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Patrick J. Schloss

Department of Special Education, Southern Illinois University

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DEVELOPING POSITIVE SOCIAL CHARACTERISTICS WITH HEARING IMPAIRED CHILDREN AND YOUTH: THE PROSOCIAL RESPONSE FORMATION TECHNIQUE

Patrick J. Schloss, Ph.D.
Department of Special Education
Pullium Hall
Southern Illinois University-Carbondale
Carbondale, IL 62901

INTRODUCTION

Current literature emphasizes the pervasive impact that a hearing impairment may have on a child or youth's psychosocial development (Altshuler, 1974, 1976; Herder, 1948; Rainer & Kallmann, 1969; Sanders, 1980). Although it is clear that there is as wide a range of behavioral characteristics among the hearing impaired as within the general population (Reivich & Rothrock, 1972), an auditory impairment may place a child or youth "at risk" for the development of minor or major behavior disorders (Kennedy, 1973). Vernon (1969) suggests that behavior disorders are of epidemic proportions among deaf children. He reports that as many as ten or twelve percent exhibit severe emotional or behavioral disturbances. Rodda (1974) has presented data which indicates that in a three state area (Ohio, Indiana, and Kentucky) 1,930 of 16,000 known hearing impaired individuals exhibit behavior disorders of sufficient severity to warrant professional attention. The author argues that over half of the population experiences mild or transient behavior problems.

Personality disorders demonstrated to be associated with hearing impairment include: psychotic reactions (Myklebust, 1960); neurotic tendencies (Spring & Roslow, 1938); immaturity (Altshuler, 1962); and withdrawal tendencies (Knapp, 1968). The most common disturbance found among the hearing impaired are behavior disorders which include: hyperactivity, irritability, aggression, social isolation, sleeping and eating distur-

bances (Altshuler, 1974). Although these responses are common among most children and youth, they become cause for concern when they limit the child or youth's ability to benefit from social or educational aspects of the environment (Gardner, 1977). In addition, Altshuler (1974) has emphasized that behavior disorders not ameliorated in early years can evolve into adult neuroses.

To date, causal relationships between the handicapping aspects of a hearing impairment and specific behavior disorders have not been empirically derived, though a number of hypotheses exist. Each relates to the cumulative effect of a child or youth's inefficiency in decoding social cues.

Altshuler (1974) exemplifies these positions by stating:

The absence of audition is a formidable limitation of adaptive equipment. Prima facie, it must influence somehow the various developmental paths . . . Precisely how it does so, the exact pathways for mediation of its effects, the weight to be assigned to each intermediate avenue, and the absolute residual influence that the handicap must impose are simply unknown (p. 367).

The author further argues that a hearing impairment creates an alternate frame of perceptual reference. The response patterns of hearing impaired individuals are best understood by considering a frame of reference partially or totally devoid of auditory input.

Meadow (1976) has suggested that impulsivity, egocentricity, and rigidity are common characteristics of hearing impaired children and youth. She argues that these features result from the limited development or absence of early communication. Impulsive-

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ness, defined as the absence of careful, coherent, advanced planning prior to action, results from a demand for immediate reinforcement as opposed to delayed gratification. Language deficits restrict the hearing impaired child or youth's ability to consider the advantages of future possibilities in lieu of short-term gains. Parents of hearing impaired children and youth often reinforce this characteristic by giving in to short-term demands as opposed to explaining beneficial aspects of delaying rewards. The potential for the hearing impaired individual becoming frustrated and aggressive motivates the parents to comply with the impulsive, immediate delivery of rewards, orientation. The hearing impaired child or youth can learn to delay gratification only through frequent and consistent experiences in which significant others communicate and require the child or youth to experience the advantages of long-term efforts.

Egocentricity, described by Meadow (1976) as a self-centeredness or unwillingness to consider the needs, opinions, and desires of others, is another response pattern influenced by a hearing loss. Normal development involves growing from self-centeredness to a sensitivity toward the wishes of others. This growth results from communication of social norms and reinforcement of compliance with those norms. Difficulty in communication often results in parents complying with ego centered requests rather than expressing disapproval. Again, the threat of frustration and aggression may motivate significant others to comply with requests rather than attempting to explain the ramifications of self-centered behavior on others.

