnick & Hinshaw, 1995)
- No differences between the social goals of girls with ADHD and without, but those with ADHD demonstrated more aggressive responses (Thurber et al., 2002).



PRESENT STUDY

- The purpose of the present study was to investigate whether adolescents with ADHD choose similar social goals to adolescents without ADHD for interactions with peers, parents, and teachers.



PARTICIPANTS

- Two samples
 - ADHD
 - Normative
- ADHD Sample
 - Recruited from a large treatment study of the Challenging Horizons Program (CHP)
 - Forty-four adolescent participants with ADHD
 - 12 to 15 years of age ($M = 13.5$; $SD = 0.95$);
 - 70.5% were in 7th grade, 22.7% were in 8th grade, 6.8% were in 9th grade
 - 63.6% of the sample were male



PARTICIPANTS

- Normative sample
 - Three hundred seventy-four participants
 - Completed rankings of social goals for interactions with parents, teachers, and peers
 - Passive consent forms were mailed to the parents of all students at the middle school who were currently enrolled in seventh and eighth grade
 - Parents of five students did not want to participate
 - Adolescents in the sample ranged in age from 11 to 15 years of age ($M = 13.2$; $SD = 0.76$); 53% were in 7th grade, 47% were in 8th grade, and 52.1% of the sample were male



PROCEDURE

- Participants in the community and ADHD groups were asked to rank a list of ten social goals in order of importance (1 = most important, 10 = least important) for their interactions with peers, parents, and teachers.
 - Each target (peers, parents, teachers) had its own unique list of social goals that was informed by prior research and retrospective identification by college students
 - The social goal lists varied slightly for peers, parents, and teachers but included the following: funny, smart, mature, leader, nice, hardworking, friendly, athletic, helpful, outgoing, caring, independent, trustworthy, and responsible



SOCIAL GOALS RANKING SHEET

○ Social Goals Ranking Sheet

○ Most Important Social Goals for Interactions with Peers

○ **When completing the following task, think about getting along with peers, or other kids your age:**

○ Below is a list of how kids your age might want other kids to see them. Rank each of these goals in order from 1 to 10, with 1 being the most important for getting along and 10 being the least important for getting along. Please use each number once.

○

○ Goal

Rank (give a number 1-10)

○ Funny

○ Smart

○ Leader

○ Nice

○ Friendly

○ Athletic

○ Helpful

○ Outgoing

○ Caring

○ Responsible

○



RESULTS: COMPARISON OF RANKS

- Comparison of Rank between the ADHD group and the Normative group (Mann-Whitney tests)
- Few differences in prioritization of social goals for interactions with peers and parents
 - Peers
 - ADHD group ranked being seen as a leader as more important than normative group ($U = 6446, p = 0.020$)
 - Parents
 - Normative group ranking being seen as mature as more important than the ADHD group ($U = 6047.5, p = 0.050$)



RESULTS: COMPARISON OF RANKS

- More differences in prioritization of social goals for interactions with teachers
- Teachers
 - ADHD group ranking being seen as funny as more important than the normative group ($U = 5486, p = 0.014$)
 - Normative group ranking being seen as smart as more important than the ADHD group ($U = 5545.5, p = 0.023$)
 - Normative group ranking being seen as hardworking as more important than the ADHD group ($U = 5515.5, p = 0.021$)



Table 1

Summary of Mann-Whitney Comparison of ADHD and Normative Groups on Social Goals for Interactions with Peers

Social Goal	Normative Group			ADHD Group			Significance	
	Average Rank	Standard Deviation	Sample Size	Average Rank	Standard Deviation	Sample Size	<i>U</i>	<i>p</i>
Friendly	4.55	2.712	373	4.84	2.505	44	7546	.380
Nice	4.75	2.726	373	5.18	2.545	44	7383	.273
Funny	4.94	3.113	370	5.52	3.246	44	7294	.256
Smart	5.04	2.922	372	5.43	2.929	44	7551.5	.399
Caring	5.55	2.626	372	4.80	2.808	44	6841.5	.073
Helpful	5.74	2.167	373	5.11	2.572	44	6986.5	.103
Responsible	5.96	2.748	370	5.50	2.961	44	7381	.309
Outgoing	6.09	2.689	369	6.16	2.667	44	7988.5	.862
Leader	6.37	2.826	372	5.27	2.983	44	6446	.020*
Athletic	6.39	3.206	371	7.14	2.954	44	6973	.109

