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Group Contingencies and Classroom Applications

Abstract

Group contingency is a method of behavior control which is usually used unknowingly on a daily basis in the classroom. And more than likely, its result was success. So why is it that so few teachers use group contingencies as a formal intervention? One possibility is a lack of understanding concerning the principles involved. Another possibility is an erroneous belief that it is a difficult intervention. It may be the lack of knowledge concerning the power of a group contingency. Whatever the reason, group contingencies are not often employed by teachers as formal interventions.

Group Contingencies
and
Classroom Applications

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Introduction

Group contingency is a method of behavior control which is usually used unknowingly on a daily basis in the classroom. And more than likely, its result was success. So why is it that so few teachers use group contingencies as a formal intervention? One possibility is a lack of understanding concerning the principles involved. Another possibility is an erroneous belief that it is a difficult intervention. It may be the lack of knowledge concerning the power of a group contingency. Whatever the reason, group contingencies are not often employed by teachers as formal interventions.

Litow and Pumroy (1975) define a group contingency as “the application of operant techniques to the group behavior management of children in the classroom” (pg. 341). However they point out that the group does not actually perform, it is the individuals within the group that perform. This is an important distinction, for a more proper name for a group contingency is a group oriented contingency, but will be referred to as both in this paper. The important part of a group contingency is the focus on the group as a whole.

Purpose

It is the purpose of this paper to review the literature concerning group contingencies and their classroom application to establish the foundations a schools psychologist would need to help teachers make effective use of contingencies as a behavioral intervention. It is the author’s belief that many more teachers would use formal group contingency based interventions if they had a clear understanding of the theoretical and empirical basis for designing and implementing group contingencies.

Consequently, this paper will review both the historical development and the effectiveness research covering classroom use of group contingencies. Readers with a strong background in group contingency theory and research will want to read this document selectively as it is written for individuals with a limited background in the area.

Organization of the Review

This paper is arranged in several sections. The first section will provide an example of a group contingency that is considered a landmark study from the literature. The two overall uses of group contingencies in the classroom and the three types of group contingencies are also presented. In the second section the forces which operate within a group contingency will be examined. The focus will be on how these forces work both independently and together to make a group contingency effective. The third section will be devoted to: effectiveness, acceptability, advantages, and disadvantages of group contingencies. The fourth section will look at the different uses of a group contingency. Some of the areas which will be examined will be different settings, different populations and different target behaviors used in group contingency research. In the final section the literature concerning group contingencies will be summarized and the implications for school psychologists will be examined.

Chapter 1

Good Behavior Game, Uses, and Types of Group Contingencies

An Example: Good Behavior Game and Additional Research

The “Good Behavior Game” was created by Barrish, Saunders, and Wolf (1969) and the purpose was to help a teacher with classroom management in a class of 24 fourth graders, many of whom had behavior problems. Two target behaviors were selected: being out of one’s seat and talking out without permission. The basic format of the game was then presented to the class as follows:

1. The class was divided into two teams.
2. The rules for the game including the definitions and examples of the target behaviors were presented.
3. If the teacher saw a student breaking a rule, a mark was recorded on the board for their team.
4. If both teams received fewer than five marks in their math period, both teams were declared the winners. If a team went over five marks, then the team with the lowest number of marks was declared the winner.
5. The winning team(s) were allowed a certain privilege, this being a 30 minute free time at the end of the school day.
6. If a team lost, they would not get this privilege and would continue doing scholastic work at the end of the school day.
7. If any team had less than twenty marks at the end of the week, they were entitled to another special privilege which consisted of 4 more minutes of recess for the next week.

The “Good Behavior Game” was shown to significantly and reliably modify the disruptive out of seat and talking out behavior of the students. More specifically, talking out behavior was reduced by 77% and out of seat behavior was reduced by 71% over baseline conditions. When the game was discontinued, these behaviors returned to near baseline levels.

Barrish et al (1969)’s study was very influential, as it showed that behavior management in classrooms could be implemented in a group format. The researchers did not try to understand the components involved in the behavior change, leaving this to subsequent research. Even though the study could not determine why the group contingency worked, the important aspect of the “Good Behavior Game” study was its success in the classroom.

Replications and Manipulations

In the studies that followed Barrish et al. (1969), the first was conducted by Harris and Sherman (1973) and attempted to identify the different components at work in the group contingency system. Harris and Sherman set up the “Good Behavior Game” in the same format as Barrish et al. (1969) but manipulated variables for an average of 5 days at a time. The first step was a replication of the original study, and as was expected, out of seat behavior and talking out behavior were significantly reduced over baseline conditions. Talking out was reduced from a mean of 90% to 10% and out of seat behavior was reduced from a mean of 60% to 8%. Because the replication was successful, the second part of the study was conducted as planned.

In the first manipulation of the design, Harris and Sherman (1973) eliminated the consequences for winning the game. No matter which team won, neither team received

any reinforcement. Rather, the team with the greatest reduction was simply declared the winner. Interestingly, both out of seat behavior and talking out behavior were reduced despite the elimination of the external reinforcement. These reductions were not as great as when the external reinforcement was in place, but showed that an external reinforcement may not be necessary in order to exert some behavioral control. It was noted in the study that there could have been two other secondary external reinforcements in this manipulation, including the teacher's announcement of the winning team and the opportunity for the winning team to gloat or harass the losing team. Although removing the primary reinforcement reduced the effectiveness of the contingency system, it did not completely eliminate its effectiveness.

In the next set of manipulations, Harris and Sherman (1973) altered the number of marks each team could earn and still receive reinforcement. In one set of conditions, the criterion was eight marks and in another it was only four. Data show that both teams had a higher number of target behaviors in the eight mark condition, but both teams were able to stay under the criterion whether it was set at four or eight. In a similar procedure, Hergerle, Kesecker, and Couch (1979) began the procedure with a class having to receive less than 25 marks to be reinforced (baseline conditions showed the class averaged 27.8 marks). By the fifth week, the criterion was set at only two marks and was achieved consistently by the class. The teams displayed an amount of disruptive behavior that still fell below the criteria, but pushed the limits. If they could exhibit eight behaviors as opposed to four, they were more likely to exhibit more disruptive behaviors.

In Harris and Sherman's (1973) next manipulation, feedback was either given or withheld. Instead of placing marks on the blackboard when a violation of the rules

occurred, the teacher marked them down on a sheet of paper out of the students' sight. The students' behavior was remarkably similar between the feedback and the no feedback conditions. The occurrences of disruptive behavior did not change. When baseline procedures were reintroduced, the number of disruptive behaviors returned to baseline occurrences. Then when the no feedback manipulation was again implemented, the number of occurrences dropped back to previous levels. The authors concluded that feedback alone did not seem to be an essential component to maintaining behavioral control of the group.

Another study dealing with the idea of feedback was conducted by Medland and Stachnik (1972). Instead of marking the number of rule infractions on the board, they devised a system in which green and red lights indicated how well each team was doing. A green light indicated the team was doing well and a red light indicated a rule infraction had taken place. The study then removed the game procedures, but continued with the feedback procedure and showed that disruptive behavior was modified considerably over initial baseline conditions. The authors claim the results were due to the association of the feedback condition to the contingency reinforcement, despite it not being available at the time.

In another manipulation conducted by Harris and Sherman (1973), the two teams were combined and the entire class was considered one team. This was found to be effective, but presented some problems. The biggest problem noted was after the criterion number was reached by the entire class. In the two team condition there was still incentive for not being disruptive after reaching the criterion. In case the other team also reached the criterion, the first team might still be able to win. In the one team

scenario, once the criterion level was reached, there was no point in maintaining reduced behavior because the reinforcement was lost. Therefore, disruptive behavior greatly increased when the reinforcement was lost. The multiple team method allowed for greater control of disruptive behavior, even after the criterion was met.

Having several different teams played an important part in finding a solution to the studies' biggest problem: an individual or small group that tries to ruin reinforcement. In both Barrish et al. (1969) and Harris and Sherman (1973), a small group of students announced they were not going to play the game, and therefore were responsible for many marks against their team. The authors determined that making their team lose and the negativity associated with this was reinforcing to these particular students. So these students were placed in their own group, a separate group from either of the other two and were still evaluated in the same way as the other two groups. To add to the effectiveness of the game, a punishment consequence was added so that every mark over the criterion resulted in five minutes after school time. The first day the third group "lost" the game and was after school for quite some time, but after several winning days in a row, these students asked to be returned to their original teams and were no longer a problem. The addition of a negative consequence is an important one, as it allowed for additional control of noncooperative students. By assigning them to a separate group, the teacher eliminated the negative attention they were receiving from peers, and was also able to consequence them. This proved to be an extremely effective strategy. The original "Good Behavior Game" study used a similar procedure, but made the contingency independent in that each of the problem students were evaluated and either reinforced or consequenced according to their own performance.

The Harris and Sherman (1973) study also examined the academic performance of the students throughout the different manipulations, believing that an academic improvement might result from the lesser amount of disruptive behavior. The game did seem to increase attending and study behavior of students somewhat, though there was little or no improvement in accuracy or rate with which students completed academic assignments. A later study by Darveaux (1984), included a manipulation which did increase academic performance. The study began as did the others, with the basic format of the “Good Behavior Game,” but with a “merit” component to shape appropriate academic behavior while the game component controlled disruptive behavior. Merits were given to students who completed an assignment with 75% accuracy and participated in the classroom discussion. For every five merits a team earned, one mark could be erased from the board. Therefore if a team had already received 5 marks and were no longer able to receive reinforcement, they were able to have a mark erased from the board provided that at least five students had completed their assignment with 75% accuracy. This provided the motivation to increase academic performance, which had been missing in studies up to this point. Not only did disruptive behavior diminish dramatically, but homework completion with 75% accuracy improved from 80% to 95% across the entire class.

General Uses of Group Contingencies

There are two general uses of group contingencies in the classroom. The first is as a group management tool as, for example, when a teacher wants an intervention that will allow control of one behavior across every student in the entire class. The other use is as an intervention for a single student or a small group of students. A teacher may use

a group contingency when it is felt that involving the whole class will help control the behavior of these individuals without compromising the control the teacher already has.

Types of Contingencies

There are two main groups of contingencies: individual and group contingencies. Both operate on the idea that a behavior will be more likely if its presence is associated with a positive reinforcement. Miltenberger (1997) defines a contingency as “a relationship between a response and a consequence in which the consequence is presented if and only if the response occurs” (pg. 561). When such a relationship occurs, the consequence is said to be contingent (or dependent) on the response.

Individual Contingencies

Individual contingencies deal with the responses and consequences of one individual and group contingencies deal with the responses and consequences of a selected group. In Barrish et al. (1969) an individual contingency was set up in much the same manner as the group contingency in the “Good Behavior Game” and it was employed with two individuals who declared their intent to ruin reinforcement for their team. The two individuals were evaluated on their own individual responses and were either reinforced or punished in accordance to their responses. It took six trials before the two students were able to function successfully as part of their regular group (Barrish et al., 1969). Individual contingencies have also been shown to be effective by O’Leary & O’Leary, 1977; Kazdin, 1980; and Sultzer-Azaroff & Mayer, 1977.

Dependent Group Oriented Contingencies

A **dependent** group oriented contingency is established when the same response contingencies are simultaneously in effect for all group members, but are applied only if the performances of one or more selected group members meet criterion (Litow & Pumroy, 1975). In other words, an individual's or small group's performance determines the consequences for the entire class. If the performance satisfies the predetermined criteria of the teacher, the entire class is given the reinforcement or avoids a negative consequence. If it does not meet the specified criterion, the class gets no reinforcement or is administered a negative consequence. An example of this type of contingency is if a teacher set up a system in which the entire class would receive an extra 15 minutes of free-time on Friday afternoon if the five students with the lowest scores on the last math test are able to increase their percentage by an average of 15%. If the average of these five students from the last math test was 60%, they would need to achieve an average of 75% in order for the class to be reinforced. Any average below 75% would result in no reinforcement for anyone in the class.

In an example from the literature, the destructive behaviors at home of an 8 year old mentally retarded child were reduced using a dependent group oriented contingency at school (Gresham, 1983). The destructive behaviors included fire setting, vandalism, and aggression to others. This study was interesting because the problem behaviors took place in the home and were dealt with at school, rather than vice versa. Essentially, the student was given a good note or a bad note from his mother and this was taken to school. On good note days, he was praised by his teachers and on bad note days he was praised for bringing the note but verbally reprimanded for his behavior. If the student brought

five good notes in a row to school, he earned a party for himself and his classmates in which he was given the opportunity to pass out cookies and juice. Although it was not made clear in the study which aspect of the intervention, the party for classmates, the feedback from the home-school note, or the praise of his teacher and classmates was responsible for the reduction in destructive behavior, the results were quite significant. Over the baseline period, the student exhibited almost three destructive acts every day. During the 6 week intervention period, only two total acts of destruction were exhibited. The author cautions against overgeneralizing the results, but it can be seen clearly that this particular dependent group oriented contingency was highly effective.