The third characteristic, rigidity, is the inability of an individual to alter response patterns to conform to changing events. Meadow (1976) suggests that the hearing impaired individual's inflexibility to a variety of social cues results from a failure of significant others to communicate the reasons for specific expectations. The child or youth applies a particular rule indiscriminately be-

cause of a lack of understanding of the basis for the social rule. In effect, significant others establish a basic set of social rules, never allowing the child or youth to learn or experience variations of the rule. The individual becomes unable to discriminate between social conditions which should elicit one set of responses and those that should elicit an altered set of responses.

The high rate of behavior disorders found among the hearing impaired (Vernon, 1969) and deficiencies in the hearing impaired individual's learning environment (Kennedy, 1973) emphasize the need for professional attention to issues of social development. Although numerous chapters and journal reviews describe how hearing impaired children and youth are different from the general population along a variety of behavioral dimensions (see Sanders, 1980 for a review), there has been a distinct paucity of data pertaining to effective social development approaches. A review of the *American Annals of the Deaf* and the *Volta Review* from 1975 through 1980 reveals an absence of articles reporting applied treatment research. Although the literature indicates that while (a) behavior disorders are prevalent among the hearing impaired, and (b) environments and techniques which foster social development for the general population are less than effective for hearing impaired children and youth, the parent and practitioner must decipher for themselves alternative approaches which are sensitive to the learning and behavioral characteristics of the hearing impaired. In short, professionals have been provided clear information regarding the proportions of the problem, but very limited data regarding corrective or preventive strategies.

The Disciplinary View

In the absence of social development approaches which reflect the unique characteristics of the hearing impaired, educators and parents have relied on disciplinary techniques demonstrated to be effective with the

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general population. These approaches are often less than effective when judged against three major criteria. First, the behaviors targeted by the parent or educator often occur at an excessively high rate in spite of the presentation of aversive consequences. Second, effects are often temporary and/or situation specific. Finally, alternative prosocial responses fail to emerge which replace disruptive responses. These criteria will be considered in the following sections.

Reduction in the Target Behavior

Azrin and Holtz (1966) define punishment as an event which, presented as a consequence of a behavior, reduces the likelihood that the behavior will recur. The authors emphasize the functional relationship between a consequence and a specific response rate. An event is punishing *only* if its presentation results in a reduction in the target behavior. Additionally, punishment must be identified with reference to a precise behavior. An event which effectively diminishes a hearing impaired youth's failure to comply with requests may have little impact on episodes of aggression. Therefore, the event is punishing only when applied to noncompliance, but is not punishing when applied to aggression.

The Effect is Pervasive and Durable

These criteria suggest that not only should the punishment procedure have an initial impact on the hearing impaired individual's behavior(s), but: (1) behaviors similar to the target behavior should be suppressed; (2) the effect should be apparent in settings other than the one in which punishment was administered; and (3) the effect should maintain over time. These criteria emphasize that the traditional disciplinary model is effective only when it produces a change in the hearing impaired child or youth's behavioral repertoire across settings and over time. Thus, punishment procedures applied to an individual which suppress behavior under highly restricted stimulus conditions (e.g., for specific teachers) or which have

temporary effects, do not fulfill the second criteria for the effectiveness of the traditional disciplinary model.

The goal here is to adopt motivational approaches which have a generalized and prolonged effect. Meichenbaum, Bowers, and Ross (1968) report a highly structured behavior management program which effected an improvement in the classroom behavior of adolescent delinquent girls. However, the same report failed to demonstrate that the effects of the program carried over to other classroom settings. Similarly, Pendergrass (1972) demonstrated the effectiveness of a two-minute time out in reducing undesirable behavior of two withdrawn children. Once the procedure was removed, the disruptive behavior reappeared. As such, these approaches were limited in their ability to promote a pervasive and durable change in students' behavior patterns. Alternative strategies which may promote generalization and maintenance of a behavior change will be discussed in following sections.

