

Practical classroom strategies that work: Using sociograms as a behaviour management tool

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Abstract: *Sociometry and sociograms are undervalued tools for behaviour management, in both primary and secondary school settings. They provide a wealth of information about classroom friendship and interaction patterns, and can therefore be extremely useful to the classroom teacher when he/she is planning seating arrangements or work-group composition. This paper explores the rationale behind sociometry and sociograms and their specific usefulness in the classroom. The focus is then on how sociometric data can be collected, using different formats to suit the needs of different groups of students. Analysis of the data is then explored, looking various ways of displaying the data to allow for effective evaluation. Use of the data in developing behaviour management plans is then discussed, with a case study being used to show how the results can be applied to help make positive changes in behaviour in a classroom setting.*

Keywords: *Sociogram, sociometry, behaviour management, relationships, group work.*

What is sociometry?

The word sociometry comes from the Latin words “socius” meaning social and “metrum” meaning to measure. (Hoffman, 2001). Hoffman describes how Jacob Levy Moreno first used the term *sociometry*, at the time when he was conducting the first sociometric study in the 1930s at a correctional facility for girls in New York. Moreno used sociometric techniques to allocate the girls in that facility to the various residential cottages. He found that placing the girls on the basis of sociometry reduced the number of girls who attempted to runaway from the facility, suggesting that they were happier with the arrangement if they had a say in who they had to live with. Moreno was interested in the social structure of groups, and developed sociometric testing to measure the “attractions and repulsions which take place between the individuals within a group.” (Moreno, in Cadwallader, 2000)

As Hoffman (2001) points out, “Sociometry is based on the fact that people make choices in interpersonal relationships. Whenever people gather, they make choices-- where to sit or stand; choices about who is perceived as friendly and who not, who is central to the group, who is rejected, who is isolated.” Sociometry can therefore be seen as a way in which to measure the relationships between people in a social setting. It is undertaken to reveal information about individuals in their relationship to groups, in the context of their mutual activities. In education, sociometric assessment is a valuable

means by which the teacher can determine the relationships of individual students to other students within the class. It also allows the teacher to track the roles which students play in relation to one another within the classroom, identifying for example the popular children who are the centre of attention, and the neglected children who are overlooked by the majority of their peers. Balson(1988, p. 155) stresses that, as the social atmosphere within the classroom is a “decisive factor in the degree of learning and level of integration of each member of the class”, so a method of examining interpersonal interaction is a valuable tool for the teacher. Sociometry’s value to a teacher lies in the fact that it allows the teacher to develop a greater understanding of group behaviour within the class, so that he/she may operate “more wisely in group management and curriculum development”. (Sherman, 2002).

The results of sociometric evaluation can be represented in several ways, the most common utilizing a sociogram, which charts the interrelationships within the group. The use of a sociogram is useful in highlighting the basic network of friendship patterns and sub-group organisation within the larger group. (Sherman, 2002). Walsh’s Classroom Sociometrics (2004) explains that this diagrammatic representation also helps give a sense of the social status of individuals within the class, and an idea of the overall classroom climate. The findings can be used in arranging seating within the class, formulating the composition of work groups, and in identifying students who may require assistance in developing the social skills needed to be included actively as a member of the class. McIntyre (2003) states that a sociogram “is a valuable tool for determining how a student is viewed by his/her classmates”, and it can be used effectively as a tool in behaviour management planning. As Dreikurs (in Balson, 1988, pp. 157-158) observes:

The existence of subgroups is usually not visible, even to the keenest observer...experiments indicate that, without sociometric methods, a teacher cannot be fully aware of the nature and extent of sub-groups, nor of the sociometric status of individual children. A sociogram alone may enable him to arrive at a diagnosis of group relationships and to provide corrective efforts to change them.

Collecting the information

Information is gathered through a nomination procedure where students are asked to name the classmates they would like to play with or work with, relative to a particular activity or circumstance. The process may also ask the students to identify any students with whom they would prefer not to work. The teacher can select the kind of question and number of students to be listed depending on the size and nature of the class. Sample statements used in this process include:

- If the seating in this class was arranged in desks of 4 people, who are the 3 people you would most in your group?
- Name up to 6 people in this class you would like to work with on a history project
- Name up to 3 people you would prefer not to work with in this class

Sherman (2002) explains that the technique is described as a *Fixed nomination* process when children's choices are restricted to a limited number of nominations. “Who are the three people you would like to work with on a project in class?” is described as a