Note. ADHD = Attention-Deficit/Hyperactivity Disorder; * $p < .05$, ** $p \leq .01$, *** $p \leq .001$



Table 2

Summary of Mann-Whitney Comparison of ADHD and Normative Groups on Social Goals for Interactions with Parents

Social Goal	Normative Group			ADHD Group			Significance	
	Average Rank	Standard Deviation	Sample Size	Average Rank	Standard Deviation	Sample Size	<i>U</i>	<i>p</i>
Mature	4.43	2.797	362	5.22	2.564	41	6047.5	.050*
Hardworking	4.68	2.536	361	5.00	2.156	41	6616.5	.263
Trustworthy	4.69	2.757	360	4.95	2.854	41	7003.5	.590
Responsible	4.90	2.955	357	5.17	3.278	41	7005	.651
Smart	5.12	2.777	362	5.68	3.070	41	6582.5	.233
Nice	5.45	2.494	360	5.02	2.495	41	6612.5	.272
Independent	5.76	2.491	357	5.85	2.545	41	7102.5	.755
Funny	6.41	3.178	357	5.54	3.795	41	6545.5	.263
Outgoing	6.62	2.667	359	6.39	2.889	41	7092.5	.701
Athletic	7.01	3.000	360	6.24	2.718	41	6055.5	.056

Note. ADHD = Attention-Deficit/Hyperactivity Disorder; * $p < .05$, ** $p \leq .01$, *** $p \leq .001$



Table 3

Summary of Mann-Whitney Comparison of ADHD and Normative Groups on Social Goals for Interactions with Teachers

Social Goal	Normative Group			ADHD Group			Significance	
	Average Rank	Standard Deviation	Sample Size	Average Rank	Standard Deviation	Sample Size	<i>U</i>	<i>p</i>
Hardworking	4.26	2.913	354	5.45	3.162	40	5515.5	.021*
Smart	4.33	3.066	354	5.43	3.096	40	5545.5	.023*
Respectful	4.69	2.634	354	5.08	2.464	40	6386	.306
Responsible	5.08	2.831	354	5.35	2.896	40	6671.5	.547
Friendly	5.53	2.358	354	4.90	2.499	40	6016.5	.116
Nice	5.54	2.457	355	5.43	2.352	40	6880.5	.747
Leader	5.75	2.654	355	6.55	2.631	40	5878	.072
Caring	6.24	2.508	353	4.95	2.640	40	5060	.003**
Outgoing	6.60	2.598	354	6.60	2.706	40	7037	.949
Funny	6.72	3.554	356	5.33	3.772	40	5486	.014*

Note. ADHD = Attention-Deficit/Hyperactivity Disorder; * $p < .05$, ** $p \leq .01$, *** $p \leq .001$



RESULTS: COMPARISON OF TOP SOCIAL GOALS

- Percentages of adolescents with and without ADHD who ranked each social goal as the most important goal for interactions with parents, peers, and teacher were calculated
- Peers
 - ADHD: Nice, Friendly, Caring (13.6%)
 - Normative: Funny (16.5%)
- Parents
 - ADHD: Funny (26.8%)
 - Normative: Mature (16.9%)
- Teachers
 - ADHD: Funny (27.5%)
 - Normative: Smart (22.5%)



Table 4

Comparison of Percentage of ADHD and Normative Groups Who Rank Each Social Goal as the Top Goal for Interactions with Peers

Social Goal	Normative Group % that ranked goal #1	ADHD Group % that ranked goal #1
Funny	16.5	11.4
Smart	12.9	4.5
Leader	6.5	11.4
Nice	15.8	13.6
Friendly	14.7	13.6
Athletic	9.2	6.8
Helpful	2.9	9.1
Outgoing	6.0	6.8
Caring	6.2	13.6
Responsible	6.7	9.1

Note. ADHD = Attention-Deficit/Hyperactivity Disorder.