Alternative Prosocial Behaviors Must Be Developed

The primary goal of education is to influence the hearing impaired child or youth's development of positive social, emotional, academic, and vocational characteristics. Although punishment may be effective in reducing or eliminating a range of excessive disruptive responses, it does not teach or reinforce positive social characteristics. This view is emphasized by Gardner (1978):

A punishment procedure does not teach a child what to do. It suppresses or controls behavior, but when used in isolation, the procedure does not provide a more appropriate mode of behavior as a replacement. It merely serves to reduce (typically on a rather temporary basis) the likelihood that the punished behavior will be repeated under similar circumstances (p. 254).

While punishment may temporarily suppress truancy, it is ineffective in providing alternative responses to replace school avoidance behavior. While many children and youth have the ability to independently identify alternative responses to the response be-

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ing punished, many hearing impaired and otherwise handicapped students are unable to identify and utilize alternative positive social behaviors (Bryan, 1974; Bryan & Bryan, 1977; Bryan, Wheeler, Felcan, & Henck, 1976; Chapman, Larsen, & Parker, 1976; Meadow, 1976; Schloss & Sedlak, in press). Therefore, beyond suppressing norm violating behaviors, disciplinary strategies must insure that alternative prosocial behaviors are developed.

The applied psychology literature has identified a number of negative side effects of the excessive or isolated use of punishment with handicapped children and youth. Each of these effects limits the extent to which the preceding criteria may be fulfilled. The negative side effects will be considered prior to a discussion of alternatives to the traditional disciplinarian model.

Negative Side Effects Associated with Punishment

Few other topics in behavioral psychology have received as much attention as the potential pitfalls of the unwise use of punishment. Existing data suggests that although punishment may produce a temporary change in behavior, the adverse effects which may result from a punishment procedure may offset the therapeutic effects of the procedure (Blackham & Silberman, 1980). The negative side effects include the following:

1. The frequent use of punishment may cause a child or youth to withdraw (Lovaas, Schaeffer, & Simmons, 1965).
2. The child or youth may engage in negatively emotional behavior to avoid or escape a punisher (Bandura, 1969, 1973; Patterson, 1975; Patterson & Cobb, 1971).
3. The punisher may serve as an aggressive model (Bandura, 1973; Lefkowitz, Eron, Walder, & Huesmann, 1977).
4. The child may develop verbal concepts of himself or herself associated

with the frequent use of punishment (Gardner, 1977).

It is important to recognize that, used properly with the hearing impaired, punishment need not have these undesirable side effects. The guidelines and procedures presented in the following section are intended to 1) overcome the limitations of the traditional disciplinarian model as applied to hearing impaired children and youth, and 2) minimize negative side effects associated with the unwise use of punishment.

Prosocial Response Formation as an Alternative to Traditional Disciplinary Approaches

The major feature which distinguishes Prosocial Response Formation from traditional disciplinary techniques is that in addition to punishing the disruptive behavior, an alternative behavior is supplied and differentially reinforced. A child who is disruptive in class may be punished by the teacher, thereby resulting in a reduced rate of disruptions. Additionally, the child is taught to raise his hand appropriately and is subsequently reinforced for the prosocial response. In practice, this model is represented through the following ten step procedure.

The Ten Rs of Prosocial Response Formation

Response Cost. As an immediate consequence of disruptive behavior, a predetermined amount of some reinforcing event is withdrawn. The response cost may involve a restriction in privileges, free time, or any other pleasant activity natural to the educational setting. Target behaviors and a schedule of fines should be identified in advance and discussed with the child or youth. The size of the response cost should be balanced against the expected frequency of the disruptive behavior and the total amount of the reinforcer available. Excessive dockages will result in frustration and discouragement on the part of the hearing impaired student.

Relax. The delivery of a response cost often elicits negative emotionality from the

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hearing impaired child or youth (Gardner, 1978). This may range from mild anxiety to verbal or physical aggression. Because these responses limit the extent to which future learning may take place, they must be diffused prior to continuing the Prosocial Response Formation Process. At this point, the educator should communicate in a firm nonemotional tone, "We will continue when you are relaxed." Other interactions should be avoided as they may reinforce the disruptive behavior. It is critical that the child or youth be withdrawn from *all* sources of reinforcement (e.g., interactions with others, peer support, visual stimulation, etc.) during the "relax" stage. At times it may be necessary to remove the child or youth to an isolated area until he or she relaxes.