Fixed Positive nomination technique”, whereas “Which three people would you least like to work with?” would be described as a *Fixed Negative nomination* technique. If the children were also asked to rank the individuals from "most" to "least" preferred/not preferred, it would call it a *Fixed rank, Positive/Negative Nomination* technique. There is some debate as to whether negative nomination should be included in this process. Some researchers (Sherman, 2002; McIntyre, 2003) discuss the benefits of such a technique as providing additional information about interaction and social perception within the class setting, with Sherman also pointing out the hurt feelings that such an exercise may lead to for some children. Balson (1988) states that he does not see this approach as acceptable as it puts the focus on negative aspects of interaction. In the example used later in this paper the technique was utilised, as it was seen as providing useful information in managing behaviour within that particular classroom. Teachers need to consider the reason for utilizing sociometry when they are planning the questions to be used, to ensure that the most useful information is obtained.

Students are asked to record their preferences on a printed sheet that has been prepared by the teacher, or generated via the use of a computer programme such as Walsh’s Classroom Sociometrics (2004). The preferences may just list the required number of students, or could be ranked in order from the whole class list.

Displaying and analyzing the data

The results can be tabulated to determine how many times each student was chosen and by whom. This information can be:

- *Graphically* plotted to identify nomination patterns, and changes in interaction patterns over time
- *Visually* displayed to show the interaction patterns within the class
- *Statistically* analysed to reveal more in depth information about the data

Detailed information about recording the data is to be found in Sherman (2002), and as previously mentioned there are now several computer programmes available to do all of the calculations (eg Walsh’s Classroom Sociometrics, 2004). The choices provide insight into the networks inside the group.

The results of a sociometric assessment will be explained using a real example of Class A, from a Year 9 class in an International School in Brunei. This particular group of students were grouped together in this class because many of them were considered at risk, either academically or socially. They came together to this class as students from three different classes in the previous year. These 14 year old students were told that they were being asked to complete this exercise to assist the ir Form Teacher in more effectively organising the groups within the classroom. They were asked for Fixed Positive nominations by the statement “The class will be organised in groups of four for all of our group work – please list the three people you would prefer to have in your group”. They were asked for Fixed Negative nominations by the statement “Please list up to three people in this class you would prefer not to work with in group work”. The Negative nomination was used because the teacher had concerns about the behaviour of

some of the students within the class, and it was hoped that more information could be obtained by looking at the concerns of students as well as their positive preferences.

Results were tabulated by means of a *sociomatrix*, which is a table displaying the data, and a *sociogram* providing a visual representation or map of the networks existing within the class. Figure 1 shows a portion of the sociomatrix for this class, recording nominations of some of the students. The numerals in parentheses indicate the number of times a particular student was nominated by members of the class.

Displaying the data: a sociomatrix

| Nominator | 1 st choice | 2 nd choice | 3 rd choice |
|-----------|------------------------|------------------------|------------------------|
| Yushi | Melina(2) | Amey (6) | Gretel (3) |
| Melina | Yushi (3) | Amey (6) | Gretel (3) |
| Hiruni | Atiqa (2) | Hafeadah (4) | - |
| Shairbanu | Marsilea (5) | Amey (6) | Hafeadah (4) |
| Amey | Marsilea (5) | Shairbanu (2) | Gretel (3) |

Figure 1: A portion of the sociomatrix for Class A, showing individual nominations and the total number of nominations for selected students

Figure 2 shows the sociogram for the class, mapping the nominations for all students within the class:

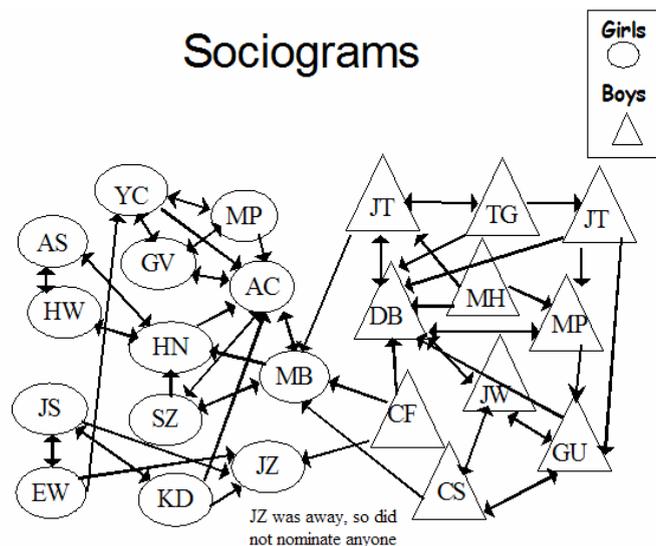


Figure 2: Sociometric results for Class A, displayed as a sociogram

In the representation shown in Figure 2, a single headed arrow shows a nomination by one student, with the head of the arrow facing the student selected. A double headed arrow reflects a mutual selection, with both students listing each other in their nominations. This spread shows a trend in gender separation, with the students generally nominating students of their own gender.

