



Establishing Rule-Following in Home, School, and Community Settings among Students with Autism and Related Disabilities

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Overview

- Define compliance and describe importance
- Assessment of compliance
- Antecedent-based interventions to increase compliance
- Consequence-based interventions to increase compliance
- Exercises



(Non)Compliance

- Doing what is requested in an adult-delivered instruction within 10 seconds
- The most common childhood behavior problem (McMahon & Forehand, 2003)



Why is Compliance Important?

- Is negatively correlated with a number of psychiatric diagnoses later in life (Keenan & Wakschlag, 2000)



Why is Compliance Important?

- For children with disabilities, may be correlated with academic progress (Wehby and Lane, 2009)
- Compliance is also predictive of the frequency and severity of problem behavior later in development (Keenan et al., 1998)



COMPLIANCE TRAINING AND BEHAVIORAL COVARIATION IN THE TREATMENT OF MULTIPLE BEHAVIOR PROBLEMS

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The present study investigated the use of a compliance-training procedure and its effect on untreated deviant child behaviors. Three children, each generally noncompliant to adult requests and with several additional problems, such as crying, aggression, and self-injurious behavior, were trained in the compliance procedure under a multiple-baseline design across therapists. Compliance was defined as the correct response to prespecified requests. Other classes of deviant child behavior were measured continuously throughout the study but not directly reinforced. The results of the study showed that (a) increases in compliance to requests were directly related to the contingencies employed; (b) decreases in untreated deviant behaviors occurred when compliance increased, even though no direct contingencies had been placed on these behaviors; and (c) the relationship between untreated deviant behaviors and compliance appeared to be maintained by a different set of events in each of the three children. The results are discussed in terms of behavioral covariation and generalization.

DESCRIPTORS: compliance, covariation, aggression, crying, self-injurious behavior



Why is Compliance Important?

- Considered to be a foundation skill (or a behavioral cusp) for learning a variety of more complex social, academic, and self-care skills (Lin, Lawrence, & Gorrell, 2003)

Assessment of Compliance

- Three things to assess:
 - Listener repertoire
 - Compliance to what? With whom?
 - Function of noncompliance

Assessment of Listener Repertoire

- Before intervening to increase compliance, assess the individual's ability to appropriately respond to instructions / directions.



Add scanned VB-MAPP





Initial Assessment

- It is possible that the words used in an instruction fail to exert control over the response (noncompliance due to skill deficit)
- Of course, it is also possible that the reinforcer supporting compliance is either different from the type or class of reinforcement available or is insufficient (noncompliance due to improper motivation)
- Initial assessment should be designed to determine which of these is accurate

Skill Deficit vs. Motivational Problem

- Interventions for compliance problems due to a skill deficit will be different from interventions for noncompliance due to a motivational issue
 - Multiple exemplar training, prompting, reinforcement (Speckman, Greer, & Rivera-Valdes, 2012)
 - Interventions for compliance problems due to a motivational issue should be based on a functional analysis

Skill Deficit vs. Motivational Problem

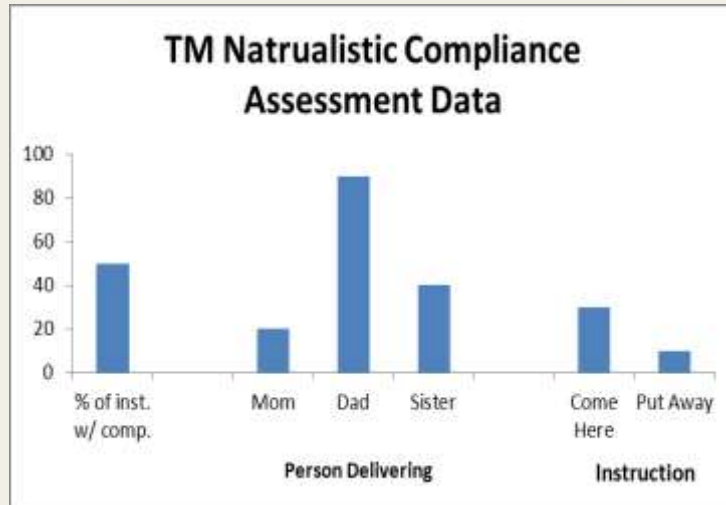
- Majdalany, Wilder, Allgood, and Sturkie (in press) developed a method to assess the extent to which a compliance problem is due to a skill deficit versus a motivational issue
 - Consists of three phases
 - Antecedent control assessment
 - Functional analysis (if necessary)
 - Treatment evaluation

