



# Eye Contact: To Teach or Not to Teach? That is Not the Question

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## Abstract

In recent years, the question has been raised as to whether teaching eye contact to autistic children is an ethically defensible educational objective. In the present article, I suggest that this question may be best answered by first defining contact with the eyes not as behavior, but as a consequence for the behavior of looking. Looking at people's faces, and in particular the eyes, provides information regarding the discriminative functions and reinforcing value of social stimuli, of people, of what they do, what they say, and what they feel, and is a critical part of all social behavior. Following a brief review of the available behavioral and developmental evidence on eye-looking behavior, its development from birth, and the role it plays in the context of social and verbal learning in early childhood, I suggest that on the topic of eye contact, the question is not simply whether we should or should not teach it. Rather, the question is whether we should seek to establish social interaction as a reinforcer for eye-looking behavior as an educational target for autistic children.

**Keywords** Eye contact · Social gazing · Visual social engagement · Eye-looking

A little girl is sitting on a chair opposite her teacher. The teacher says, “look at me” and brings a candy by their eyes, to induce a brief moment of eye to eye contact. As soon as the girl contacts the teacher's eyes, the teacher delivers the candy. Over several successive trials, the girl is looking at the teacher's eyes when the teacher gives the verbal instruction only. This eventually progresses to the teacher calling the girl's name to which she responds by turning or lifting her head and making eye contact to receive an edible. Over successive sessions we see the same girl and teacher sitting opposite one another at a small table, the girl is looking at her hands, the teacher says, “look at me” or call the girl's name, the girl lifts her head, looks at

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the teacher who then proceeds to say, “do this” and touching her head, to which the girl responds by imitating the motor model.

The so-called “look at me” program is featured in many past and current behavioral intervention manuals that outline recommended skill sequences for children with autism (Dixon, 2014; Lovaas, 1981, 2002; Maurice, Green, & Luce, 1996). The word instructional control is the relevant descriptor here. More recent applied research has moved away from issuing the instruction “look at me” and has investigated procedures to establish “eye contact” during manding (Carbone, 2013; Ninci et al., 2013), as a response to name (Cook et al., 2017) as a trial initiation response (Saunders & Williams, 1998), as an attending response prior to instruction (Silva & Fiske, 2021), or to establish joint attention (Taylor & Hoch, 2008; Weisberg & Jones, 2019). A recent review of published studies shows that most ABA studies employed some type of direct prompting (i.e., physical, gestural, verbal) and nonsocial reinforcers such as edibles, tokens, toys, videos, and other tangible reinforcers to establish the target behavior (Hustyi, Ryan, & Hall, 2023).

Consider another scenario. A little girl and her teacher are standing in front of one another. The teacher holds a blanket, says, “peek a...” and places it on the little girl’s head and covers her. The little girl pulls the blanket down and as soon as she does so the teacher says, “boo!” The girl looks up at the teacher’s face (the source of the sound), smiles and the teacher tickles the girl, who laughs. The teacher then places her hands back to her side and ends the reinforcement period. The teacher repeats this social play reinforcement delivery sequence another time. On the third repetition, the teacher does not immediately pick up the blanket, the girl looks and touches the blanket. The teacher interprets this as the girl’s interest in reinstating the social play chain, the teacher picks up the blanket, holds it high, pauses for a second, the girl lifts her head toward the blanket and stretches her arms, the teacher says, “peek a...” and places the blanket on the girl’s head. The girl once again pulls it down, this time the girl immediately looks at the teacher, who says, “boo!” The girl smiles, and the teacher proceeds with the anticipated tickles. The girl laughs.

Although the behavioral topography appears to be the same as the scenario above, looking at the eyes is emitted for different reasons, or under different environmental contingencies: in a discrete trial arrangement under instructional control for nonsocial reinforcement in the first example and as free-operant behavior as part of a reciprocal chain of actions governed by social reinforcement in the second. Both are instances of looking at the eyes under stimulus control, but the manipulated contingencies are different.