Table 5

Comparison of Percentage of ADHD and Normative Groups Who Rank Each Social Goal as the Top Goal for Interactions with Parents

Social Goal	Normative Group % that ranked each goal #1	ADHD Group % that ranked each goal #1
Funny	13.1	26.8
Smart	12.2	9.8
Mature	16.9	4.9
Nice	7.5	9.8
Hardworking	8.6	4.9
Athletic	4.6	4.9
Independent	4.7	9.8
Outgoing	5.8	7.3
Trustworthy	14.1	7.3
Responsible	15.6	14.6

Note. ADHD = Attention-Deficit/Hyperactivity Disorder.



Table 6

Comparison of Percentage of ADHD and Normative Groups Who Rank Each Social Goal as the Top Goal for Interactions with Teachers

Social Goal	Normative Group % that ranked goal #1	ADHD Group % that ranked goal #1
Funny	16.9	27.5
Smart	22.5	7.5
Leader	3.7	2.5
Nice	6.2	5.0
Friendly	5.6	10.0
Hardworking	22.0	15.0
Respectful	11.0	7.5
Outgoing	4.8	5.0
Caring	4.2	2.5
Responsible	9.0	17.5

Note. ADHD = Attention-Deficit/Hyperactivity Disorder.



RESULTS: COMPARISON OF #1 GOAL

- Chi-squares conducted to investigate any significant differences between group on the number of participants who ranked a social goal number 1 and the number of participants who did not rank a goal number 1 for the top 3 goals as identified by the normative group
 - Peers: funny, nice, and friendly
 - Parents: mature, responsible, and trustworthy
 - Teachers: smart, hardworking, and funny



RESULTS: COMPARISON OF #1 GOAL

- One significant chi-square
 - Number of adolescents with ADHD who ranked the goal number 1 compared to the normative sample who ranked the goal number 1 for the goal of being seen as mature by parents, $X^2 (1, n = 418) = 7.558, p = 0.005$.
 - Normative group more likely to endorse mature as the most important social goal for interacting with parents than was the ADHD sample



RESULTS: WITHIN GROUP AGREEMENT ON SOCIAL GOALS ACROSS TARGETS

- Within-group Spearman's rho correlations
 - Within-group agreement on ranking social goals across targets
 - Normative Group
 - Significant correlations for ratings of parents and peers, parents and teachers, and peers and teachers on all social goals
 - ADHD Group
 - Parents & peers on nice ($r_s = 0.393$, $p = .011$) and outgoing ($r_s = 0.422$, $p = .006$)
 - Peers & teachers on outgoing ($r_s = 0.481$, $p = .002$)
 - Parents & teachers on hardworking ($r_s = 0.492$, $p = .001$) and outgoing ($r_s = 0.342$, $p = .031$)

Table 10

Summary of Within-Group Spearman's Rho Correlations of Social Goal Ranking for Peers and Parents for ADHD Group

Social Goal	Spearman's Rho (r_s)	Significance (p)
Funny	.189	.236
Smart	.287	.069
Nice	.393	.011*
Outgoing	.422	.006**
Responsible	.180	.261

Note. * $p < .05$, ** $p \leq .01$, *** $p \leq .001$



Table 11

Summary of Within-Group Spearman's Rho Correlations of Social Goal Ranking for Peers and Teachers for ADHD Group

Social Goal	Spearman's Rho (r_s)	Significance (p)
Funny	.088	.591
Smart	-.022	.892
Leader	.011	.947
Nice	.254	.114
Friendly	-.010	.953
Outgoing	.481	.002**
Caring	.013	.939
Responsible	.205	.205

Note. * $p < .05$, ** $p \leq .01$, *** $p \leq .001$



Table 12

Summary of Within-Group Spearman's Rho Correlations of Social Goal Ranking for Parents and Teachers for ADHD Group

Social Goal	Spearman's Rho (r_s)	Significance (p)
Funny	-.050	.758
Smart	-.062	.703
Nice	.168	.299
Hardworking	.492	.001***
Outgoing	.342	.031*
Responsible	-.134	.411

Note. * $p < .05$, ** $p \leq .01$, *** $p \leq .001$



CONCLUSION

- Adolescents with ADHD do not rank and prioritize all social goals in the same manner as typically-developing adolescents
- Also do not rank similarly across context and the target populations of peers, parents, and teachers
 - Typically-developing adolescents display agreement in how they rank goals across contexts and target populations.