Skill Deficit vs. Motivational Problem

- Antecedent control assessment (two parts)
 - Part 1: Assessment of listener behavior with respect to tacts
 - Measured extent to which participant touched low and high-preference items when asked to do so
 - Part 2: Assessment of listener behavior with respect to the verb used in instructions
 - Measured extent to which participant performed a task using 3 slightly different instructions for both low and high-preference items

Assessment of Compliance

- Compliance to what? With whom?
- Assessment should be designed to determine:
 - Frequency of (non)compliance
 - Individuals with whom the child or adult is likely to behave in a (non)compliant manner
 - Instructions most likely to occasion (non)compliance and consequences most likely to maintain (non)compliance



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PRESCHOOLERS' COMPLIANCE WITH SIMPLE INSTRUCTIONS: A DESCRIPTIVE AND EXPERIMENTAL EVALUATION

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Compliance is often used to describe a situation in which a child completes instructions from adults, and low levels of compliance are a common teacher concern. We conducted a descriptive assessment that showed that compliance was relatively stable for individual children, variable across children, and positively correlated with age. The impact of six antecedent variables (proximity, position, physical contact, eye contact, vocal attention, and play interruption) on compliance was assessed for 4 children. Next, the effects of three-step prompting were assessed alone, in combination with the antecedent variables, and at different integrity levels for 2 children. Results of the experimental analyses showed that compliance gradually increased with the addition of each antecedent variable for 2 of the 4 children. Three-step prompting in combination with the six antecedent variables increased compliance for the remaining 2 children, and high compliance levels were maintained until treatment integrity was decreased to 20% of full strength. The utility of this naturalistic compliance assessment is discussed, as are the relevant experiences that give rise to acceptable levels of compliance in preschool classrooms.

Key words: antecedent intervention, compliance, preschoolers, three-step prompting, treatment integrity

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Table 1
Instructional Categories, Frames, and Items

Category (two each)	Frame	Items
Gross motor	Roll the ____ to me.	Ball, car, truck
	Put the ____ in the box.	Ball, horse, and so on
	Clap your hands, wave your hands, touch your nose, stand up.	
Fine motor	Put a ____ in the ____.	Shape and shape sorter Peg and peg board Pierce and puzzle Moist towels
		Small vest with zipper Plastic bear, wooden block Animal figures, block, and so on
Self-help	Wipe your hands with the towels, Zip the zipper up to the top of the vest.	Any items, shelf, box.
Concept formation	Give me a [color] ____.	
Physical transition	Put a ____ in my hand.	
	Put the ____ on [in] the ____.	
	Give me the ____.	



- When assessing the range of instructions for which noncompliance occurs:
 - Give direct instructions
 - Provide a specific amount of time for the child to respond
 - Do not complete the instruction for the child
 - Be sure to vary the order of instructions
 - If assessing across caregivers, have each caregiver deliver same set of instructions

Assessment of Compliance

- Function of noncompliance
- Compliance is learned; Individuals behave in a noncompliant manner to
 - Get something they want (social positive reinforcement)
 - Avoid or escape something they don't want (social negative reinforcement)

Assessment of Compliance

- A number of models for functional assessment of (non)compliance exist:
 - Stephenson & Hanley, 2010
 - Rodriguez, Thompson, & Baynham, 2010
 - Wilder, Harris, Reagan, & Rasey, 2007
 - Reimers et al., 1993



*ASSESSMENT OF THE RELATIVE EFFECTS OF ATTENTION AND
ESCAPE ON NONCOMPLIANCE*

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The current study presents a method for assessing the relative effects of attention and escape on noncompliance in preschoolers. Attention and escape conditions were alternated in a multielement design, and a contingency reversal procedure, in which one test condition served as a control for the other, was used to demonstrate control. For all 3 participants, noncompliance was maintained, at least in part, by social attention. Functional analyses of noncompliance such as the one described here may be valuable for developing function-based treatments.