In the past few years, the once common practice of teaching eye contact in Early Intensive Behavioral Intervention (EIBI) has been called into question. One only needs to do a brief online search for “eye contact in ABA” to find multiple discussion groups in popular social media platforms (e.g., Reddit, Facebook) where behavior analysts, parents, other professionals and highly verbal autistic adults debate the ethics of targeting eye contact as an objective in ABA intervention. Although a range of positions and opinions is to be expected in these forums among non-ABA experts, there appears to be little consensus even among qualified behavior analysts with many reporting the principled exclusion of eye contact objectives in early intervention programs. A commonly cited motivation for doing so is that (some) highly

verbal autistic adults report feeling uncomfortable in eye-to-eye interactions (Trevisan, Roberts, Lin, & Birmingham, 2017). Statements such as “I do not force eye contact” and “I never require eye contact” suggest that some behavior analysts view teaching eye contact to autistic children as being synonymous with coercive or aversive practices—a kind of “look at me... or else” demand.

My aim in the present article is to offer some clarity regarding the seemingly controversial issue of teaching eye contact. Before we can answer the question “Should behavior analysts teach eye contact in autism early intervention?” it may be helpful first to define eye contact and its controlling variables, its development from infancy and the role that looking at the eyes plays in the context of social learning. After considering the available behavioral and developmental evidence, we may then be in a better position to answer the question of whether eye contact *is* or *is not* an important intervention target for young autistic children receiving EIBI.

## What is Eye Contact?

Eye contact is not behavior, but rather the product of behavior—in particular, looking at the face until contact with another person’s eyes is made. In this sense, contact with the eyes, or eye contact for short, is a stimulus produced by the behavior of looking (eye-looking, for short). Viewed this way, contact with the eyes can acquire both discriminative and reinforcing functions: it may serve as a consequence for eye-looking and as an antecedent for additional responses within a broader behavior chain. Through this chain, the child gains access to additional social and relevant environmental stimuli—such as facial expressions, speech sounds, smiles, nods, and things a person is looking at—each of which may in turn become conditioned reinforcers or discriminative stimuli.

Eye-looking can therefore be described as an operant observing response (Din-smoor, 1983), in that it produces a reinforcer—contact with the eyes—that maintains the looking behavior, which may in turn become an antecedent for additional responses (Carbone, O’Brien, Sweeney-Kerwin, & Albert, 2013; DeQuinzio, Poulson, Townsend, & Taylor, 2016; Dube, MacDonald, Mansfield, Holcomb, & Ahearn, 2004; Holth, 2005; Pelaez, Virues-Ortega, & Gewirtz, 2012). What is unique about contact with the eyes is that it is produced by another person’s behavior—in particular, their eye movement—and can therefore be defined as a social stimulus (Keller & Schoenfeld, 1950).

Looking at people’s faces is among the earliest operant behaviors selected by the social environment in the human neonate. In evolutionary terms, this makes functional sense: for a young organism who is physically dependent on others for mobility and care, orienting to social stimuli such as faces and eyes provides access to important environmental cues and potential reinforcers (Shultz et al., 2018). Because of its social function, eye-looking is also described as social gazing (Emery, 2000) and social visual engagement (Klin, Shultz, & Jones, 2015). The relevant descriptor here is “social,” because it points to the controlling variables: looking at people’s eyes as socially maintained behavior, rather than behavior shaped through instructional control or nonsocial reinforcement.

Because it is a stimulus rather than behavior, eye contact cannot be taught. In the same way that an object like a cup is a stimulus, it cannot be taught. What can be taught—or more precisely, established—is behavior in relation to that stimulus. In other words, through operant procedures a cup can function as a discriminative stimulus and a conditioned reinforcer under specific conditions. In this sense, the question of whether we should teach eye contact is poorly formulated. The question may be better phrased as: “Should we seek to establish the discriminative and reinforcing properties of contact with the eyes (e.g., in cases where it does not already function as such) as part of a young child’s early intervention?” If behavior analysts, *a priori*, decide not to, what are the consequences for not doing so? In other words, in what way will that child’s future social (and verbal) development be affected? The answer to the last two questions may be found in understanding the role that the behavior of eye-looking plays in the infant’s social and verbal learning.