Independent Group Oriented Contingencies

In an **independent** group oriented contingency the reinforcement and rules are the same for all students but whether or not each individual is reinforced is dependent solely on that individual. Group members are responsible for themselves and are reinforced due to their own performance (Litow and Pumroy, 1975). If they perform the behavior, they are positively reinforced; if they don't, they are not positively reinforced or perhaps are punished. The reason this contingency is classified as a group contingency is the rules and reinforcement are identical for each student. An example is each student getting free time instead of doing study hall if they achieved 85% or better on the last math test. Only those who have attained this score are reinforced with free time, the others attend study hall. In this way, the expectations and reinforcement are the same for all students, but whether or not they are reinforced is evaluated on an individual basis.

In Brantley and Webster (1993) an independent group oriented contingency was used to reduce talking out, out of seat, touching others, and off task behaviors in a class

of fourth graders. Each student was able to earn a check mark during each 45 minute period of the day and if a certain number of check marks were earned each day over a week's time, they were entitled to a special reinforcement. Those who did not achieve the criteria were not reinforced. At the end of the 8 week intervention, the target behaviors were decreased by a mean of 70% from baseline. The treatment produced a remarkable decrease in target behaviors and was effective enough that the teachers continued using the contingency system until the end of the year, even after the study was completed.

Interdependent Group Oriented Contingencies

An **interdependent** group contingency is established when the same response contingencies are simultaneously in effect for all group members, but are applied to a level of group performance (Litow & Pumroy, 1975). Each member of the group has the same performance level, but the group as a whole is evaluated in order to receive the reinforcement. An example would be if a teacher allowed the entire group to have free time, provided that the entire group's average on the last math test was above 75%. If the class average was 75% or above, all members of the class would get the reinforcement free time. If the average was below 75%, no one in the class would get free time, not even those who had achieved the specified criteria.

There are four basic ways in which an interdependent contingency can be applied:

1. Reinforcement can be contingent upon everyone in the class exceeding a specified criteria. For instance, if every score on the test was over 75% the class would be reinforced.

2. A second way is to evaluate the mean of the class against the criteria. The averaging procedure allows each students' score to count the same towards the reinforcement criterion. An example for the class mean is if the class averaged above 75%, they would be reinforced.
3. A third way is to evaluate the highest or the lowest individual score of the class against a certain criteria. For instance, a teacher may require at least one person get 100% or that the lowest individual score must be above 60% for the class to be reinforced. Another example of the lowest/highest score variation would be if the lowest five scores average above 60% or the highest five scores averaged over 90%, the class would receive reinforcement.
4. The fourth way in which an interdependent contingency can be applied is by randomly selecting a student and evaluating his/her score against the criteria. If the student selected reached the criterion, all members of the group received reinforcement.

Chapter 2

Theoretical Make-up of Group Contingencies

Behavior Modification

Steps Involved

Behavior modification has been shown in a number of studies to be highly effective in modifying a variety of behavioral problems (Schmidt & Ulrich, 1969). Favell (1977) describes a theoretical order in which behavior modification can take place and suggests that adhering to each step in order may increase the success of behavior modification techniques. The steps, in order of use are described below.

Step 1: In step one, the **problem behavior(s) are identified**. This usually involves identification of behaviors that need to be increased or decreased. Teachers will often have a great number of behaviors that seem to be distressing to the class, but narrowing these behaviors to either a single, most disruptive behavior or a small group of behaviors is an important part of this step. In a classroom, there are a large number of individuals who may all have different behaviors that are disruptive. Perhaps observing the frequency of each of several behaviors is in order if a target behavior cannot be easily identified. Those behaviors which occur the most frequently will become the target behaviors. Because group contingencies will modify the behavior of a group of individuals, it is important to identify the most disruptive behaviors.

Step 2: The second step deals with **defining the target behavior**. Because measurement is such an integral part of behavior modification, it is essential to have the behavior defined in an observable, specific, and objective manner (Reynolds, 1975). An operational definition must be formed, describing what the behavior looks like in terms an observer would understand and be able to identify. For group contingencies,

definition of target behavior is essential because a broad behavior definition can look different for different individuals. Because of the next step, in which a measurement technique will be selected, observable behaviors must be defined.

Step 3: Selecting a measurement technique is the third step and is important because it allows for quantitative comparisons to be made. A statement such as “Johnny is not as disruptive as he was a few weeks ago” is not nearly as specific as the statement “Johnny has decreased his talking out behavior by 75% over the last 4 weeks.” The distinction lies in the difference shown by the data gathered and presented in either numerical or graph form.

For most contingency programs a frequency count is the preferred method of measurement, and it allows the number of behavior occurrences to be compared across time. Because there are a number of students involved in a group contingency it would be difficult to do a measurement format other than a frequency count.

Step 4: After the target behavior is selected, defined and a measurement technique is selected, **a baseline observation must be completed.** A week of baseline observation is often the standard, but more or less may be warranted depending on the situation. More baseline observation may be needed if the students act differently because of the observer in the room.

Step 5: The selection of consequences may be the most important aspect of a behavior modification program. For positive consequences, the reinforcement has to be powerful enough to increase the desired behavior. The same is true with negative consequences; the punishment has to be powerful enough to decrease the undesirable behavior.

In order for reinforcement value to be maximized, it may be wise to distribute some sort of reinforcement questionnaire to the class. When students choose their reinforcement, the program will be more effective (Favell, 1977). Student chosen reinforcers can also be useful in punishment techniques because students may be asked to rate different activities from most liked to least liked. In this way, teachers know what activities are the most motivating to students and would be aversive if lost. Some programs use both positive reinforcement and negative or aversive consequences to modify behavior (Miltenberger, 1997). Whether or not aversive consequences are used is an individual teacher's choice. However many studies have used positive reinforcement and then added a punishment component only if needed.

Step 6: Step six involves **selecting the appropriate treatment procedure and implementing it in the classroom.** Selecting the treatment procedure is where the decision whether to use an individual contingency or group contingency is made. If it is a class management system that is being sought, then a group contingency is probably the treatment of choice from the very beginning. However, if an individual is causing the majority of the problems, an individual contingency may be the best procedure as the effectiveness of group contingencies to control an individual's behavior has not been well researched. With small groups of disruptive individuals either intervention may be appropriate.

When the contingency is explained to the class, all rules need to be explicitly explained, including the requirements for earning or losing a reinforcement. There must be no secrets as to how to achieve reinforcement or if a punishment technique will be used. Students must be aware of the expectations placed on them and the behaviors that

will be targeted. After every aspect of the contingency is explained and understood by each of the students, the program is ready to begin.

Step 7: In the final step, the **treatment is evaluated for its effectiveness**. How long the treatment must last depends on the situation, but many studies lasted between 6 and 8 weeks. Quantitative data is compared from baseline to treatment conditions, and the results analyzed. Using a line graph is an easily understood presentation of data that helps to reveal the effectiveness of the treatment. If the treatment was effective and the procedure was not taxing to the teacher, it may be continued. If it was not successful, it can be reevaluated and tried again or a new procedure can be employed.

Token Economy and Response Cost

In the literature concerning group contingencies, there are two distinct procedures used in implementation. Consequences can be delivered in a positive way, called a token economy, which is when an individual or group earns positive things for good behavior. Consequences can also be delivered in a negative way, called a response cost system in which the group has things taken away due to negative behavior. Token economies are used mostly to increase behavior (like appropriate behavior or homework completion) while response cost is used to decrease behavior (such as talking out). There are advantages and disadvantages to each in the manner that recording takes place, which may influence the classroom teacher when deciding between these systems. In addition, these two procedures can be used separately, or in conjunction for a more complex reinforcement/punishment system.

Token Economies

A token economy's purpose is to increase an individual's desirable behavior which is occurring too infrequently by giving a reinforcement for exhibiting the behavior, and decreasing undesirable behavior by not reinforcing its exhibition (Miltenberger, 1997). The idea is to give a student a token, which can be a variety of different symbolic things, every time they exhibit the desired behavior. These tokens can then be exchanged for other reinforcements after a certain number of tokens have been earned. Therefore, these tokens take on a role of secondary reinforcement, such as money. Soon receiving a token itself becomes reinforcing, because the child knows he is earning toward the back up reinforcement. There are six steps in the set up of a token economy (Miltenberger, 1997), some of which may coincide with the behavior modification steps previously discussed.

Step 1: The first step, which is also essential with any group contingency, is the **definition of the target behavior**. Students must be aware of the behavior in which they will be rewarded for in order to make its performance more likely. A clear definition helps students distinguish between the appropriate behavior and other behavior which may be similar yet not reinforced. For a token economy, this behavior should be a desirable or appropriate behavior, or an increase in appropriate academic performance. Because the student will be given a token, it is desirable for the reinforcement to be given after an appropriate behavior.

Step 2: The second step is to **identify the items to be used as tokens**. Tokens must be a tangible object delivered immediately when the target behavior occurs. Tokens must be practical and convenient so that teachers can reward a group each time the behavior occurs. Examples of tokens that have been used by teachers include pennies,

points, poker chips, fake money, beads, marbles, printed coupons, or stamps. The choice for tokens should also include the student or group because they will have to associate positive things with this token.

Step 3: The third step is to **identify back up reinforcements**. The things for which students exchange their tokens are the ultimate reinforcers. Teachers should include the student or group in choosing backup reinforcers so they are powerful enough to motivate behavior change. Deciding how much backup reinforcements will “cost” (that is, how many tokens it takes to receive a particular back up reinforcement) should be determined by how much motivational power it has, or how plausible it is for the teacher to deliver it in the classroom. The reinforcements used must be above and beyond the student’s or group’s basic rights.

Step 4: The next step is to **determine the schedule for reinforcement**. A token can be given at each instance of behavior, after a certain number of times that behavior occurs, or after a certain amount of time as long as the behavior occurred in that amount of time (adapted from Miltenberger, 1997). It is important to have this schedule established before the start of the intervention, as a student or group may become discouraged if there is an expectation of reward and it is not received. It may not be appropriate to deliver a reinforcement every time a behavior occurs, so the decision on which reinforcement schedule to use must be discussed with the student or group before the contingency is put in place.

Step 5: The fifth step is to **establish a time and place for exchanging tokens for backup reinforcers**. This allows for the group to collect tokens and have a definite time in which saving will be cut off and exchange will be possible. If an exchange time

is not established, groups may want to receive backup reinforcers at inconvenient times, such as during a lesson or when a teacher is busy with a student. Selection of an exchange time that is convenient to the teacher and the students is desirable.

Step 6: The final step is **the decision of whether or not to include a punishment procedure along with the token economy** (this will be discussed more when response cost techniques are examined).

There are several advantages for using a token economy in a group contingency as described by Miltenberger (1997). One is the structured environment in which a token economy must take place. The steps defined above provide a great deal of structure and clear procedures for students. Another advantage is the efficiency of tokens. They are much smaller and easier to dispense than are other types of reinforcers. Because only a few groups will have to be observed in a group contingency, this makes token distribution easier and more convenient. Skills for the future, such as saving for a larger reinforcement, are learned in a token economy. The final advantage of a token economy is the ease with which it can be implemented in conjunction with a punishment technique, more specifically with a response cost system.

There are also disadvantages to a token economy system. Training of staff and school personnel can take time, especially when the system is conducted on a large scale, such as in a group contingency. Proper training is an essential feature. In Kuypers, Becker, and O'Leary (1968), the importance of advance token economy training is discussed, with emphasis on shaping, extinction and time out procedure. Another disadvantage is the time and effort that is involved in setting up the system, selecting reinforcements, and distributing them.

A token economy was the strategy chosen by Bushell, Wrobel, and Micheals (1968) in a study concerning the percentage of study behavior in preschool children. Colored plastic washers were used to reinforce students who appeared to be working vigorously. The setup in this particular study was a independent contingency, but this type of study could also be completed using groups in the classroom. The token economy was effective in increasing the study behavior of the students in this classroom. In addition, the teacher in the study was satisfied with both the results of the study and the method used to achieve these results.

There are three important questions that must be asked when considering the use of a token economy (Miltenberger, 1997). The first is whether or not the staff can be trained to carry out the program on a consistent daily basis. If the system is not implemented consistently, its chance for success is greatly reduced. The second question concerns the financial commitment concerning the backup reinforcers. Although some reinforcers may cost money, there are several reinforcers that can be used that may cost no money such as watching a movie, having access to an activity, or having extra recess time. The final question that must be addressed is whether or not the expected results justify the time, effort, and cost in conducting the procedure. If the benefits don't outweigh the effort, perhaps another method should be considered.