Sociograms help identify various groups of students, as show in the Class A example. Figure 3 shows *Popular children*, those who receive the most nominations from their peers.

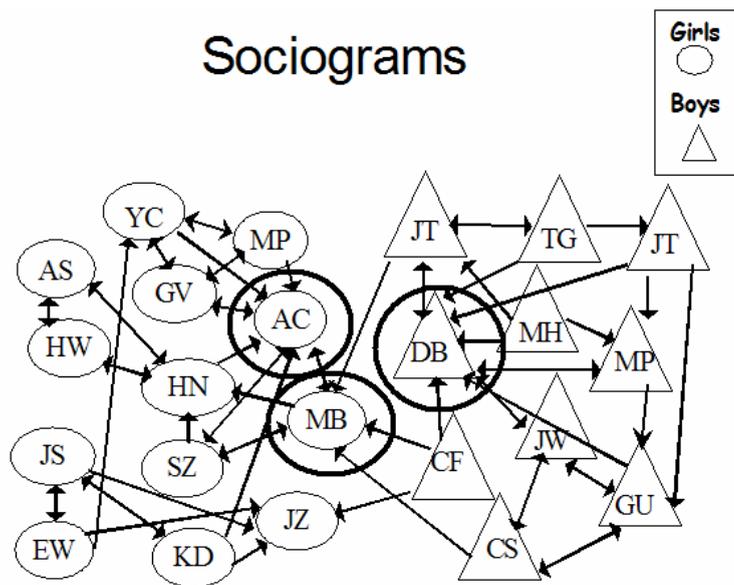


Figure 3: Popular children in Class A

This data is a good example of the surprises that teachers may find in Sociometric data. Within this class MB and DB were clearly popular students, but AC would not have been listed in that category by the teacher, as she was a quiet and unassuming student within the class. Her key role within the female students of the class was carefully taken into consideration when deciding on class groupings, as she was clearly a preferred choice by many of the female students.

Neglected children are those who receive very few nominations of any kind (Figure 4). These children are ignored rather than disliked by the majority of students within the group. KD was a talkative, confident student who appeared to be in the centre of the interaction in the class, therefore it was a surprise to the teacher to see that she was nominated by only one student within the class. TG on the other hand was a very quiet student who appeared to have only one close friend within the class (JT), so it was not surprising to see him nominated by only his close friend.

Controversial children (Figure 5) are those who receive both positive and negative nominations from their peers. There was only one example of this category in Class A (CS) who received two nominations and 5 rejections. This particular student was indeed seen as a controversial character within the class – he had close friends in the group who nominated him, but frequently antagonized others within the class by his sarcastic manner and the comments he made about others. In this class which was represented

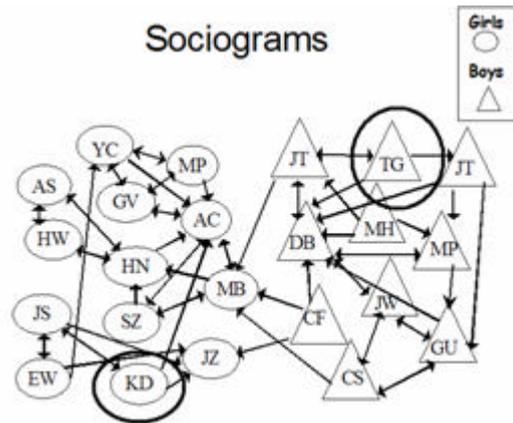


Figure 4: Neglected children in Class A

by 11 different nationalities, this young man often made comments to reflect the superiority of the “white boys”, which was an interesting statement considering that his mother was not Caucasian, making him technically not a “white boy” at all. The other students in the class were well aware of this incongruity and found CS’s comments and behaviour difficult to deal with at times.