CONCLUSION: SOCIAL GOALS FOR INTERACTIONS WITH TEACHERS

- Majority of differences in rankings between groups was for teachers
 - Funny, smart, hardworking, and caring
 - Most disagreement for most heterogeneous group
- Most Important Social Goal
 - ADHD: Funny (27.5%)
 - Normative: Smart (22.5%)



CONCLUSION: SOCIAL GOALS FOR INTERACTIONS WITH TEACHERS

- Vast differences in how adolescents with and without ADHD view social goals with teachers
 - Adolescents with ADHD prioritize non-academically related goals (e.g. funny)
 - May result in negative interactions
 - Contribute to disconnect related to problems with behavior



CONCLUSION: AGREEMENT ACROSS TARGET POPULATION

- Normative group rated similarly across target populations
- Why?
 - Typically-developing adolescents are less sensitive to changing contexts when prioritizing social goals?
 - Or, youth without ADHD place greater importance on representing a consistent, integrated personality that does not change values or priorities based on social context
 - May consider context but believe that their social goals should remain relatively stable regardless of changing context
 - Some goals may be universally important/less important across target populations



CONCLUSION: AGREEMENT ACROSS TARGET POPULATION

- Lack of agreement in the prioritization of social goals across target populations by ADHD group
 - May be trying to take context into account
 - Approach to selecting social goals may be more random than strategic
 - Prioritizing funny for teachers compared to normative group prioritizing smart



IMPLICATIONS FOR INTERVENTION DEVELOPMENT

○ Social Functioning

- Medication
 - Stimulants can reduce rate of negative social behaviors (teasing, rule breaking; Smith, Pelham, Evans et al., 1999)
 - In natural settings, there are no benefits to peer relations (Pelham, Smith, Evans et al., 2017)
- Psychosocial
 - Traditional social skills treatment is ineffective (Evans, Owens & Bunford, 2014)
 - Only one psychosocial treatment study with adolescents with ADHD shows any benefit for social functioning (Evans, Owens, Wymbs & Ray, in press).
 - Small effects at post-treatment (SSIS – responsibility) and at 6-month follow-up (SSIS – self control) (Schultz, Evans et al., 2017); related to peer relations
- In addition to lack of effective treatments, lack of valid and reliable measures



ROLE OF SOCIAL GOALS

- Differences in goals
 - Are they malleable?
 - Should we try to change them?
- Ability to achieve goals
 - How do we know if we are achieving our social goals
 - Verbal and non-verbal reactions of others
 - Direct feedback from others
 - Estimate how specific others will perceive our behavior
 - Nature of our relationship with others
 - Preferences and sensitivities of others
 - Immediate situation and environment



ROLE OF SOCIAL GOALS IN INTERPERSONAL PROCESS

- Goal is to have our behavior align with our social goals for specific people and situation
 - Initial approach
 - Establish goal for interaction
 - Consider various alternative behaviors and select approach strategy
 - During interaction
 - Gauge success with social goals by verbal and non-verbal feedback of others
 - Modify behaviors or goals as needed
 - After interaction
 - Evaluate success with goals
 - Revise, if needed, perception of relationship and social goals
- The closer the friendship and more relaxed the situation, the less attention is paid to this process



IMPLICATIONS FOR TRAINING

- Establish social goals
 - What goals reflect your own values?
 - What goals are reasonable given your strengths and weaknesses?
- Understand that they vary by people and situation
 - Distinguish between formal settings (classroom) and informal (playing video games)
 - Some situations are very specific (sent to principal's office for discipline) and others more general (meeting people on new sports team)
- Improve ability to interpret verbal and non-verbal behavior of others
- Improve ability to effectively adjust behaviors to achieve goals in response to reactions of others



WHAT WE KNOW TO THIS POINT

- Teaching the content is necessary, but not adequate
- Clinician observation and feedback in social situations is critical
- Change requires considerable practice and feedback over extended time
- Challenges
 - How can we make this feasible?
 - In what setting can it occur?
 - Outcomes
 - Many measures of proximal change are inherent in the procedures
 - What are distal measures of change?