Response Cost

The use of punishment, either in conjunction with or separate from the token economy is known as a response cost. In group contingencies, response cost is based on the procedure of taking something away when an undesirable behavior occurs. There are other types of punishments which are used in the classroom, such as time out and

extinction, but they are not practical for use with a group contingency as described here. Miltenberger (1997) defined response cost as the removal of a specified amount of reinforcement contingent on the occurrence of a problem behavior. In other words, something valuable is removed due to an undesirable performance.

Money is often used in response costs procedures because the amount can easily be manipulated depending on the offense, but is not a practical reinforcer in the classroom. Therefore many teachers use a point system. A student is given a set number of points at the beginning of the specified time period and loses points each time a negative target behavior is exhibited. Tangible reinforcements, such as tokens, can also be used, but sometimes are more difficult to take away from the student and also may take up more teacher time. The four steps involved in setting up a response cost system follow (Miltenberger, 1997).

Step 1: The first step is to **identify and define the target behavior** which will be decreased. This is normally a behavior that occurs frequently but is able to be decreased through a punishment contingency. Once again, the importance of defining of specific behavior is important both to the teacher and to the student so all involved know the expectations of the procedure.

Step 2: The next step is to **decide what type of reinforcer** will be used. As mentioned earlier, most teachers use points because of their practicality. This is only useful if the points can be used to purchase backup reinforcers in conjunction with a token economy (to be discussed shortly). Some teachers may use a system that takes away minutes from recess or a desired activity for inappropriate behavior.

Step 3: The next step is to **decide the manner in which the points will be removed.** Points can be removed every time an inappropriate behavior occurs, after a certain number of behaviors occur, or if a behavior occurs within a specified increment of time. The decision on which of these schedules to use is dependent on the ease and convenience they supply to the teacher.

A response cost group contingency was put in place by Sulzbacher and Houser (1968) with a class of mentally retarded students to decrease use of the middle finger. Each time the middle finger was displayed by a member of the group, a minute of recess time was taken away from that group. The behavior decreased immediately, and overall was reduced from an average of 17 occurrences a day to an average of 2-3 occurrences a day. Upon removal of the contingency, the behavior increased to an average of 9-11 occurrences a day.

Step 4: The final step is to **decide whether or not to use a token economy or some other type of positive reinforcement in conjunction with a response cost technique.** Miltenberger (1997) advises to always use a positive reinforcement contingency with a punishment technique. This way, students have the opportunity to both receive points and lose them dependent on their behavior. This also allows a stronger contingency because positive behavior is reinforced at the same time negative behavior is punished. An ongoing contingency system allows points to carry over day to day. A token economy should be in place for a few weeks before a response cost technique is implemented so tokens can be earned and a base can be built before they start getting removed. It is also advised that not all tokens be lost, for the motivation and

reinforcement value will be lost. If taking tokens away becomes a struggle for a teacher, a different procedure may need to be considered.

In a group contingency, token economy and response cost procedures can be used in conjunction to increase positive behavior and reduce negative behavior at the same time. An example of this was displayed in the study conducted by Darveaux (1984) called the “Good Behavior Game plus Merit.” This was an application of the original “Good Behavior Game” which employs a response cost technique, but with an added token economy feature, in which the students could earn back points for academic work. Basically the students were given a number of points and these were taken away for occurrences of disruptive behavior. Points acted as the token in this study. As in a token economy, students did have the opportunity to earn more points for having met a certain criteria in their academic work. The results show that disruptive behavior decreased and academic work increased, showing that both aspects of the intervention worked.

Social Pressure

Social pressure (which is similar to peer pressure) is a natural phenomenon in which a person’s behavior is shaped by the expectations of those in the same group. Smith and Mackie (1995) described social influence as “the idea that other people have an effect on virtually all of our thoughts, feelings, and behavior (pg. 19).” Social pressure is further distinguished when examining social categorization and the in-group bias. Social categorization says individuals tend to perceive people in groups, whether real or imagined, based on their similarities. The in-group, or the group an individual would consider themselves a part of, becomes an important part of that individual’s self-

esteem and self-worth. Therefore, there is a tendency to view this group in more positive ways than other groups. When an individual feels like a member of a particular group he is therefore influenced by the thoughts, feelings, ideas and behaviors of others in the group.

As an individual is placed into the group, he immediately tries to identify with that group and sees himself as part of that group. Being a member makes him susceptible to the ideals of the group and his actions and behaviors are controlled to a degree by this group. It also creates a situation in which he strives for the acceptance of the other members in his group. This chain of events is an important part of the successful implementation of a group oriented contingency.

Smith and Mackie (1995) point out the two driving forces behind peer pressure or social pressure is the need for approval and belongingness. Belongingness is important because of the self-esteem issues inherent in group involvement. Peer approval is especially important in the junior high and high school years, as pointed out by Erik Erickson (1968) in his theory of personality development.

According to Erickson (1968), early adolescence is the time when students may be trying to figure out exactly who they are. He calls this Identity versus Role Confusion. In the adolescent's search for identity, group membership becomes ultimately important. Friends may change, cliques are joined, and sports become increasingly important. During the Identity versus Role Confusion stage, students may be vulnerable to the pressure of group conformity. Fear of being outcast or looked upon negatively by their own group (which contributes to poor self-esteem) can be a strong motivator to behave in appropriate ways.

The next stage in Erickson's (1968) theory is that of Intimacy versus Isolation. Teens at this stage seek value in their relationships and avoid being isolated. Although true intimacy may not be found in a group formed by a teacher in the classroom, avoidance of isolation may be a driving motivator.

Perhaps the stages and the importance placed on group membership and relationships can account for some of the importance of peer approval. There are two ways in which team members can influence another member of the team. The first of these, which is a positive addition to the classroom is through encouragement. Encouragement is when a team or member of the team influences another member positively through the transmission of their approval. The second, which is normally not allowed in the classroom, is through the use of threats. Threatening behavior is when a team or member of the team uses verbal assaults or the promise of physical assault to influence a member.

Packard (1970) found both examples of encouragement and threats used by the students to control fellow group members' behavior in his study. Encouragement or praise for a student was often contingent on success of the group. Peer encouragement cut down on the amount of teacher praise needed and also was a great social reinforcement. Students who shared the common goal of reinforcement both encouraged positive behavior and scolded or reminded students when their behavior was not appropriate for the goal. Gresham (1983) found similar results when using a dependent group contingency with a mentally retarded boy who could earn his classmates reinforcement by eliminating destructive and harmful behavior. Classmates were seen encouraging the boy to achieve his goal and this behavior was quite rewarding to him.

Consequently, this intervention was extremely effective. Encouragement and even a bit of scolding or reprimanding can help build group cohesiveness and make the intervention effective because it reduces teacher intervention time and is not present in individual contingencies.

Sometimes scolding or reprimanding behavior of team members goes in a negative direction and can become harmful to a team member. Packard (1970) noticed the tendency of team members to use verbal threats to try and control behavior of other group members, which was seen as harmful to other team members and took attention away from class time. Axelrod (1973) also addressed this issue saying in his study that while verbal threats were used quite frequently to control group behavior, threats were viewed as disruptive to the class and made some students fearful.

Cooperation and Competition

How members interact with each other and with other groups is important to the overall interaction of class members. Cooperation exists when students perceive that they can obtain their goal if and only if the student with whom they are linked to obtain their goals (Johnson & Johnson, 1978). Cooperation increases motivation because the individual feels that he must help and be helped in the attainment of the goal.

Competition, on the other hand, exists when students perceive that they can obtain their goals if and only if the other students whom they are competing against fail to attain their goal (Johnson & Johnson, 1978). Competition increases motivation by trying to “win” or outperform the other competitor. A look at these two interactional styles will be helpful when thinking about how to set up a group contingency.

Cooperation

Cooperation is both utilized and strengthened in a group contingency. It is utilized because cooperation among group members is needed in the achievement of a desired goal. However some students do not possess cooperative skills and a group contingency is a way for them to be introduced to the skills and to refine them while working with peers. Through the application of all of the cooperative principles, skills are strengthened and utilized. There are four principles for setting up a cooperative classroom as defined by Johnson and Johnson (1994).

Principle 1: The first principle is **positive interdependence** (Johnson & Johnson, 1994). Positive interdependence is realized when the accomplishment of the group goal has depended on all of the group members working together and coordinating their actions. This is inherent in a group contingency because each member's behavior can either help or hinder reinforcement (Putnam, 1998). A group contingency meets the structured requirements of positive interdependence through (1) goal interdependence, where there is a common goal for every member; (2) task interdependence, where each student is responsible for their own behavior; and (3) reward interdependence, where the reward is given on a group achievement basis. Positive interdependence is achieved when students begin thinking as we rather than me. Group contingencies foster cooperative interdependence.

Principle 2: The second principle is **individual accountability** (Johnson & Johnson, 1994). There needs to be a safeguard system against one individual ruining reinforcement for the group on a consistent basis, which is one of the possible disadvantages of a group contingency. Each member must be a cooperating piece of the

group. If there is a student who is out to sabotage the group's effort, the student must be held accountable individually rather than allowing him to ruin the process for the entire group. Group members who consistently follow the rules and put their group into a position to be reinforced only to have this ruined consistently by a single individual can become frustrated with the process and an influx of negative behavior may be the result. If need be, this student can be placed in a group of his own, or with those others who consistently disrupt class. In this manner, the rules still apply, but the individual will only be hurting himself rather than the whole team. It is important however, not to single out an individual from the group if this is not a consistent happening. Singling a student out can destroy group cohesion and hamper peer approval of this student in the future. Group contingencies operate on the basis of group behavior, but an aspect of individual accountability is desirable so that individual student behavior still improves.

Principle 3: A third principle is an **opportunity for face-to-face interaction** among group members (Johnson & Johnson, 1994). Group members will value their membership more if they are comfortable with their group members and have an opportunity to interact with them. Just placing students in a group will activate some in-group biases (Augoustinos and Walker, 2000), but allowing them to interact to build team unity and promote their success is an important part of team cohesion and will foster a desire to cooperate in order to achieve reinforcement.

Principle 4: Fourth is the importance of having **heterogeneous groups** (Johnson & Johnson, 1994). Groups need to be divided in a way that makes it fair to all those in the classroom. If the goal is to reduce blurting out, and the three worst offenders in the class are on the same team, there is little point in the others on the team to try, for the

reinforcement will often be lost by those three students alone. The only exception to heterogeneous groups is when there are students who continually ruin reinforcement for their team and are placed on their own separate team. Placing continually disruptive students in their own group is done to protect both the rest of the team from never receiving reinforcement, and also to protect the students from verbal threats or physical harm by frustrated teammates. Having groups that compare similarly on the target goal is important so that all students feel they have a fair chance at reinforcement.

Cooperative behaviors are especially important in academic-oriented group contingencies. Wodarski, Hamblin, Buckholdt, and Ferritor (1972) used fifth graders and an interdependent group contingency to show how cooperation behaviors can increase. In the study, students were asked to do arithmetic problems and in the individual contingency phase were given a dollar for every problem correct. In the group contingency phase they were given a dollar for the average number of problems correct of the four lowest scores. The results were significant. Under the individual contingency phase, cooperative behavior occurred only 16% of the time. However in the group contingency phase, cooperative behavior occurred 82% of the time. It was hypothesized that because the reinforcement was dependent on the scores of others, it was valuable for them to help the other group members. By helping the other group members, these individuals increased their chance for reinforcement.

Of the three types of contingencies, interdependent and dependent are best able to utilize cooperation skills. Interdependent cooperation skills have been shown to be effective in the Wodarski et al. (1972) study, emphasizing encouragement and spontaneous peer tutoring as forms of cooperation among group members. However,

dependent group contingencies have also been shown to increase cooperative behaviors. Shapiro and Goldberg (1986) found that under dependent group oriented contingency conditions low achieving spelling students, who were the dependent group received a great deal of encouragement and peer tutoring from higher achieving students in order to maximize their performance. Cooperation between the members of the group was much more evident than in the independent condition and even more than in the interdependent condition. Although the improvement results were similar between the three types of contingencies, cooperation behaviors were the highest in the dependent condition. These results were similar to those found by Malone and McLaughlin (1997), who examined peer tutoring on quiz performance in vocabulary among seventh and eighth graders and found cooperative behaviors to be the highest in the dependent condition, and those found by Williamson, Williamson, Watkins, and Hughes (1992) who found the cooperative behaviors of 2nd-5th graders on an estimation task to be highest in dependent group conditions.

There are several advantages associated with cooperative behavior among student groups in the classroom. One is the improvement of academic performance. As compared to academic studies in which individuals learned without cooperative behavior, Johnson and Johnson (1989) found that academic behavior improved significantly in 50% of the cooperative studies as compared to only 10% of the studies using individualistic learning. Cooperation among students is a good way to improve academic performance. In a group oriented contingency that focuses on improving academic behavior, cooperation behavior increases, which in turn increases the academic performance of these students. Johnson and Johnson (1978) cited other advantages of cooperation such

as: higher success in mastery, retention and transfer of concepts, rules, and principles; higher intrinsic motivation; more comfort in expressing their ideas openly; a more positive attitude toward school personnel; and a more positive attitude towards their peers. Other advantages of cooperation among groups are an improvement in self-esteem, social skills development, peer acceptance and friendship.