## Development of Eye-Looking

Social learning is an umbrella term used to describe an organism’s ability to interact and learn from its conspecifics. Although social learning can be observed, to varying degrees, in nonhuman species, it is only in humans that verbal behavior is acquired—under the discriminative and motivating conditions created by social interaction, and maintained by its consequences (Skinner, 1957). Unlike nonsocial reinforcement, where inanimate stimuli (e.g., objects) can come to strengthen the antecedent-behavior relationship, in social reinforcement these properties are held by the products of the behavior of others. “Social life arises because social stimuli come to exercise these functions” (Keller & Schoenfeld, 1950, p. 352).

Contact with faces—and particularly with the eyes—is among the earliest forms of social reinforcement for human infants. The newborn enters the world neurologically and behaviorally attuned to social stimuli, but entirely dependent on others for care and protection. Reflexive behaviors such as rooting and palmar grasp ensure proximity to caregivers and support adaptive success in a socially mediated environment (Shultz, Klin, & Jones, 2018). Newborns also demonstrate visual preferences for eyes and faces (Portugal et al., 2023), orient more often to direct versus averted gaze (Farroni, Menon, & Johnson, 2006), and respond to biological motion (Simion, Regolin, & Bulf, 2008). By 2 months of age, infants begin shifting their gaze in the direction of where others are looking (Gredebäck, Fikke, & Melinder, 2010). These early gaze responses mark the beginning of visual social engagement, a capacity that underlies all subsequent social learning (Shultz et al., 2018). Longitudinal eye-tracking studies (Klin et al., 2002, 2009, 2015) show that in children later diagnosed with autism, this behavior begins to diverge from typical patterns as early as 2 months of age (Jones et al., 2023).

The cumulative effect of these early disruptions results in thousands of missed opportunities for social reinforcement each week (Klin et al., 2020), during a sensitive period of maximal neurological development. The consequences are widely observed: diminished interest in others’ actions, reduced social reciprocity, limited joint attention and imitation, and absent, delayed, or idiosyncratic verbal behavior.

As the child's physical abilities mature—allowing them to sit, reach, and move—social eye-looking becomes integrated with coordinated actions such as pointing and showing, enabling the child to contact shared attention to objects or events. This integration supports the emergence of the operants that define joint attention: alternating gaze, recruiting others' attention, and sharing reference to external stimuli (Horne & Lowe, 1996; Miguel, 2016).

If the gaze and actions of others have not come to function as discriminative or reinforcing stimuli, then the behaviors that ordinarily produce shared attention—such as pointing or showing—are likely to be reduced or absent. From a behavioral perspective, joint attention arises when a change in the environment alters the reinforcing value of another person's gaze. The child may act to produce that shared gaze—for example, by directing the adult's attention to an object and monitoring their face for coordination—alternating gaze between item and person (Dube et al., 2004; Holth, 2005). Parents commonly respond to these bids by labeling or commenting (i.e., tacting) on what the child indicates. By the time the vocal apparatus is sufficiently mature to come under social control—as echoic behavior—toddlers are already functioning as listeners. It is the convergence of these repertoires, together with joint attention, that supports the emergence of verbal behavior. Thus, joint attention is tightly connected to the development of verbal behavior (Delgado et al., 2002; Horne & Lowe, 1996; Miguel, 2016).

## **What is the Question of Eye Contact?**

Although many highly verbal adults with autism report finding looking at another person's eyes uncomfortable or even aversive, research has shown that this may not be the case in children (Nuske, Vivanti, & Dissanayake, 2015). Autistic children may be indifferent to such stimuli, rather than actively avoid them because of a history of punishment (Moriuchi, Klin, & Jones, 2017). It is interesting that the same adults who report experiencing difficulties in maintaining eye-looking also recognize that eye-to-eye interactions are an important component of interpersonal relationships both at work and in daily life (Trevisan et al., 2017). Because contact with the eyes is a consequence for looking behavior, it can acquire both positive reinforcing and positive punishing functions, depending on the context and learning history. Avoidance of eye contact may later be maintained by negative reinforcement contingencies that remove or postpone such stimulation. We can monitor people's faces to avoid eye contact when under specific conditions such contact signals subsequent potential punishment; or we can engage in eye-looking when such contact is associated with a chain of events that produce positive reinforcement. It stands to reason that if stimuli to which children may be neutral, at least in early childhood, could be established as effective social reinforcers and discriminative stimuli during a sensitive period of development, we can diminish the likelihood that contact with the eyes may become predictive of subsequent aversive stimulation. In so doing, children may be less likely to experience later in life the kind of discomfort reported by highly verbal autistic adults.