Progressive muscle relaxation training has been demonstrated to be effective in facilitating this deescalation process (see Bernstein and Borkovec, 1973, for a literature review and description of the technique). The hearing impaired child or youth may engage in relaxation training on a scheduled basis throughout the week. The educator may then verbally cue specific relaxation responses. For example, "I'll know you are relaxed when you are breathing deeply, your hands are limp, and your jaws are loose." The "relax" stage may be as short as five seconds or, in extreme cases, as long as several hours. In any event, the child or youth should not be permitted to continue the process or any other satisfying activity until he or she relaxes.

Figure 1

TEN RS OF PROSOCIAL RESPONSE FORMATION

RESPONSE COST — Immediately and consistently withdraw a predetermined amount of some reinforcement event.

RELAX — Remove the child from all sources of reinforcement until relaxed.

RECTIFY — Instruct the child to correct any physical or emotional damage caused by the behavior.

RECOGNIZE — Assist the child in identifying provoking cues and an alternative prosocial response to the disruptive behavior.

REHEARSE — Instruct the child to act out the prosocial response under the same cue conditions.

REINFORCE — Label for the child both the process and product of the prosocial response.

REFLECT — Encourage the child to compare the consequences of the disruptive behavior with the prosocial response.

REENTER THE SCHEDULE — Return the child to the most unpleasant scheduled activity that he or she missed during the preceding steps.

RECORD—Monitor and evaluate the effects of the program.

REPEAT — Remain consistent in the application of these procedures. Also, socially reinforce the prosocial response as it reoccurs in the natural environment.

Rectify. Restitution is probably the most common natural consequence of disruptive behavior. As an adult, applying too much fertilizer results in reseeding, missed appointments must be rescheduled, and leaving the car lights on results in having to charge the battery. Adults avoid these mishaps because of the natural restitutive activity. The goal in this step of the Prosocial Response Formation Process is to teach the child that damage of a psychological and/or physical nature which occurs from disruptive behavior must be rectified. Writing on a desk may result in washing the desk, tearing up a test may result in taping the paper back together, aggression may result in a public apology, and so on. If at any point in this or subsequent steps the student becomes negatively emotional, he or she should return to the "relax" step.

Recognize. Once restitution is completed, the student is encouraged by the teacher to identify the events which cued the disruptive behavior. Having identified the provoking antecedents, the teacher elicits from the child or youth an alternative prosocial behavior that may be equally effective under the same cue conditions. For example, a student may report that he yelled out in class because the teacher asked a question. The youth would identify the teacher asking a question as the antecedent or provoking cue and raising his hand calmly as an alternative prosocial response.

The objective here is to help the hearing impaired child or youth to develop self-control skills. Assisting the child in identify-

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ing provoking stimuli and teaching him or her to self-manage alternative responses has been demonstrated to produce durable and pervasive behavior changes not attained through the use of punishment alone (Mahoney & Thoresen, 1974).

In addition, Miller and Schloss (1982) have argued that social performance problems may be the result of skill and/or motivational deficits. Reinforcement and punishment are motivational techniques effective only in promoting or suppressing existing behaviors. The social-personal deficits of the handicapped are often influenced by skill deficiencies. The handicapped adolescent may engage in deviant behavior because a prosocial response is not in his or her repertoire (Schloss & Sedlak, in press). The recognition process insures that the child or youth is exposed to the appropriate behavioral alternative.

Rehearse. There has been a repeated theme in the literature that saying is not doing. A child or youth's communicated intents are often inconsistent with his or her actual performance. Therefore, beyond the student simply stating that he or she will behave differently, the teacher asks the youth to act out the new behavior under the provoking cue conditions. A child may be asked to raise her hand calmly as the teacher asks the class another question. A youth may rehearse walking down the hall as opposed to running, and so on. The teacher's intent here is especially critical for the handicapped youth whose communication deficiencies suggest more concrete representations of appropriate behavior (Meadow, 1976).

Reinforce. The prosocial response rehearsed by the student should be socially reinforced by the teacher. The *process* and the *product* of the alternative response should be labeled to emphasize its desirable qualities. For example, "You are talking softly, John" (process); "People are much more likely to agree with you when you are polite" (product).