Competition

Another option for teachers, but a far more controversial choice, is the use of competition. Competition has been looked upon negatively in the classroom recently (Kohn, 1980; Johnson & Johnson, 1994). However, there is evidence that supports competition as a way to improve performance, if it is implemented correctly (Johnson & Johnson, 1994). A group contingency intervention has the implicit option of promoting competition between teams. This may be a viable application technique for teachers who are trying to create friendly competition between classroom teams. A look at the literature concerning the use of competition has important implications for use in a group contingency.

The Random House Webster's Dictionary (1993) defines competition as "striving to outdo another or the contest for a prize" (pg. 133). Competition is most obviously found in the sports arena, but has been adapted to the classroom because of its effect on performance. Competition was considered to be the traditional way of structuring student-student interaction in the classroom because of its early success, however since its use in the 1930's, competition has gained much negative attention (Johnson & Johnson, 1994).

The majority of research concerning competition has focused on its limitations or ethical issues. The biggest problem with competition in the classroom is that most of the students lose most of the time. There is normally only one “winner” and everyone else is “not the winner” or more often, the “loser.” Competition can lead to lower self-esteem on the part of an individual or frustration and lashing out at other group members in a group setting. Negative feelings are only avoided by winning, and only one individual or one group can win. By emphasizing competition among groups, the teacher has set up a situation in which one team will win and the other(s) will lose. Kohn (1980) has contributed an entire book on the criticisms of competition in the classroom called No Contest: The Case Against Competition. His most poignant argument is the obsession of winning that results in a competitive environment. Instead of focusing on the desired behavior and improving to reach a goal, he argues that an individual strives to beat the others trying to achieve the same goal. Therefore the actual goal is to win rather than achieve a certain criteria. Winning becomes the primary reinforcement.

Kohn (1980) also argues that as a function of an individualistic society, competition rather than cooperation is reinforced. Students strive for their own recognition and try to achieve individual goals. There is less focus on group memberships or group accomplishments. Therefore he argues the value of group membership must be learned; the skills and values for cooperation must be taught and learned. Learning cooperative skills is an important function of group contingencies because of their social format and their emphasis on interdependendness and cooperation to achieve a goal.

The negative effects of competition have been well documented (Kohn, 1980). However competition in the classroom can have some advantages. Often the environment surrounding competition is to blame for its harmfulness. Competition can be used effectively in small and appropriate doses. There are four principles outlined by Johnson and Johnson (1994) that can help teachers use competition appropriately in the classroom and to help students maintain focus while competing for reinforcement.

Principle 1: One step is to **group students together in a way that promotes equal opportunity to receive reinforcement** (Johnson & Johnson, 1994). Equal group formation promotes competition because each team feels they have a reasonable chance to receive the reinforcement, which has been shown to increase motivation (Johnson & Johnson, 1978). Motivation is increased, thereby increasing the chance the desired performance will be exhibited.

Principle 2: The second principle is to **set clear and precise boundaries and criteria** (Johnson & Johnson, 1994). Beginning time, ending time, rules and selection criteria of winners must be clearly defined to ensure fairness to all students. Expectations as far as harassment or gloating must also be established. Friendly competition can help improve performance whereas a heated competition often hinders progress for some students. By defining the specifics of the competition and the punishment for breaking these rules, as well as breaking the rules for friendly competition, teachers can avoid problems later in the intervention.

Principle 3: The third step is to **stress the importance of overall group improvement rather than the importance of winning and losing** (Johnson & Johnson, 1994). This reduces the attention of the students from winning and losing to the

importance of improvement. It fosters cooperation among competitors. There is great opportunity for the simultaneous use of cooperation and competition in group contingencies. An additional reinforcement for an improvement in performance for all of the teams may be put in place to ensure both competition and cooperation among the groups.

Principle 4: The last principle is to **maximize the number of winners for each time** (Johnson & Johnson, 1994). Eliminating the negative feelings of those who may not perform well under the pressure of competition by making several winners available may allow better performance across all students. By having students compete against a criterion number, instead of just having the highest score win, a teacher helps to reduce the number of students who lose. In a group contingency, increasing the number of winners is accomplished by allowing teams to interact if both teams win, but that the team with the best performance gets an extra reinforcement. Teams are still competing, but are encouraging each other to win in order so they may be able to interact.

It is in using competition to foster cooperation that group contingencies have the ability to do so well. Barrish et al. (1969) showed that the use of reinforcement for the two teams in their classroom was effective. Both teams were competing to receive the least number of marks in order to obtain reinforcement, which promoted competition among the two teams. However, the teacher also added a component in which either team could be reinforced with extra recess time if they stayed under a certain criterion number of marks, allowing an opportunity for both teams to win and be reinforced. Because the teams were able to share the reinforcement with one another, encouragement from the opposing team kept things on a friendly basis. By utilizing both competition

between and cooperation among the groups, a group contingency is able to harness the power of both of these social phenomena.

Summary of Cooperation and Competition

Independent and interdependent contingency conditions have the highest probability of competitive features being exhibited among the three group oriented contingencies. Dependent contingencies do not use competition as a driving force and therefore are not susceptible to the problems inherent in competition. Interdependent contingencies promote competition between groups and can be susceptible to harassment of other team-members (Packard, 1970; Axelrod, 1973) or gloating. The advantages of interdependent contingencies are the opportunity for cooperation among members and support for one another in the face of defeat. The independent contingency condition promotes the idea of individualism and essentially eliminates the opportunity for cooperative behaviors. It also promotes competition because every student is against every other student.

Whether to emphasize cooperation or competition in a group contingency is an individual teacher decision. There are advantages with each, but competition has received the majority of the attention concerning disadvantages. Utilizing the power of both of these forces allows for the greatest potential success. The principles discussed should be followed closely when utilizing either of these social forces, but special consideration must be given when using a competitive environment to increase motivation among students or groups.

Chapter 3

Characteristics of Group Contingencies

Effectiveness of Group Contingencies

The effectiveness of an intervention has to be one of the main concerns for a teacher when considering its use. If an intervention is not effective, there is no reason to use it. Previous research has shown interventions that are effective are used more often by teachers (Van Brock and Elliot, 1987).

There are two different ways in which the effectiveness of group contingencies can be measured. The first is to look at the effectiveness of group contingencies as a whole. The second comparison deals with the relative effectiveness between the three types of group contingencies. Essentially the question asked is which of the three contingencies is the most effective.

Effectiveness of Group Contingencies

Studying the effects of a group oriented contingency, Brantley and Webster (1993) used an independent contingency to decrease a regular education class of fourth graders' talking out, out of seat, touching others, and off task behaviors. By the eighth week of the treatment, the class' behavior in all of these areas was a quarter of baseline conditions. Even though each student was independently reinforced, the procedure was considered a group contingency because the teacher only had to have one reinforcement for all of the students. There may have been some individuals in the class who exhibited the behaviors more than others, but using the contingency as a class management system allowed the teacher to control the behaviors across all students.

To show the effectiveness of an interdependent contingency, the "Good Behavior Game" can be used as a example (Barrish et al., 1969). The disruptive behavior of the entire class was reduced by a mean of 75% in 8 weeks. This is a high rate of success

even though the teacher had to put little time and energy into the intervention. It is also interesting to note that both teams won the game 82% of the time. The combination of behavior modification techniques as well as social pressure seemed to be an effective combination to reduce behavior problems in the classroom.

In a study done by Packard (1970) classroom attention was increased by using an interdependent group contingency. Not only was the attending behavior of the entire class examined, but more importantly, the attending behavior of four individuals was also examined. These four students had a great deal of difficulty attending to the teacher's instructions and their independent work. The results show the four students' attending behavior was improved, as was the attending behavior of the entire class. Instead of trying to develop four different individual interventions to improve attending behavior for these students, a group contingency was put in place. The intervention worked for all four students and as an added bonus, management of the class was also achieved.

In a study with similar results, Bear and Richards (1980) examined a class of 10 students on spelling performance. Five of these students were performing below teacher expectations and a interdependent contingency was put in place so students could earn extra minutes of recess on a weekly basis for each mean point the class increased. As in the previous study, the entire class' performance improved, but the most remarkable improvements were made by the five target students, who improved from 75% to 84% over the 4 week treatment period. The class average improved from 85% to 88% over the treatment period.

As an intervention for small groups, the interdependent contingency has been shown to have positive effects not only on the targeted students, but the entire class. This

is valuable information to school psychologists and educators. However, the success of group contingencies as an individual intervention has not been convincingly shown.

Whether or not group contingencies are effective at controlling the behavior of an individual is an area in need of further consideration and research.

Effectiveness Between Group Contingencies

Litow and Pumroy's (1975) review found that 6 of 14 studies examined found interdependent contingencies to be more effective than independent, 7 of 14 found independent to be more effective than interdependent, and only one study found the two equally effective. Dependent contingencies have often been left out of this comparison because of their focus on the behavior of an individual or a small group rather than the entire class. Most studies have been concerned with overall class control as opposed to the control of disruptive individuals.

Concerning the control that is obtained over a classroom, Litow and Pumroy (1975) have hypothesized that dependent contingencies exert the least amount of control of the contingencies, because there is only direct control of an individual or small group. An interesting exception was found by Shapiro and Goldberg (1990) in their study concerning acceptability and group size in group contingencies. In the dependent contingency, the spelling scores of the target individuals increased. More interesting was the finding that the entire class' scores were slightly higher than in baseline conditions across. It may be coincidental, but is an interesting twist in the literature concerning dependent contingencies. Use of a random selection dependent contingency, where reinforcement for the team depends on the performance of one randomly selected team member, may be a way for class control to be demonstrated in a dependent contingency.

It could also be hypothesized that for controlling the behavior of an individual or small group the dependent contingency may be most effective because of the concentrated social pressure. Kazdin and Geesey (1977) found dependent contingencies to be more effective in improving classroom behavior among the target students. When the opportunity to earn reinforcement for oneself versus the class was presented, the students invariably chose to earn reinforcement for the class. The study presented dependent contingencies as having a superior effectiveness compared to independent contingencies, but interdependent contingencies were not compared. Overall dependent contingencies produce a low to nonexistent amount of whole class control, while producing a focused and effective control agent over a small group of students.

Gresham and Gresham (1982) compared independent, dependent and interdependent contingencies for reducing disruptive behavior in a special education classroom. Their study reports the interdependent contingency as the most effective, followed by the dependent contingency. Independent contingencies were found to have no large effect over baseline, which was substantiated by Pigott et al. (1984) and McReynolds, Gange and Speltz (1981). In several other studies, independent contingencies have been shown to be equally effective as interdependent contingencies (Crouch, Gresham & Wright, 1985; Solomon & Tyne, 1979; Axelrod, 1998; Long and Williams, 1973). These results call into question whether interdependent contingencies are superior to independent. The congruence could be a result of the recent attention to group contingency effectiveness as a whole rather than the effectiveness of each independently.

One study even found data suggesting that independent contingencies were more effective (Phillips, Bailey & Wolf, 1969). Although this data is the only piece found that supports this conclusion, it speaks to the confusion and unreliable results that have been obtained by studies of this nature.

Summary of Effectiveness

The research makes it obvious that there is no clear answer as to which group contingency is the most effective. Much of their respective effectiveness may depend on the criteria on which they are judged. Choosing which type of group contingency to use based on its performance against one another may be a difficult decision because of the confusing data, but whether or not to use a group contingency based on its research performance is not a difficult decision

Whereas it has not been clearly demonstrated which of the three group contingencies works best, it has been shown clearly that all three of the contingency programs work well when implemented properly. Every study examined concerning the effectiveness of group contingencies has shown a marked difference between baseline conditions and the treatment conditions. Examining the findings of the comparative studies, no support can be clearly derived for the superior effectiveness of one of the group contingencies over another. However, it has been shown that group contingencies can be used effectively either as a class management system or as an intervention for small groups of students who are having academic or behavioral difficulties. No data has been presented for the use of a group contingency as an individual intervention tool. If anything can be taken from the studies of effectiveness between the group contingencies,

its that each situation should be carefully evaluated and a contingency that would produce the best results without compromising acceptability should be used.

Acceptability of Group Contingencies

With the increased use of group oriented contingencies, acceptability has become a major factor. Because there are three different types of group oriented contingencies and there are many different variations and implementations of each, an acceptability rating of every type of contingency is not plausible. Another complication is the number of people involved in the acceptability of an intervention, including: the teacher, the parents, the school psychologist, other school personnel, the community and the students themselves. Whereas not every type and variation of the group contingencies can be rated on acceptability, the general format of each can and has been rated by several of the key figures involved in implementation.