Key words: compliance, functional analysis, noncompliance, preschoolers



Functional Analysis of Noncompliance

- Purpose is to determine the variable(s) maintaining noncompliance
- Consists of test conditions and a control condition
- Condition(s) with elevated levels of noncompliance relative to the control condition suggest maintenance



Functional Analysis Example

- Test for Positive Reinforcement – Attention Condition
 - Therapist presents instruction
 - Compliance = no attention
 - Noncompliance = verbal and physical interaction



Functional Analysis Example

- Video Clip of FA Condition (Positive Reinforcement - Attention)



Functional Analysis Example

- Test for Negative Reinforcement – Escape Condition
 - Therapist presents instruction
 - Compliance = verbal and physical interaction
 - Noncompliance = task is removed



Functional Analysis Example

- Video Clip of FA Condition (Negative Reinforcement)



Functional Analysis Example

- Test for Positive Reinforcement – Materials
 - Therapist presents instruction (child has access to preferred toy)
 - Compliance = no programmed consequence
 - Noncompliance = retain access to preferred toy



Functional Analysis Example

- Video Clip of FA Condition (Positive Reinforcement – Materials)



Functional Analysis Example

- Control for Positive Reinforcement – Materials
 - Therapist presents instruction to get toy (child does not have access to preferred toy)
 - Compliance = access to preferred toy
 - Noncompliance = no programmed consequence



Functional Analysis Example

- Video Clip of FA Condition (Control for materials condition)

Methods of Increasing Compliance

- Antecedent-based Interventions
(manipulations before the instruction is presented)
- Consequence-based Interventions
(manipulations after the instruction is presented)

Antecedent-based Interventions to Increase Compliance

Supported

- Make eye contact (Hamlet et al., 1984)
- Deliver “Do” instruction (Fisher, Adelinis, Thompson, Worsdell, & Zarcone, 1998)
- Phrase as a statement, not a question (Bouxsein, Tiger, & Fisher, 2008)
- Present high-probability requests immediately before (Mace et al., 1988)
- Decrease the effort associated with compliance (Fischetti et al., in press)

Unsupported

- *Provide free access to a preferred item (Cote, Thompson, & Mckerchar, 2005; Normand & Beaulieu, 2011)
- *Provide advance notice (Wilder, Nicholson, & Allison, 2010)
- Provide a rationale (Wilder, Allison, Nicholson, Abellon, & Saulnier, 2010)



Advance Notice

- Involves providing a “warning” or “advance notice” of an upcoming transition or instruction
 - Tustin (1995) showed that it was effective to increase compliance in a man with autism.
 - More recent studies show less support.



Advance Notice Example

- Video Clip of Advance Notice



*AN EVALUATION OF ADVANCE NOTICE TO INCREASE COMPLIANCE
AMONG PRESCHOOLERS*

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Advance notice of an upcoming instruction was evaluated to increase compliance among 3 children (4 to 5 years old) who exhibited noncompliance. Results show that the procedure was ineffective for all 3 participants. Advance notice plus physical guidance or physical guidance alone was necessary to increase compliance.

Key words: advance notice, noncompliance, physical guidance, preschoolers, warning



Rationales

- Involves providing a reason for the child to comply, along with the instruction.
- Are often used with children, but until recently has been no data on their effectiveness



Rationales Example

- Video Clip of Rationales



FURTHER EVALUATION OF ANTECEDENT INTERVENTIONS ON COMPLIANCE: THE EFFECTS OF RATIONALES TO INCREASE COMPLIANCE AMONG PRESCHOOLERS

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Functional analyses were conducted to identify reinforcers for noncompliance exhibited by 6 young children. Next, the effects of rationales (statements that describe why a child should comply with a caregiver-delivered instruction) were evaluated. In Experiment 1, 3 participants received the rationales immediately after the therapist's instruction. In Experiment 2, 3 additional participants received more practical rationales immediately before the therapist's instruction. The results indicate that rationales were ineffective for all 6 children. A guided compliance procedure increased compliance for 1 child; contingent access to preferred items with or without response cost increased compliance for the other participants. Although levels of problem behavior varied within and across participants, they were often higher in the rationale and guided compliance conditions.