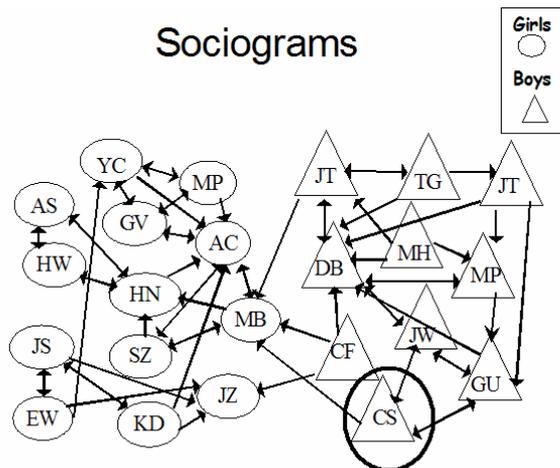


Figure 5: The controversial student in Class A

The final group of children identified by Sociometric assessment are the **Rejected children**, those who receive few positive and many negative nominations. (Figure 6).

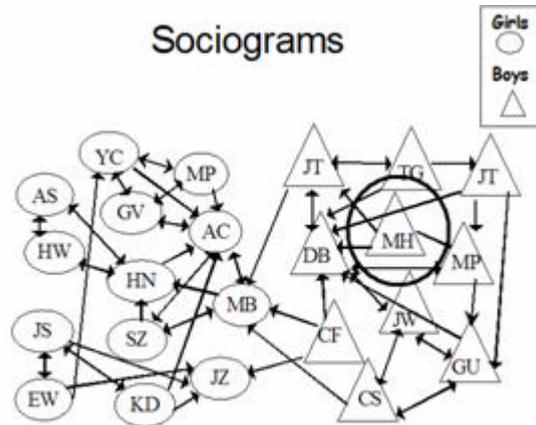


Figure 6: The Rejected student of Class A

This student was nominated by 21 of the 23 students in the class as being someone the students would prefer not to work with, the only students not nominating him being himself and DB a student who said that he “could work with anyone in the class.” This data was seen as being some of the most significant to come from the Sociometric assessment, because it identified a matter of serious concern within the social structure of the class. This information was used in the formulation of a behaviour management programme for this student, described later in this paper.

Analysing and utilising the results

Sociometric data does not explain why children are viewed in a particular way by their peers. The teacher will need to follow up with further observation, and discussion with those involved to understand the underlying reasons, and to plan effective class management. Balson (1988) points out that each class typically consists of a number of sub groups and cliques which support or reject particular types of behaviour. With the information obtained from a sociometric evaluation, the teacher can identify cliques, class divisions, and get a sense of the overall social structure of the classroom. The teacher may discover racial and/or gender segregation, or an intolerance of children with special needs (Walsh’s Classroom Sociometrics, 2004).

Once the nature and extend of these groups can be identified, the teacher can begin the process of unification by establishing contact between subgroups, developing group spirit through positive interactions and breaking down antagonism between groups. The teacher can build on the positive elements identified by sociometry to establish a cooperative and cohesive classroom, and utilise knowledge about any negative aspects to plan specific intervention and remediation. Subsequent use of sociometry in the classroom provides a way to monitor the classroom interventions put into place to remediate identified problems.

Balson (1988) gives the following procedures to follow when grouping according to sociometric results:

- *Start with children who receive the least nominations and work up to those with the most.* In this way the teacher has as a focus the students who are more in need of assistance in the development and maintenance of positive social interactions within the class.
- *Attempt to satisfy mutual choices first and unreciprocated choices next.* Mutual choices indicate a greater likelihood of successful interaction, and are useful to consider, so long as the choices are not within a closed group, as discussed below.
- *Try to make sure that neglected children get their first choice.* Neglected children are those who are not noticed by their peers. To give them the greatest chance of acceptance it is useful to place them with someone with whom they have indicated some affinity. This is of particular benefit if the person they have nominated is a popular person within the class, as this will help them be noticed and hopefully accepted by others within the class.
- *Do not include neglected children into a closed group or mutual pair.* Closed groups and mutual pairs (see Figure 7 for examples of closed groups in Class A) where the students tend to have nominated each other, often to the exclusion of others, are less likely to notice and accept neglected students, as they are focussed on their own friendships and interactions.