Another characteristic of a successful intervention is its acceptability. It has been shown by Witt and Elliot (1985) that interventions which are highly acceptable tend to be implemented more rigorously and are therefore more effective. The reverse has also been shown, that highly effective interventions are often judged to be more acceptable (Reimers and Wacker, 1988). As with effectiveness, acceptability can be judged both across the group contingencies and between them.

Although there have not been a great number of studies completed on the acceptability of group oriented contingencies, there have been some significant findings in those that have been conducted. Knowing only whether an intervention is effective or not is no longer sufficient. However, acceptability is a social construction and may be

hard to define. Kazdin (1981) has written about treatment acceptability as a subset of the larger issue of social validity. Social validity is defined by Kazdin as judgments by laypersons, clients, and others of whether treatment procedures are appropriate, fair, and reasonable for the problem or the client. For school psychologists, this is more of a question concerning ethics; whether or not the treatment is ethical to its clients. In order for an intervention to be used in the classroom, it has to be more than just effective, it also has to be acceptable.

Studies have been conducted in two different formats. Analogue studies are completed by questionnaire format, without the subjects actually experiencing the intervention. In vivo studies are completed after the subjects have actually participated in an intervention. What follows is a general description of why acceptability is important, which contingencies are most accepted, and other variables which influence their acceptability.

Analogue Studies

Most studies have conducted an analogue research technique, in which a client is given a paragraph describing the problem, the intervention used, and then ask whether or not the treatment is acceptable. Witt and Elliot (1985) have reviewed different types of classroom interventions and have concluded that group contingencies are generally accepted by most teachers. It can be assumed that acceptability fluctuates between teachers and problems, but a general acceptance is important in the implementation of group contingencies because it will increase their use.

Analogue studies have also pitted the three types of group oriented contingencies against one another in terms of which is most acceptable in an analogue format used by

Elliot, Turco, and Gresham (1987) in their study of acceptability ratings of classroom group oriented contingencies. Elliot et al. were interested in not only the acceptability ratings of the three types of contingencies, but also the difference in ratings between children, teachers and school psychologists. The method used was to present each group with three different scenarios describing a problem situation and either a dependent, independent, or interdependent group contingency as the intervention. The severity of the problem and intervention type were randomized so that each of the contingencies were placed with different problem severity levels. Subjects were then asked to rate the acceptability of the intervention on a rating scale. The children (actually fifth grade students) were given the Children's Intervention Rating Profile or CIRP (Witt & Elliot, 1985), which consisted of six statements pertaining to the fairness, acceptability and potential side effects and were asked to rate each statement along a 6-point Likert scale ranging from "I agree" to "I do not agree." The teachers and school psychologists were given the CIRP, as well as the Intervention Rate Profile or the IRP (Witt and Martens, 1983). This scale consisted of 12 statements with the 6-point Likert scale for each item. The teachers' and school psychologists' ratings on the IRP were examined alone, and also with the CIRP.

Elliot et al. (1987) found that children and teachers rated all three of the group oriented contingencies as acceptable, further substantiating their general acceptability. However the dependent contingency was found to be the least acceptable of the three. In fact, psychologists rated the dependent contingency as generally unacceptable. The independent contingency was found to be the most acceptable for all consumers, and it was assumed this is because the consequences were determined by individual

performance. However, interdependent contingencies did not rate far behind independent contingencies, showing a clear acceptability by the students, teachers and psychologists in the study.

In Vivo Studies

Among the limitations of the analogue studies is the idea that actual experience will affect acceptability of group contingencies, which was investigated by Shapiro and Goldberg (1990). In their study, different types of group contingencies were implemented to improve spelling performance. Both pretreatment (analogue) and post-treatment (in vivo) ratings were taken to determine the difference between reading about the intervention and experiencing the intervention. Only dependent and interdependent contingencies were used and only the students' acceptability was assessed. The study showed there was little difference between pre- and post-treatment ratings in either dependent or interdependent contingencies. The findings of this study could be cited to legitimize the findings of Elliot et al. (1987), although we cannot assume that analogue acceptability ratings will always be similar to in vivo acceptability ratings. More research concerning the differences between analogue and in vivo acceptability ratings is obviously needed

In Shapiro and Goldberg (1990) spelling performance improved significantly for all students, especially those who were the lowest at baseline levels. There was no correlation between acceptability and success for students, meaning students on average rated both contingencies acceptable regardless of their own personal success in increasing their spelling performance. In the interdependent contingency, a smaller group was considered more acceptable than a large group. Despite this, there was no difference in

the improvement of spelling performance between the two group sizes. Basically it was found that despite acceptability ratings being higher for small groups on interdependent contingencies, there was no performance difference.

Elliot et al. (1987) found that all three of the group contingencies were acceptable to the students and teachers in their study. However, there was a clear pattern in the acceptability, with independent being rated as most acceptable, followed by interdependent, and finally dependent contingencies as the least acceptable. Psychologists rated each contingency in a similar manner, except they rated dependent contingencies as unacceptable. Shapiro and Goldberg (1990) found little difference in the acceptability rating between dependent and interdependent contingencies. There was no clear difference in acceptability found between analogue and in vivo studies. Although Shapiro and Goldberg (1990) found a difference in the two ratings, it was not statistically significant. What they did find was a difference in acceptability when group size was considered. Smaller groups were rated to be more acceptable by the students than were large groups. There was no clear difference between ratings on this factor when subjects were asked to rate the contingencies before or after implementation.

Additional Findings

There were two additional findings in Elliot et al. (1987) that might be of interest for later studies. One was that the severity of the problem did not affect the acceptability of the treatment. Even if the problem was quite severe, it did not mean that a contingency was more acceptable for implementation to any of the participants (students, teachers, or school psychologists). The second finding was that the sex of the rater had

no effect on the acceptability of the contingency. Males and females rated the contingencies in a similar way.

As discussed earlier, Reimers and Wacker (1988) and Von Brock and Elliot (1987) found that effectiveness of the intervention and the acceptability were positively correlated. If teachers accept that an intervention contingency will work, they may be more willing to find it acceptable, although this has not always been the case (Reimers and Wacker, 1988). Witt (1986) and Witt and Elliot (1985) found that acceptable treatments were not only more likely to be implemented, but to be implemented with more integrity and follow through. Since teachers found dependent contingencies to be the least acceptable and independent contingencies to be most acceptable, they will more than likely implement the independent contingencies more stringently and therefore probably achieve better results.

The final limitation on the work of acceptability of group oriented contingencies thus far is the lack of generalization. Only a certain age population has been considered in most studies (that of 5th and 6th graders). Cultural, ethnic and racial issues have not been addressed thus far. Sex has been found to be a nonfactor in one study, but it is not known if this is prevalent or circumstantial. Parents have been relatively uninvolved in the acceptability research concerning their children as the subjects. Until these issues are examined, a true picture of acceptability for any of the three group oriented contingencies cannot be fully assessed.

Good Behavior Game Acceptability

There has also been an acceptability study completed on the example used earlier, the “Good Behavior Game” and its acceptability by teachers (Tingstrom, 1994). The

“Good Behavior Game” and one of its variations “Good Behavior Game plus Merit” were examined for acceptability as compared to an individual reinforcement system and an individual response cost system. The teachers were presented cases and then an intervention and were then asked to rate the intervention. The results show an individual reinforcement system was found to be most acceptable, followed by an individual response cost system, followed by the “Good Behavior Game” system and finally, the “Good Behavior Game plus Merit” system. The differences were not significant however, leading the author to suggest that the “Good Behavior Game” is as acceptable as commonly used positive and reductive individually based procedures (that of reinforcement and response cost). However the “Good Behavior Game plus Merit” was not found to be as acceptable by teachers. The study concludes that the “Good Behavior Game” should be considered as a viable intervention strategy when several children in a classroom require behavior change procedures.

In discussing the acceptability and ethical use of group contingencies, Axelrod (1998) makes a good point:

“The question is not whether group contingencies should exist. They already do exist and will continue to exist (in schools, families, communities, etc). The question is whether they can be programmed to be of benefit to a greater number of people. My view is that sensitively generated group contingencies are justified if they operate in the long-term best interests of the group (pg. 13).”

Advantages of Group Contingencies

Barrish et al. (1969) point out that group contingencies were popular both with the students and with school personnel. Concerning advantages of any intervention, effectiveness is almost considered a prerequisite. If an intervention has failed in the past, most teachers will probably not give it another chance. The effectiveness of group contingencies have already been shown to be quite high, at least as high as individual contingencies. So one of the advantages of a group contingency is its effectiveness and the corresponding acceptance by teachers and other school personnel.

Tankersley (1995) identified efficiency as the biggest advantage of using a group contingency as cited by teachers. Efficiency is important to teachers because an effective intervention that takes little time to set up and implement leaves them more time for teaching. There are several reasons why group contingencies are time efficient pointed out in the literature. Efficiency is a broad category and a further examination of why group contingencies are efficient is needed.

Discussing the Advantages

One reason group contingencies are efficient concerns the small amount of time it takes to train teachers on how to implement these contingencies. Training can be relatively short, yet all of the implications for use can be covered. Because behavior modification techniques have been used so widely in schools, most teachers are aware of principles for implementation of a behavioral intervention so only a review may be needed here. Most teachers have probably used an unstructured form of a group contingency at one time or another. An example could be a teacher telling the class no one will line up for lunch until all the students have turned in their assignment and are

back in their seat without talking. This is a form of an interdependent group contingency, but is used in only one isolated situation. Training of teachers in group contingency implementation can be a short and relatively simple process.

Another time saving advantage for teachers is having only one reward for all of the students. In individual contingencies, each student gets an individual reinforcement. However, with the group contingency, all students receive the same reward, cutting the teacher's time used for reinforcement down. This is also true of rule reviewing. A teacher only has to review the rules one time with all of the students, rather than explaining different rules to different students which may have to happen in individual contingencies. Similarly, in a group contingency, time is saved in recording because a record of each group is necessary rather than for each individual. Even if there are a number of groups in a classroom, this is still more efficient than trying to record data for each individual student. Combining these two features make the application of a group contingency much more efficient than the application of several different individual contingencies.

A clarification is needed here because independent group contingencies necessitate a record for each student as well as separate rewards. It may seem this group contingency would be just as time consuming as individual contingencies, however they are not because of two key features. One is that data for each student consists of recording only one or two behaviors for each individual in the class, rather than different behaviors for different students. The second feature is that all students receive the same reward which will use less teacher time than will handing out several different rewards to the target students. Where this may take more teacher time than would a interdependent

contingency, it will still require less time than would maintaining several individual contingency plans. However, if there are only one or two target children in the class, perhaps considering an individual contingency would be a wise course of action.

Besides being an effective and efficient intervention for teachers, another advantage is the behavior of the entire class improves, not just the behavior of the target students. Several studies have shown how an entire class decreases in disruptive behavior (Barrish et al, 1969) or improves academic performance (Shapiro and Goldberg, 1986) while still improving the target students' performance in these areas. Basically this shows the effectiveness of a group contingency's ability to alter behavior of the individual(s) whom the intervention is focused on, with the added bonus of the entire class improving. This is an advantage because two things can be accomplished at once.

Ethically, group oriented contingencies have an advantage because there is no requirement of singling a student out among his peers (Litow and Pumroy, 1975). Although a group contingency can be implemented with the intent of altering a small group of individuals' behavior, this is not made public knowledge. Therefore permission is not needed from parents and the teacher cannot be accused of being unethical.

An increase in cooperative behavior among classmates and class cohesion is often an advantage of using a group contingency, mainly in the interdependent and dependent variations. Because of the nature of interdependence, class members are forced to count on one another in order to receive reinforcement. Woodarski (1972) found that students were more likely to exhibit cooperative behavior under interdependent conditions rather than independent conditions. Encouraging comments (Kohler et al., 1995) as well as spontaneous peer tutoring (Malone & McLaughlin, 1997) were also discovered as

positive outcomes in the interdependent conditions. Cooperation has been shown to generalize to other settings (Johnson & Johnson, 1994). Because cooperation skills are so important to our society, this is an advantage found within the structure of group contingencies.

Opposite of cooperation, group contingencies can also employ the power of competition. Although competition as discussed earlier has its downfalls, there has been evidence that suggests that competition can achieve better performance (Johnson & Johnson, 1984). This is a variation that can be taken advantage of by separating the class into a number of teams that compete for reinforcement. Although this can be used as an advantage to increase performance, the cautions mentioned earlier must be adhered to if any positive outcomes are to be expected. When winning gets to be the primary reinforcement, this aspect can quickly become a disadvantage.