Key words: extinction, functional analysis, guided compliance, noncompliance, preschool children, rationales





Effort Reduction

- Involves decreasing the amount of effort required for an individual to comply with the instruction
- May start with a very low effort instruction and gradually increase



Consequence-based Interventions to Increase Compliance

- Time-Out (Rortvedt & Miltenberger, 1994)
 - High-Probability Sequence (Mace et al., 1998)
 - Guided completion of the response contingent upon noncompliance (i.e., guided compliance, three-step prompting, least-to-most prompting) (Cote, Thompson, & McKerchar, 2005; Wilder & Atwell, 2006)
 - Delivery of praise, a token, or a preferred food / activity contingent upon compliance (Russo, Cataldo, & Cushing, 1981; Schutte & Hopkins, 1970; Wilder et al., 2007)



High-P Sequence Examples

- Video Clip of High-P Sequence





- Experiment 1
- High-p sequence worked only when compliance with high-p instructions was followed by reinforcement



- Experiment 2
- High-p sequence was most effective when high-quality reinforcer was delivered contingent upon compliance with high-p instructions



Guided Compliance Examples

- Video Clip of 3-Step Guided Compliance







Guided Compliance Examples

- Video Clip of 2-Step Guided Compliance



Integrity of Guided Compliance

- Guided compliance procedures may only be effective if implemented consistently
- In the real world, caregivers rarely implement GC and other procedures consistently



Differential Reinforcement Examples

- Video Clip of Differential Reinforcement with Tokens



Differential Reinforcement Examples

- Video Clip of Differential Reinforcement





Integrity of DR for Compliance

- Like GC, the effectiveness of DR may vary according to the consistency with which it is implemented
- Errors of omission – failing to deliver reinforcement when scheduled to do so
- Errors of commission – delivering reinforcement when not scheduled to do so



Trying Multiple Interventions

- In some cases, the best approach is to try easy-to-implement interventions first, and then progress to other more complex or intrusive interventions if the easy-to-implement interventions are ineffective
- We evaluated a reduction in effort, differential reinforcement (DR), guided compliance (GC), and then DR + GC

Take-Home Points

- Compliance is a critical skill for children, particularly those with disabilities
- Should be a focus of instruction at home, school, and clinic
- Assessment of compliance should involve assessing the individual's listener repertoire, the range of instructions to which compliance is a problem, and the function of noncompliance (if severe or accompanied by problem behavior)
- Methods that are supported by research and are described in this talk (e.g., guided compliance, differential reinforcement) should be used to teach compliance, beginning at an early age