Reflect. At this point the hearing im-

paired child or youth should be encouraged to reflect on the consequences of the disruptive behavior as compared to the alternative behavior. The child or youth may be asked to identify the consequences of the disruptive behavior (e.g., "I lost my recess privilege and you didn't call on me") and the new prosocial behavior (e.g., "You said I did well and you might call on me next time if I raise my hand calmly"). The child or youth should be asked to consider which behavior produces the most satisfying consequences.

Reenter the schedule. The Prosocial Response Formation Process may take from a minute to several hours. During this time the child or youth may miss both pleasant and unpleasant activities scheduled in the school day. If at all possible, the student should return to the *least pleasant* activity that occurred during the process. This guideline is intended to reduce the likelihood that disruptive behavior will function to remove unpleasant events, thereby being negatively reinforced. It is important to note that consistency in the daily routine will facilitate the Prosocial Response Formation Process. Alternating pleasant with unpleasant educational activities and maintaining consistent times for those activities will encourage the youth to work through disruptive behaviors in order to gain access to the next scheduled pleasant activity.

Record. A frequency count of specific disruptive and prosocial behaviors should be kept by the teacher. This data will serve to evaluate the effectiveness of the program. If over a period of several weeks there is no change in the target behavior(s), the approach should be modified. Changes in the program structure may include: (1) identifying and eliminating extraneous sources of reinforcement for the disruptive behavior (e.g., peer approval); (2) adopting a more rigorous response cost procedure; (3) increasing consistency in applying the procedure across environments (e.g., home, lunch, recess, etc.); (4) eliminating avenues through which the child or youth may escape

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the process (e.g., keep the student after school to complete restitutional and rehearsal steps); (5) providing stronger positive incentives for engaging in the prosocial behavior; and (6) structuring the environment so that highly provoking cues are not present until greater self-control is achieved.

Repeat. Punishment is the only tool in an educator's arsenal that produces fairly immediate, albeit temporary, effects. Procedures which involve differentially reinforcing other behaviors and developing self-control require more time to become effective (Sulzer-Azaroff & Mayer, 1977). Therefore, the educator must not expect the objectives of the procedure to be achieved in one day or even a week, though some progress should be noticed. "Repeat" emphasizes that the procedure be carried out immediately and consistently. In addition, it suggests that the prosocial behavior should be socially reinforced often as it occurs in the natural environment. The emphasis here is on teaching and motivating an alternative to disruptive behavior. This can only be achieved if the new behavior is equally effective in producing satisfaction for the hearing impaired child or adolescent.

Evaluation of the Prosocial Response Formation Technique

The Prosocial Response Formation Technique is designed to accommodate the unique characteristics of hearing impaired children and youth. The merits of the procedures become clear when considered against the criteria established early in this paper. First, the recording process allows the educator to determine the effectiveness of the procedure. If progress toward the predetermined objectives is not apparent (i.e., a reduction in specific disruptive responses and an increase in alternate prosocial behaviors), the proce-

cedure may be altered. Guidelines for troubleshooting an ineffective program have been detailed.

Second, self-control that results from the guided recognition of provoking antecedents and alternative prosocial responses has been identified as an effective technique for promoting generalization and maintenance (Weham, Norman, & Abramson, 1977). Applying the procedure consistently in all relevant environments will increase the likelihood that the behavior change will be pervasive and durable.

The behavior rehearsal procedure insures that the child learns and practices alternative prosocial behaviors. The differential reinforcement of these behaviors across relevant settings may develop them as a permanent part of the hearing impaired student's behavioral repertoire.

Finally, the procedure attempts to offset the negative side effects associated with punishment. Negative emotional arousal that results from the response cost is diffused by relaxation training. The likelihood that the child will withdraw and/or avoid the punisher is minimized by positive components of the approach (i.e., the differential reinforcement of prosocial behavior). Other children observing the student involved in the Prosocial Response Formation Process are more likely to emulate the socially reinforced behavior than the disruptive behavior which produced a response cost and restitution. The educator provided a calm yet directive role model, solving problems by providing and reinforcing behavioral alternatives as opposed to aversive consequences. Finally, the Prosocial Response Formation Process encourages students to develop verbal labels for themselves associated with newly acquired prosocial responses.

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