One of the dynamics of a group oriented contingency is its ability to turn peer pressure from a negative to a positive thing. Under regular class conditions, a student may be socially reinforced for being disruptive by having peers laugh or join into the disruption. Social reinforcement can be extremely motivating to a student looking for attention at any cost, including inappropriate behavior. However, under group contingency conditions this reinforcement changes. Students who used to laugh or join in are now concerned with receiving reinforcement and through the operant conditions working on them, they will be less likely to reinforce the disruptive student because it reduces their likelihood of being reinforced. Sulzbacher and Houser (1968) provide a concrete example of how a interdependent group contingency can remove social reinforcement from negative behavior in their study which reduced the use of the

“naughty finger” in a class of mentally retarded students. So in one sense, a group contingency takes away social reinforcement for negative behavior. On a similar, yet opposite note, social reinforcement comes to those who are able to avoid being disruptive. A normally disruptive peer who refrains from negative behavior and helps the class earn reinforcement may be reinforced socially by praise and encouragement from peers.

In another study looking at the advantages of positive peer pressure, Patterson (1965) showed peer approval to be a very powerful reinforcement. This study showed students often would rather earn reinforcement for the entire class rather than themselves alone. What was at work in this study was social approval as a secondary reinforcement. The students would rather earn their peers’ approval than a tangible reinforcement. Turning social reinforcement away from negative behavior and turning it into a secondary reinforcement for positive behavior is a big advantage in using a group contingency.

As a spin off of this last advantage, several studies have shown how group contingencies can improve social standing for students who are socially isolated or have been in low social standing in the past. Gresham (1983) used a dependent contingency to improve the social standing of a destructive, mildly retarded 8 year old child among his classmates. This student had the opportunity to gain a reinforcement for his whole class by reducing his destructive behavior. Not only did the students begin to encourage this student, but his social standing within the group was substantially raised when the class was reinforced. Of course, social standing could be hurt by this procedure had he not gained reinforcement for the class, so some caution needs to be used when using a

dependent contingency to increase social approval. However, with cooperation and success comes a rise in self-esteem, both within one's self and their group, and this could be a cause of peer approval for a group member who normally has not received much approval.

Another advantage of group contingencies, which will be discussed in greater detail shortly, is its applicability. Group contingencies have been shown to be effective with a variety of different populations, with a variety of different age groups, in a variety of different settings, and over a variety of different target behaviors. This wide range of application makes group contingencies valuable for many people, from bosses to teachers to parents. Also to be discussed soon, the focus on inclusion and the ability of group contingencies to facilitate this process is a distinct political advantage as an intervention. Having an intervention that is so versatile and effective is certainly an advantage for classroom teachers.

Finally, group contingencies are an advantageous intervention because of the great many variations that can be applied to its basic format. This is exhibited in the original "Good Behavior Game" study conducted by Barrish et al (1969), and the variation studies that followed. The variations included changing the criteria for reinforcement, changing the number of teams, and including a form of punishment in the study conducted by Harris and Sherman (1973); the presence or absence of feedback in the form of a green/red light in the study by Medland and Stachnik (1972); and the inclusion of academic performance as a "merit" system in the study by Darveaux (1984). In other studies, group size was examined by Shapiro and Goldberg (1990) and the implications of instruction was investigated by Herman and Tramontana (1971). All of

these variations can be utilized differently to achieve the most desired results. When considering the great number of target behaviors and reinforcements, group contingencies seem to have no limits. However, this strength can also be a weakness, as will be discussed with the disadvantages of group contingencies.

Group contingencies have a great many advantages which make them likely to be implemented in the classroom. However, many teachers feel that group contingencies are not a viable form of intervention (Elliot, et al., 1987). As it is with the advantages of group contingencies, there are also a great many disadvantages.

Disadvantages of Group Contingencies

The most common reason teachers cited for not using group contingencies is the possibility of unfair treatment for some students (Elliot et al., 1987). Because no one in the group gets rewarded unless everyone gets rewarded, and this depends on the group as a whole, some teachers feel this intervention is unfair to those students who achieve the criteria performance every time. This is a distinct possibility; there may be several students in a class that will achieve the desired results in every trial, yet are never reinforced due to misbehavior on the part of their peers. This can lead to a variety of behaviors, including misbehaving for there is no advantage in behaving appropriately, frustration with peers or the teacher, threats toward peers, or a general negative attitude concerning school. This can be avoided by implementing an independent group contingency, where each student is judged for reinforcement by their own performance. Although this reduces some of the advantages found in interdependent contingencies (such as cooperation and encouragement), it is still time efficient in that one recording

method can be used and only one reinforcement is provided. Fairness has been cited repeatedly in the research as a disadvantage according to teachers and is an inherent problem in the interdependent contingency approach.

Another teacher concern that has been cited repeatedly in the literature is the possible creation of a hostile as opposed to a cooperative classroom environment. Both Packard (1970) and Axelrod (1973) provide clear examples of a hostile class environment being produced by a group contingency. Instead of encouragement and cooperation, students turn to threats, both verbal and physical (although neither study actually got to this point) to ensure reinforcement. Even if a teacher accounts for this and tries to adapt a positive classroom, this underground behavior may be produced outside of the classroom. It is important to acknowledge this possibility in group contingency application because it is the responsibility of teachers to maintain a safe, positive environment. Students threatening each other to behave is incompatible with academic behavior and possibly detrimental to positive interpersonal relations among the students (Axelrod, 1973). This situation is a bigger problem still when competition is emphasized. Once again, this disadvantage is reduced greatly by employing the independent group contingency over the interdependent group contingency.

Discussing the Disadvantages

There is a danger when using group contingencies that one or a small group of individuals can ruin the reinforcement for the entire class on a regular basis. Ruining reinforcement for the class may be more reinforcing than achieving the group goal for a disruptive student. This is a precarious position for a teacher, especially if the intervention was in place to reduce the behavior of this individual or small group. The

attitude of the class can become negative in a general sense toward the game or more likely towards the individual in this case. However, a look to the literature shows us that this situation arose in the original “Good Behavior Game” and a solution was discovered. The disruptive group of individuals were placed on a team composed only of themselves, therefore when they are disruptive they ruin reinforcement only for themselves. Another variation on this is to add a punishment above and beyond the loss of reinforcement to those who continue to be disruptive. This was effective in the Barrish et al. (1969) study, but may not be applicable to every situation. It defeats the purpose of the intervention if it was in place to reduce the behavior of these individuals and the teacher ends up reinforcing the class daily, but never the target student(s). Some students get the attention they crave through negative avenues, including being the class misfit or the one who ruins it for everyone else. By removing this chance for reinforcement, a teacher may be able to give attention to this student or group of students when they are in their own group and achieve the target criteria. However, some students will continue to try and ruin reinforcement for everyone despite a teacher’s best efforts. This is a major disadvantage to a group contingency management strategy.

A similar disadvantage to a group contingency is the reaction of a group after it has become apparent that the reinforcement is lost. Once the group realizes they have lost the reinforcement for that particular trial or class, the motivation to behave decreases greatly. Harris and Sherman (1973) noted a marked rise in disruptive behavior once a team reached the criteria to lose reinforcement. This was especially apparent in the condition in which there was only one group consisting of the entire class. There are several alternatives in which to avoid this condition, as described by Harris and Sherman

(1973). Having more than one team allows the team that reached the criteria to continue to inhibit disruptive behavior in the hopes that the other team will also score the same number of marks. There is still motivation to behave because there is still the opportunity to win if the other team displays more disruptive behavior. By allowing an opportunity for reinforcement to exist, the teacher reduces a sharp rise in behavior after a team has seemingly lost reinforcement. Another alternative is to have a “merit” system like in the study by Darveaux (1984) in which disruptive behavior marks could be taken away by positive academic work. Even if the a team had already received the criteria number of marks for reinforcement, they could have marks removed for the academic work, which motivated them to continue to behave. There are ways of avoiding the dramatic increase in disruptive behavior if reinforcement is lost. However if this disadvantage is not accounted for, loss of reinforcement could lead to a rise in disruptive behavior and an uncontrollable class.

Another disadvantage of group contingencies, that is also apparent in individual contingencies, is the lack of generalization of positive behavior. Once the intervention stops, so does the good behavior. This was evident in almost every study reviewed for this paper. It was also shown that when reinforcement was removed, despite continuing the other rules of the group contingency, desired behavior decreases (Harris and Sherman, 1973). The implication here is once a teacher implements a group contingency, it must be maintained in order for the positive effects to continue. Fortunately, group contingencies have been shown to be easy to implement and time efficient, but some teachers may not want to have an ongoing intervention in their classroom. The lack of

generalized behavior improvement after the intervention has subsided can be considered a disadvantage of group contingencies.

Competition was discussed as an advantage, but it must also be discussed as a disadvantage, as described by Kohn (1986). The disadvantages of competition in the classroom have been previously established, however it must be noted that most “Good Behavior Game” variations do include a form of competition. Making it available for both teams to “win” can reduce competition and promote a more cooperative environment in which teams encourage each other to win so the reinforcement can be shared. Unfortunately, the groups may become more interested in who is “winning” rather than concentrating on academics. The reinforcement of winning becomes more important than any of the other factors in the classroom. Along with this comes the possibility of harassment of the losing team as the reinforcement. This type of secondary reinforcement is not beneficial to the class and promotes a competition aspect that can harm the intradynamics of the class. It must be of the teacher’s utmost concern to focus class attention on the positive aspects of the contingency system rather than allowing winning and competition to control the class environment.

Another disadvantage that was also included as an advantage is the many different variations of a group contingency. Even the decision of which of the three contingencies can be an intimidating task to a teacher who may not have much background knowledge of these interventions. How the target behavior relates to any of the variations may be beyond the realm of knowledge for a teacher. If a group contingency is implemented incorrectly, the effectiveness will be reduced, thereby reducing the satisfaction of the teacher and the probability it will be used again. It is a good idea to employ the services

of a school psychologist or other well-trained school personnel to help in the decision of which contingency and which variation would achieve the most desired results. This daunting task of sorting out all the possibilities for the one best fit intervention is a disadvantage for most teachers.

Finally, the lack of research regarding more dangerous behaviors is a disadvantage in group contingencies as an intervention. There have been few studies regarding the effectiveness of group contingencies at controlling aggressive or dangerous behavior sometimes exhibited by students. Whereas disruptive behaviors are annoying and may interfere with learning in the classroom, dangerous behaviors should be of more immediate concern for teachers. Group contingencies have no validity in controlling these types of behaviors.

Chapter 4

Application of Group Contingencies

Different Settings

Group contingencies can be used in a number of different settings. The ability to control behavior of a group of individuals and keep them striving towards a goal makes their use applicable to any setting where a group reward will increase the motivation to perform at a more desirable rate. Picture a sports team. Although it can be argued that professional athletes operate on an individual contingency basis (more production = higher salary), sports can be a great example of a group contingency. If every member on the team wants to win the championship (the reinforcement), then the coach preaches that all individuals must get better at a number of skills (performance or target behavior). In order to do this, they must attend practice and do things in a certain way (rules and procedure). One team member can let everyone else go unreinforced due to their lack of effort. This is only one example of how group contingencies are used throughout everyday life. But aside from sports, where else can group contingencies be found?

Schools

The majority of the studies that have been discussed in this paper have dealt with the application of group contingency systems in a school setting. The natural grouping and the tendency for children and adolescents to act inappropriately make schools an almost ideal setting for a group contingency. They have been used in self-contained classrooms, regular education classrooms, nonacademic classrooms such as gym and art, and have even been shown to be an effective tool in home-school collaboration. Not only have group contingencies been shown to be effective in the school system, they are also well accepted and like by school personnel (Elliot et al., 1987; Shapiro & Goldberg,

1990). Schools are still not taking full advantage of the efficiency and high success rate associated with group contingencies, but have found them to be an appropriate management or intervention system for some problems.

Work

Besides schools, there are many other settings where group contingencies can be used successfully. On the job, group contingencies may be in place in the form of cooperative groups, competitive groups or in individual contingencies. For instance, production bonuses are nothing more than a group contingency in which the production of the group is evaluated. Bosses will sometimes offer a bonus at the end of the month to the individual or the department with the highest production increase or the highest product output. The reward and the rules are the same for every member of the company, making the contingent reward a group format. This can easily be compared to the contingency systems that are used in the described studies in schools. Making a group contingency cooperative in the workplace may help employees feel like a valuable part of the team and may help to increase their production because they feel responsible to their team and their company alike.

A study done by Brown and Redmon (1989) used a group contingency to help alleviate the use of unscheduled sick leave among residential care workers. In the study, if a worker did not use a day of sick leave during each two week period, their name was entered in to a lottery in which the winner could receive their choice of one of four prizes. The group contingency was effective, as sick leave was reduced between 30% and 80% of all 60 workers from the baseline levels. These are just two examples of the ways that

bosses and businesses can help control the behavior of their employees through group contingencies.

Community

Group contingencies can also be found within the community. Pierce and Risley (1974) conducted a study which examined the effectiveness of a group contingency based in the community. Their study took place at a youth recreational facility where a good deal of the equipment was being stolen and destroyed, littering was rampant and altercations were commonplace. The supervisors of the facility posted signs with the rules and a special condition in which the facility would close down a specified number of minutes early for each broken rule by any of the youth. Violations were nearly eliminated, and when a condition was put in place that allowed for extra time for children who brought in their friends, membership increased also. This is one example of how a group oriented contingency can put in place by a community organization.