In young autistic children whose developmental trajectory is yet to be charted, establishing the discriminative and reinforcing properties of social stimuli is of crucial importance. Social interaction is the vehicle through which most learning occurs. Looking at the eyes is among the earliest social behaviors that bring the child into contact with a wide range of new learning opportunities—and in this sense, it functions as a fundamental behavioral cusp (Bosch & Fuqua, 2001; Rosales-Ruiz & Baer, 1997). It also serves as an indicator of whether social stimuli have acquired discriminative and reinforcing functions for that child. Eye-looking is often the first link in a sequence of socially mediated behaviors, including joint attention and much of early verbal behavior.

Given the pervasive effect that socially maintained eye-looking behavior has on a child's overall development, the establishment of such a skill in early intervention should not be controversial. Positive correlations across developmental studies suggest that more frequent gaze shifts between shared interests (i.e., a target object) are associated with stronger social communication skills in young autistic children (Yoon, Terol, Meadan, & Lee, 2024). In the United States, EIBI is considered a medically necessary treatment that targets autism-specific deficits—namely, communication, socialization, and restricted interests. Given what we know about the importance of socially maintained eye-looking, choosing to exclude eye contact objectives from early intervention may seriously limit a child's opportunity to contact new learning opportunities within a social environment. Viewed under this lens, establishing social eye-looking in early intervention is not only ethical, but essential.

This should not be taken to imply that all procedures for establishing eye-looking behavior are equivalent or above criticism. Much of the applied research has focused on establishing contact with the eyes through nonsocial reinforcement such as access to food, videos, or tangible items, reinforcing experiences that do not involve others (Hustyi et al., 2023). For example, even when shaping, rather than prompting, has been used, children learned to look at the eyes following the removal of a preferred item, to receive it back and to receive food (Fonger & Malott, 2019). Few studies in the ABA literature establish eye-looking under the exclusive control of social contingencies, without prompting, as illustrated in the second scenario at the start of this article. Thus, part of the controversy may stem from the procedures used in ABA, rather than from the goal of establishing eye-looking itself.

Comprehensive naturalistic developmental behavioral interventions such as the Early Start Denver Model (Rogers & Dawson, 2010), in contrast, focus on establishing eye-looking behavior in the context of joint activity routines, in which reinforcers extrinsic to the interaction are typically not employed. Through the thoughtful construction of social chains—with strategic pauses and carefully positioned reinforcement (e.g., delivered from above)—contact with the eyes is shaped as part of the natural reinforcement sequence. Although the authors of these interventions may not describe their procedures in the behavioral terms I have used here, extending our toolbox to include and operationalize strategies from developmental approaches may bring us closer to establishing eye-looking behavior through the manipulation of its natural variables: social interaction.

Behavior analysts working in early intervention are tasked with the incredible responsibility of designing intervention programs that—when done well—can

alter a child's developmental trajectory, long-term outcomes, and quality of life in a world of social agents. This requires that our procedures be directly derived from an analysis of the controlling variables, so that behavior is established under and maintained by naturally occurring sources of control. Working with a population that shows biologically based insensitivity to social stimuli affecting learning across developmental domains demands not only an understanding of operant procedures, but also thorough knowledge of childhood development and autism-specific learning challenges. These repertoires are essential for designing developmentally sequenced objectives that focus on pivotal operant classes, such as looking at people's eyes.

Thus, in my opinion, the question is not whether we should teach eye contact, but whether we should seek to establish social interaction as a reinforcer for eye-looking behavior—a fundamental component of social behavior and one part of a chain of mutually engaging, reciprocally reinforcing actions. This, I believe, is the central challenge facing ABA with respect to eye contact.

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## Compliance with Ethical Standards

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