References and Suggested Readings

- Cote, C., Thompson, R., & Mc Kerchar, P. (2005). The effects of antecedent interventions and extinction on toddlers' compliance during transitions. *Journal of Applied Behavior Analysis, 38*, 235-238.
- Keenan, K. & Wakshlag, L. (2000). More than the terrible twos: The nature and severity of behavior problems in clinic-referred preschool children. *Journal of Abnormal Child Psychology, 28*, 33-46.
- Lin, H., Lawrence, F. R., & Gorrell, J. (2003). Kindergarten teachers' views of children's readiness for school. *Early Childhood Research Quarterly, 18*(2), 225-237.
- Majdalany, L, Wilder, D., Alggod, J., & Sturkie, L. (in press). Evaluation of a preliminary methodology to examine antecedent and consequent contributions to noncompliance. *Journal of Applied Behavior Analysis*.
- Mace, F. C., Hock, M. L., Lalli, J. S., West, B. J., Belfiore, P., Pinter, E., Brown, D. K. (1988). Behavioral momentum in the treatment of noncompliance. *Journal of Applied Behavior Analysis, 21*, 123-141.
- McMahon, R., Forehand, R. (2003). *Helping the noncompliant child*. New York, NY: Guilford Press.
- Nevin, J. A. (1996). The momentum of compliance. *Journal of Applied Behavior Analysis, 29*, 535-547.
- Reimers, T. M., Wacker, D., P., Cooper, L. J., Sasso, G. M., Berg, W. K., & Steege, M. W. (1993). Assessing the functional properties of noncompliant behavior in an outpatient setting. *Child and Family Behavior Therapy, 15*, 1-15.
- Rodriguez, N., Thompson, R., & Baynham, T. (2010). Assessment of the relative effects of attention and escape on noncompliance. *Journal of Applied Behavior Analysis, 43*, 143-147.
- Rortvedt, A. K., & Miltenberger, R. G. (1994). Analysis of a high-probability instructional sequence and time-out in the treatment of child noncompliance. *Journal of Applied Behavior Analysis, 27*, 327-330.
- Russo, D. C., Cataldo, M. F., Cushing, P. J. (1981). Compliance training and behavioral covariation in the treatment of multiple behavior problems. *Journal of Applied Behavior Analysis, 14*, 209-222.
- Speckman, J. M., Greer, R. D., & Rivera-Valdes, C. (2012). Multiple exemplar instruction and the emergence of generative production of suffixes as autoclitic frames. *The Analysis of Verbal Behavior, 28*, 83-99.
- Stephenson, K., & Hanley, P. (2010). Preschoolers' compliance with simple instructions: A descriptive and experimental evaluation. *Journal of Applied Behavior Analysis, 43*, 229-247.



References and Suggested Readings

- Wehby, J. H. & Lane, K. L. (2009). Classroom management. In A. Akin-Little, S. Little, M. Bray and T. Kehle (Eds). *Handbook of behavioral interventions in schools*. Pp. 141-156. Washington, DC. American Psychological Association.
- Wilder, D. A. (2011). Noncompliance and oppositional behavior. In J. Luiselli (Ed.), *Teaching and Behavior Support for Children and Adults with Autism Spectrum Disorders: A "How To" Practitioner's Guide*. New York: Oxford University Press.
- Wilder, D., Allison, J., Nicholson, K., Abellon, O., and Saulnier, R. (2010). Further evaluation of antecedent interventions on compliance: The effects of 'rationales' to increase compliance among preschoolers. *Journal of Applied Behavior Analysis, 43*, 601-614.
- Wilder, D. A., Atwell, J., & Wine, B. (2006). The effects of varying levels of treatment integrity on child compliance during treatment with a three-step prompting procedure. *Journal of Applied Behavior Analysis, 39*, 369-373.
- Wilder, D. A., Atwell, J. (2006). Evaluation of a guided compliance procedure to reduce noncompliance among preschool children. *Behavioral Interventions, 21*, 265-272.
- Wilder, D. A., Harris, C., Reagan, R., & Rasey, A. (2007). Functional analysis and treatment of noncompliance by preschool children. *Journal of Applied Behavior Analysis, 40*, 173-177.
- Wilder, D., Majdalany, L., Sturkie, L., & Smeltz, L. (2015). Further evaluation of the high-probability instructional sequence with and without programmed reinforcement. *Journal of Applied Behavior Analysis, 48*, 511-522.
- Wilder, D. A., Myers, K., Nicholson, K., Allison, J., & Fischetti, A. (in press). Further evaluation of rationales to increase compliance among preschool children. *Education and Treatment of Children*.
- Wilder, D. A., Nicholson, K., & Allison, J. (2010). An evaluation of advance notice to increase compliance among preschoolers. *Journal of Applied Behavior Analysis, 43*, 751-756.
- Wilder, D. A., Saulnier, R., Beavers, G., & Zonneveld, K. A. (2008). Contingent Access to Preferred Items Versus a Guided Compliance Procedure to Increase Compliance Among Preschoolers. *Education and Treatment of Children, 31*, 297-306.
- Wilder, D. Zonneveld, K., Harris, C., Marcus, A., Reagan, R. (2007). Further analysis of antecedent interventions on preschooler's compliance. *Journal of Applied Behavior Analysis, 40*, 535-539.



Thank you

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