In a college community residence hall, noise level was shown to be effectively decreased using a group contingency (Meyers, Martz, & Craighead, 1976). A device was set up so each day the residence hall noise level stayed below a certain criteria number, the residence received a point. After the accumulation of 30 points (or one month), the residence hall was given \$100 to spend however they chose to. This procedure was shown to decrease noise levels significantly. There are other ways in which communities can use group contingencies to better our communities, such as a neighborhood watch program. The success of these community programs once again demonstrate the versatility of group contingencies.

Group Homes

A setting in which group contingencies may be of effective use is in group homes. Children and adults may be in group homes for a variety of reasons including mental retardation, crime, poverty, mental illness, or old age. Because group contingencies have been shown time and time again to be effective in controlling the behavior of groups, and a wide array of groups, this may be a setting in which group contingencies are utilized. Alexander, Corbett and Smigel (1976) successfully used a group contingency in a group home for adolescent pre-delinquents in order to reduce trancies. Social pressure played a major part in the success of this study.

In a residential care facility in the midwest, a group contingency was used to increase social interactions. Before anyone was allowed to have TV time, they needed to interact with a peer for 15 minutes. There was also a group contingency in which the residents could earn a reinforcement of the groups' choice by meeting a certain group goal for the day. This proved to be a powerful tool in this facility as inappropriate behavior invariably went down on the days in which that specific behavior was the goal for the group. In residential or group home settings, group contingencies may be an effective management tool for a number of different behaviors.

Home

Another place where group contingencies have some applicability is in the home. Parents often times use a group contingency with their children without even being aware of it. An example is the Saturday morning routine found in many houses: "None of you can watch cartoons until you do your chores." This can also be found in an example such as "all of the kids need to have their homework done before they can go outside to play."

Many times, these contingencies are implemented on an individual basis, but some parents specifically impose group contingencies in order to help their children learn to cooperate and help one another. These skills are important in the social world and can be learned easily in the home through the use of group contingencies.

Dependent contingencies are also sometimes used in the home. In an example of this, a mother may tell the kids that no one gets to go to the swimming pool until John has his room clean. This elicits some serious social pressure from the other children and hopefully will lead to John quickly cleaning his room so that all the kids can go to the pool. Group contingencies can be quite effective when a household has more than one offspring. There is an endless amount of performances that can be improved through the use of a system in which a reinforcement is contingent upon the behavior of all the children.

Most home-school collaborations are done under an individual contingency such that if the child has a good day at school, he gets some reward when he gets home (Kelley, 1990). In an interesting twist on this collaboration, Gresham (1983) used the opposite procedure with an 8 year old exhibiting destructive and dangerous behavior at home. In this study, if the target child was not destructive or dangerous at home, he was able to earn points towards a party at school for him and his classmates. This proved to be highly effective both at reducing the destructive behavior and helping this child earn some social significance in his class. This is an example of the many ways that a group contingency can be implemented at home, using any resource available to produce appropriate performances.

Different Populations

One of the distinct advantages group contingencies have shown over time is their ability to work for a variety of students. Because there is such a focus on treating individuals equally in the school system, a management system which works with almost all types of students is desirable. Group contingencies have already been shown to work in a variety of settings, and its versatility concerning effective use in different populations is also impressive.

Group contingencies can be accommodated for virtually any student in the classroom. Obviously there will be some students who do not find much success with group contingencies, but for the majority of students, group contingencies are able to increase desired performance. This includes regular education students, students with disabilities, different aged students, and students of both sexes. There are some limitations to the literature however, dealing with students of different races, cultures, and religions, as well as economic status that will be discussed. The following are some examples of studies that have shown group contingencies to be effective with many different populations of students.

Regular Education

As a classroom management tool, it may be the easiest to start with the regular education population. There have been numerous studies that have focused on intervention with an entire class as the target change agent using a group contingency. An example comes from Crouch et al. (1985). In this study, a group contingency was used to decrease the amount of disruptive behaviors of regular education third graders. The study shows that under the group contingency, disruptive behavior decreased 10%,

from 12% to 2% over a several week period. In another study using regular education students, Pinsker et al. (1985) used a group contingency system to raise academic performance in ninth graders at an alternative high school. The study showed how students who were at the school voluntarily, benefited from the structure of a group contingency and how this management technique improved academic performance for almost all of the students.

Students with Disabilities

Besides using group contingencies in the regular education classroom, many studies have been devoted to the successful use of group contingencies for students with disabilities. Included in these studies are disabled students having have been diagnosed with: mental retardation, behavior disorders, learning disabilities, autism, and students who have ADHD. The flexible use of group contingencies to benefit students with these disorders makes them a valuable tool for many teachers.

Gresham and Gresham (1982) used all three group contingency systems to show their effectiveness in reducing disruptive behavior in a self-contained classroom of 12 mentally retarded students. The contingency systems were set up in the same fashion as would be done in a regular classroom and all three group contingencies reduced disruptive behavior over baseline conditions. Worries that mentally retarded students may not be able to comprehend the rules and procedures of a group contingency system have been shown to be unwarranted and the use of group contingencies highly effective with this population.

Herring and Northup (1998) used a group contingency to help children with behavior disorders generalize appropriate behavior and social skills from the self

contained class to the regular education class. Their data shows that a group contingency system greatly increased the amount of generalization over individual contingent trials. Although there are not a great deal of studies reflecting the use of group contingencies with behavior disordered students, perhaps this study will help others realize the benefits they may have on students with behavior disorders.

Smith and Misra (1994) examined the effects of group contingencies on learning disabled students both in regular education classes and special education classes. The study shows that all three of the contingency conditions resulted in increased levels of appropriate behavior and decreased levels in inappropriate behaviors. This study shows that group contingencies are an effective technique of behavior control with learning disabled students.

A study by Lefebvre and Strain (1989) showed how group contingencies can be effective in ways other than behavioral and academic. They used a group contingency to increase the frequency of social interactions between autistic and nonautistic children. The actual improvements occurred along two dimensions: the number of verbal interactions initiated by the autistic children and the number of teacher prompts needed to maintain this interaction. Following removal and reinstatement of the group contingency, data show it was a significant factor in increasing both frequency and duration of social interaction among autistic and nondisabled students. Whether or not group contingencies have an effect of the behavior and academic success of autistic children has yet to be studied.

Davies and Witte (2000) used self management and peer monitoring in conjunction with a group contingency with students who were diagnosed ADHD. The

contingency system was set up in a third grade class which included the four target students in order to reduce the number of inappropriate verbalizations during class time. The study shows the number of verbal interruptions was drastically decreased for all four of the target students, as well as the rest of the class. In a similar study, Rosenbaum et al. (1975) reduced the number of problem behaviors exhibited by 17 students who were classified as “hyperactive.” This study also showed a great decrease in the target behavior and again shows the effectiveness of a group oriented contingency system for students who are hyperactive or diagnosed as ADHD.

With the recent focus on inclusion and education in the least restrictive environment, having students with disabilities in the regular education classroom has become a major concern for schools throughout America. With the great many disabilities in the school system, teachers may be at a loss for how to include students with disabilities into the regular classroom without disruptions to the other students. Adapting curriculum, classroom rules, and helping the student adapt socially are all concerns for school personnel. All of these concerns can be attended to with a group contingency.

It has been shown in the literature that group contingencies have been effective in reducing the behavior of even the most disruptive students in the classroom. It has also been shown that academic improvement was shown both in the high achievers and the low achievers in the class. They have been used to include students who have a variety of disabilities, including mental retardation, learning disabilities, behavior disorders, autism and ADHD. They have been used in regular education classes as well as special

education classrooms. What this means is that a group oriented contingency could possibly be used to facilitate inclusion.

Although there are no studies which deal with inclusion directly, there are some studies that deal with disabled students in the regular classroom. The study by Smith and Anjali (1994) placed learning disabled students in the regular classroom. The results showed that the students with learning disabilities fared no worse than randomly selected peers in a comparison. The Herring and Northup (1998) study previously discussed could also show how group contingencies could be used in the inclusion process. Shapiro and Goldberg (1986) examined a situation similar to inclusion in their study on the effectiveness of group contingencies on spelling performance. Although the students in the lowest group were not considered to be learning disabled or mentally retarded, it shows the power of group contingencies because of the dramatic improvements made by these lower achieving students. More studies need to be conducted in the realm of academic achievement concerning students with disabilities in the regular education classroom.

In another example of an inclusion like procedure using a group contingency, Volger and French (1983) placed behavior disordered students in a regular physical education classroom. Using a group contingency, they showed on task behaviors could be increased. It is noted in the discussion of this study that every individual with a behavior disorder increased in the percentage of on task behavior. So the procedure was effective for the class as a whole as well as each student who had a disability.

From these studies, it has been shown that group contingencies may be an effective procedure in helping the process of inclusion. Having a management technique

in place for a classroom which is focusing on inclusion. Controlling both the behavior of individual students as well as the entire class gives a group contingency a clear advantage over other management systems. Although direct studies of the influence of group contingencies on successful inclusion have not been completed, studies have implicated this as a successful procedure.

Age Differences

Although most studies have been done with elementary aged students, group contingencies have been shown to be effective with students of all ages, even as young as preschool (Bushell et al, 1968). A classic and often cited study was the “Good Behavior Game” conducted by Barrish et al. (1969). Fourth graders were introduced to the group contingency as a game and this game greatly reduced the number of disruptive behaviors exhibited. This game was replicated in several studies using elementary students and all found the group contingency conditions to be effective at reducing unwanted behavior in the classroom. This is one example of the effectiveness group contingencies have on elementary aged students; many of the studies examined in this paper have used elementary students as their subject group.

In a study dealing with junior high students (grades 6-8), Shapiro and Goldberg (1986) used as group contingency to increase spelling performance among sixth grade students. Accuracy of spelling tests were assessed across three different levels of performers: high, middle and low. Not only did this study show that group contingencies are effective in raising the performance of all three of these accuracy levels of students, but it showed how a group contingency can be implemented successfully in a junior high classroom.

There have been much fewer studies conducted concerning group contingencies and high school students. In a study by Pinsker et al. (1985), ninth graders were able to increase their academic performance through the use of a group contingency. In another study, Alexander, Corbett, and Smigel (1976) reduced school truancies in high school students. The implications from this studies is that group contingencies may still have an effect on these older students, however this is an area for greater research opportunities.

Sex Differences

Group contingency research has not observed any differences in the effectiveness between the different sexes of students. Most studies that have focused on class management have been conducted in classrooms where both sexes were present. There has only been one study that has been conducted examining the effectiveness of group contingencies on the sexes separate from one another. Alexander, Corbett and Smigel (1976) used group contingencies in a pre-delinquent group home that segregated male from female in their living quarters. A group contingency was shown to be effective in reducing the number of truancies for both the males and females in this group home. There was no claim made as to the greater effectiveness with one sex as compared to another. In the acceptability studies, there was also little to no differences noted. There seems to be no difference in the effectiveness and acceptability between males and females.

Cultural, Racial and Religious Differences

Cultural and racial differences have not been well addressed in the literature concerning group contingencies. In very few of these studies has race been even mentioned as a description of the subjects. These studies have not pointed out any

unusual findings among the different races (Wodarski et al., 1973; Long & Williams, 1973), therefore we are left to assume there was no difference in the group contingencies effectiveness. This is an area that could be much more developed in research. There have been no studies examining the effectiveness of group contingencies on different cultural or religious backgrounds. Whether or not race, culture or religion have any effect on the successful use of group contingencies has not yet been determined.

Socioeconomic Differences

Concerning socioeconomic differences, very few studies have been done in regards to this population difference. There has been one study which directly assessed the ability of group contingent free time to increase appropriate behavior in inner city junior high students, most of whom were considered impoverished, and it was found to be effective. Whether or not socioeconomic status has any bearing on the success of a group contingency intervention is yet another area which could be further explored.

As it has been shown by these examples, group contingencies can be used successfully and effectively with a variety of different populations. The versatility shown for this intervention makes it a valuable tool for school personnel. There is still a great deal of research that could be completed to justify the use of group contingencies with certain populations, specifically older students, students whose racial, cultural or religious background is not of the majority, and students who have a poor socioeconomic background. However, there has been ample research completed to confidently predict a group contingency as a viable classroom management system with a wide variety of student populations.

Different Target Behaviors

Another way in which group contingencies show their value to educators is through the great variety of target behaviors in which they exhibit their ability to control. Most obvious and most often appearing in the literature is the great control over disruptive behavior which group contingencies demonstrate. There are several other areas of behavior which can be changed by a group oriented contingency. Some of the more applicable areas are the increasing of appropriate behavior, increasing of academic completion, fluency or accuracy, and social behavior. The following examples help to justify the use of a group contingency in all of these domains.

Overt Behavior

As mentioned earlier, decreasing inappropriate behavior is the most common use of a group oriented contingency in the classroom. Decreases in inappropriate or disruptive behavior has been shown to occur in the “Good Behavior Game” studies and replications. The use of group contingencies to decrease disruptive behavior has been well documented, but another study by Gresham (1983) showed a dependent group contingency to be effective in reducing destructive behavior, such as fire setting and aggression towards siblings at home. This is an important first step in the literature which may help group contingencies prove their worth in controlling behaviors more severe than classroom disruption, however much more research needs to be conducted in this area.

Another use of group contingencies which has been well documented concerning overt behavior is the increase of appropriate behavior. Often the studies which focus on

decreasing disruptive behavior include a positive procedure to reward students who exhibit appropriate classroom behavior. In a replication study of the “Good Behavior Game” by Medland and Stachink (1972), disruptive behavior was reduced through the use of a group contingent game, but the authors noted an increase in both positive interactions and cooperative behavior among the students of each team. Since these behaviors are valued, this game can be an important factor in both eliminating disruptive behavior while increasing appropriate behavior (although this was not specifically measured by the researchers, it was noted in the discussion section). Other times, the only intention of the contingency is to reinforce positive behavior while ignoring negative behavior. This can be shown in an example from Bushell et al. (1968) in which preschoolers’ study behavior was increased from 60% at baseline to 75% in group contingency conditions. There was no punishment for disruptive behavior except the group did not receive reinforcement. These are two examples of how appropriate behavior can be increased through the use of a group oriented contingency.

Other studies have shown other uses for group contingencies, including the increase of classroom attention (Packard, 1970), increase of cooperative behavior (Wodarski et al., 1972; Williamson et al., 1992), decreasing classroom noise (Schmidt & Ulrich, 1969), peer monitoring (Stern et al., 1988); and spontaneous peer tutoring (Malone & McLaughlin, 1997). The increase or decrease of almost any classroom behavior is within the scope of a group contingency.

Academic Behavior

Academic performance is also an important aspect of the classroom. Strategies to increase motivation for students who have low achievement levels or struggle with

homework completion are always valuable for teachers. There have been several studies concerning group contingencies and their effectiveness with the academic performance of students. Three important academic areas of concern are homework completion, test taking and academic behavior among students.

One area of academic concern deals with homework. Homework completion rates as well as accuracy was found to increase among sixth graders introduced to group contingent conditions in a study conducted by Olympia et al. (1994). Darveaux (1984) showed in the “Good Behavior Game plus Merit” study that an inclusion of a homework component to the original behavior game can increase the homework completion of both the target students in the class as well as the class as a whole.

Testing is also an important area of concern for students. Malone and McLaughlin (1997) showed the effectiveness of a group contingency to increase vocabulary quiz performance in seventh and eighth graders. Shapiro and Goldberg (1986) conducted an important study that showed group contingencies can improve the academic performance of everyone in the class. Not only did the entire performance of the class increase, but by looking at three different levels of achievers in the class, it was determined that low achieving students improved their scores just as much as the high achievers did. This shows that motivation to increase spelling performance was distributed throughout the class, rather than with just a small group of individuals who carry the class to reinforcement.

Group contingencies also increased cooperative behavior and peer tutoring, which can be beneficial to students who need extra support in academic areas. Because group contingencies have been shown to increase homework completion, homework accuracy,

test and quiz performance, as well as an increase among students' behavior which promoted positive academic functioning, they may be an important implement in the academic training of students. Group contingencies have been shown to be effective in controlling all three aspects of academic behavior among students.

Social Behavior

The final use of group contingencies in the classroom concern their use for social behavior. In the literature, there are three different ways in which group contingencies can increase social behavior. The first includes cooperative and positive social behavior between students in the class. The second includes use of a group contingency to increase the social standing of an individual who may be outcast or extremely withdrawn. The third has focus on increasing the frequency of interaction opportunities for students, particularly students who suffer from disabilities.

The first use of a group contingency is for the increase of positive social behavior in the classroom. This has already been discussed several times and needs only to be incorporated in this section because of the importance positive and cooperative behaviors can have in the classroom. A positive and comfortable environment is important for all students so that learning may be maximized by each and every student. Helping one another is another skill that is highly valued in our society which is promoted in a cooperative classroom. This is where a teacher must be careful if considering a competitive approach to reinforcement for each group. Friendly competition may increase performance, but too much competition undermines the positive and cooperative behaviors that can be developed among students participating in a group contingency.

The second use of a group contingency for social reasons is to increase the standing of a socially withdrawn student. Often a dependent contingency can be the best way to do this, although this could put a great deal of pressure on the student, causing even a further withdrawal. Gresham (1983) was able to increase the social standing of a child who was able to earn a reinforcement for the class by controlling his own behavior. Allowing the student to distribute the reinforcement and announcing to the class why they were receiving the reinforcement also boosted the social standing of this individual. It was noted by the author that other students began to encourage this individual and he gained several friends because of this condition. Williamson et al. (1992) also showed how a dependent group contingency can improve social standing among students. The task involved an estimation task, and the authors noted that much encouragement and group teamwork was exhibited among the team members. The dependent student for the day was often treated as important and cooperative behaviors among all members increased. In these two examples, social standing was increased in students who may have had social difficulties before. In an interdependent condition, these results may also be obtained, but it will depend much more on the involvement of these students by their teams than do the dependent conditions which places the focus directly on them.

In the final use of group contingencies on social behavior, interactions were increased and maintained between disabled students and nondisabled students. Two studies examined this in the frequency and duration of interactions of autistic children (Kohler et al., 1995; Lefebvre & Strain, 1989). By pairing or grouping autistic children with nondisabled students and giving them a group task to complete in order to receive reinforcement, interactions between these students was shown to increase greatly.

Maintenance of these skills was a noted additional finding, which reduced teacher prompts and intervention. One study places a limit on the findings in which these interactions were only supportive after a training and instruction period of appropriate interaction skills was completed. However, after this training period, interactions were noted to be more appropriate. In another study by Herring and Northup (1998) behavior disordered students were shown to have a greater success rate with generalization of social skills behavior across settings with the advent of a group contingency as compared to baseline levels. This shows the promise of group contingencies in the social realm. Group contingencies could be applied to other target behaviors, but these were deemed to be the three most important in the classroom. The success of group contingencies with overt behavior, academic behavior and social behavior show the wide variety of target behaviors which can be modified with a these conditions in place. Although the research is not exhaustive, and more replication studies are needed to support these findings, these preliminary studies strongly support the use of group contingencies with a variety of target behaviors.

Chapter 5

Summary and Implications for School Psychologists

Summary

This paper has looked at several factors that contribute to the power of a group contingency as a behavior change agent. One is the researched effectiveness of the procedures of behavior modification. Group contingencies use many of the same steps which are employed in an individual contingency intervention. They also borrow the token economy and response costs systems. Another factor contributing to a group contingency is social pressure. The amount of change facilitated by social pressure, also referred to as peer pressure or the influence of peer acceptance, has not been well established as a change agent within a group contingency but has been shown to be effective in unrelated studies. Peer pressure is a powerful construct whose positive use is maximized in a group contingency. Related to social pressure is cooperative and competitive behavior, both of which can be utilized in a group contingency. All of these forces contribute to the effectiveness of a group contingency.

This paper also reviewed the characteristics of a group contingency, including effectiveness, acceptability, advantages and disadvantages. There are some general conclusions that can be made regarding the use of a group contingency in the classroom which have been concluded from these characteristics.

There have been many positive features found within a group contingency intervention. First, group contingencies have been shown to be an effective intervention, just as effective as individual contingencies for changing behavior. The great majority of research has pointed to the dramatic increase of desired performance once a group

contingency has been put in place. Second, they have been shown to be time saving and an efficient way of changing the behavior of a group of students. By implementing an intervention that controls the entire class' behavior, the teacher save time over conducting several individual interventions. Third, they have been shown to be generally accepted by teachers, students and school psychologists. There is still more research to be conducted in this area, but the literature thus far supports group contingencies as an acceptable and ethical way of changing behavior. Fourth, group contingencies have been shown to have an effect over a variety of behaviors, populations and settings. This makes a group contingency a versatile intervention that can be applied in a great many situations.

There are some problems with group contingencies discussed in this paper also. First, they have been viewed as unfair by some teachers. If they are not viewed positively, the chances for a successful implementation are not good. Second, they require training and recording of data for a teacher who may already be quite busy. With a class that is having behavior problems, often the suggestion of more work for the teacher can be met with negativity. Third, there are still many aspects of group contingencies that have not been adequately researched. Until more work is conducted, some teachers may not buy into their effective use.

Different uses of group contingencies were examined next. More specifically the successful use of group contingencies among different populations, with different target behaviors, and in different settings. It was found that a group contingency intervention is a versatile for both teachers and school psychologists.

The last portion of this paper focused on the steps for setting up a group contingency, the implications for a school psychologist and the future direction for group contingency research. Because school psychologists often need to recommend interventions to teachers, it is important that they are familiar with group contingencies and the research regarding their use. Knowing their research limitations is also important. The direction of research concerning group contingencies is important so that those who chose to use them have the latest information concerning their effective use.

Group contingencies, despite some problems, seem like a catch all intervention. Whereas this may not be entirely true, the combination of behavioral principles and social pressure allow for a strong behavior change agent. Whether or not to use a group contingency is an individual teacher's decision. However, it has been shown throughout the literature and this paper that a group contingency can be a powerful way to change behavior among an entire class.

Implications for School Psychologists

The teacher has been the focal point of the majority of this paper. However, group contingencies directly affect another member of the school: the school psychologist. The school psychologist is normally consulted in the event of an intervention situation. The school psychologist is educated in many of the principles discussed throughout this paper. However, there are some considerations for the school psychologist that have not been looked at in great detail thus far. The implications of a group contingency concerning the school psychologist is considered next.

It has been shown that school psychologists are committed to preventing and remedying students' behavior problems (Reschley & Ysseldyke, 1995). One of the roles of the school psychologist is to help teachers in the designing and implementation of classroom interventions. Because of their background in psychological training, school psychologists are well educated in many of the behavioral principles which were discussed earlier. There are several areas in which a school psychologist can be valuable to teachers concerning a group contingency intervention. These areas include: training and set up, ethics, evaluation, and ongoing support.

Some of the procedures involved in a group contingency may be complicated or beyond the scope of a teacher's background education. Training and helping with set up is an essential role for the school psychologist. When a teacher comes to the school psychologist, they have often exhausted all of their ideas to deal with the problem. They may be irritable and closed to new interventions which will require more effort on their part. It is first the job of the school psychologist to calm the teacher down and let him/her vent frustrations. After this is done, the steps for a group contingency can begin. Since the teacher may be exhausted, the school psychologist can get the intervention off to a positive start by making training a positive experience and helping with the set up in the classroom. It is not inappropriate for the school psychologist to come to the class to observe or even to explain the procedures of the intervention. The effectiveness of the intervention has been shown previously to be directly related to the integrity with which the intervention was implemented so starting the intervention is a great place for the school psychologist to help the teacher. Training can be made easy and short. The research gives some great examples of the effective power of group contingencies and

these may be relayed to the teacher. The school psychologist plays a very important role at the beginning of the intervention concerning training and set up.

Another role the school psychologist plays in a group contingency is to help with evaluation of the contingency. The teacher may be the primary data gathering agent, but may not know what to do with it or how to analyze its information. The school psychologist should be trained in the area of data analysis and can be of great help to the teacher by putting the data into a readable fashion. Although the teacher may have a good idea as to the effectiveness of the intervention, often the numbers produce powerful influence. Evaluation of the intervention is an important part of a school psychologist's commitment to a teacher.

The final role for the school psychologist is to provide ongoing support for the teacher throughout the intervention. As mentioned previously, support at the beginning of the intervention is important so it is implemented correctly. Ongoing support allows a teacher to report back to the school psychologist regularly so the intervention can be utilized fully. There may be times in which a teacher is unhappy with the results but has not given the intervention a chance. The school psychologist must be supportive, but also encourage the teacher to continue trying if it is the best decision. Having a teacher feel alone in an intervention will probably result in an intervention that is poorly implemented and unsuccessful.

One other aspect for school psychologists to consider is the ethics of a group contingency. There have been questions raised as to the acceptability of group contingencies by Elliot, Turco and Gresham (1987) and Shapiro and Goldberg (1990). Specifically, the appropriateness of an intervention in which students are not reinforced

or even punished for the behaviors of others has been questioned. Independent contingencies are the least dangerous when viewing ethical considerations and dependent are the most dangerous because of the social pressure. Not causing harm to any student is an important training aspect of school psychologists and the ethical treatment of all students is directly related to this. Because ethics are important to the practice of school psychology, the use of group contingencies needs to be carefully considered by both teachers and school psychologists.

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