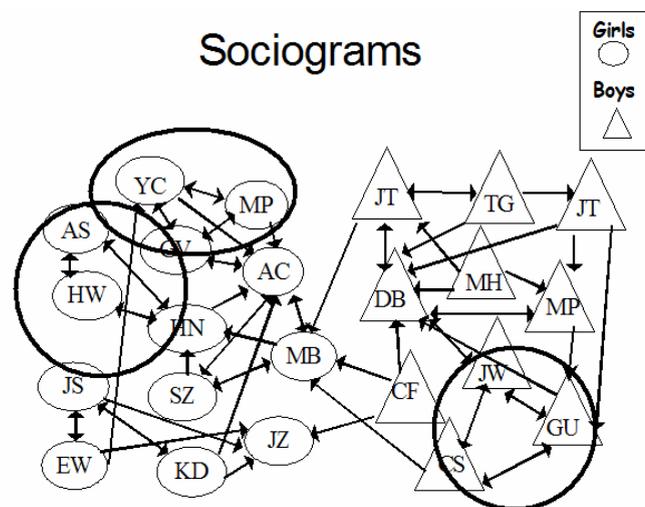


Figure 7: Closed groups with Class A)

- *Make sure children who reject each other are kept apart.* Students who reject another student clearly have difficulty with the notion of working with that particular student, and there is little to be gained by trying to get these students to work together. It is better to have the students work constructively with others

within the class, and to address any specific issues that might need intervention before trying to get the students to interact together more closely.

- *Make sure every child is with at least one of his/her choices.* Having explained to students that the process is about students working together positively, it is important to try to organise that each student is with at least one of his/her choices.
- *Closed groups should be broadened by intermixing.* Closed groups are often made up of students who are not interested, willing or able to interact with others in the class. Whilst it is nice to meet their wishes in working together, it can often be at the detriment of their relationships with others within the class. For example, in the example from class a shown in Figure 7, the closed group of AS, HW and HB were a group of girls who had English as their second language, and they tended to stay together because their English skills were poorer than the other girls within the class. If they had been kept together as a group they would have had no need to develop their English language skills, and no good models to follow. The group of MP, GV and YC were a group of girls who were very close in school and in their leisure time outside of school. When left together they spent most of their time talking about what they had done or would do on the weekend, and little time actually working. It was clear that this group would benefit from some outside influence to help keep them on track in class. The final group of CS, JW and GU were a close group of male students who spent a lot of time together outside of school, as well as the time they spent together in class and in the playground at school. They tended to spend a lot of time talking, and teasing/making fun of others in the class. It is seen as important to split up this trio during group work, to help each one maintain his focus on the work at hand, and to minimise the chances of ridicule or teasing of others within the class.

Arranging class groups

Walsh's Classroom Sociometrics (2004) recommends the following steps when selecting and arranging cooperative work groups on the basis of sociometric assessment:

- Decide how many groups there will be in the class.
- On a sheet of paper, draw as many large squares as there will be groups.
- Take all of the rejected and neglected children and try to spread them out by writing in as few as possible in each square.
- Take all of the popular children, and write in as few as possible in each square. Do this while trying to respect the choices of the rejected and neglected children.
- Next, place the rest of the children in each group, trying to optimize the number of mutual choices per group.
- Try to take academic skill level into consideration so that each group has the same proportion of high, average, and low achievers.

After placing children in sociometric groups, direct each student to help the members of his/her group with such things as getting one another started, helping with spelling, reading a specific word, or explaining a concept. One can also develop group cohesion by making it a classroom rule that students must ask their group members for help before calling for the teacher, thereby fostering their sense of trust in each other.

Why use sociometry?

Allowing a student to work with a chosen peer may be a motivational tool because it increases a sense of security and belonging. Children who are rejected or neglected by others can be placed in interactive situations with accepting peers (especially if these students are viewed as popular students in the eyes of other classmates), or could be made the centre of attention in positions such as team leader in work group activities. Interaction and friendship changes can be monitored via repeated administration of the socio metric technique, with these repetitions of the process being spaced at regular intervals, such as at the end of a project or term so that any changes noted can be utilised in the planning groups for the forthcoming project or term.

The information from the sociogram can also be used to specifically address behaviour problems, with those students who are negative perceived by others being provided with training in social skills. In the Class A example given, the boy rejected by almost all of his peers received additional support from the teacher, to assist him in the development of appropriate social skills. MH was impossible to place in a group, because all but one other child in the class had rejected him. He was rejected by the others because he frequently made disparaging remarks about those less academically able than him, and was frequently rude to others, especially the girls within the class. He was involved in a particularly unpleasant incident involving one of the most popular girls in the class, when he superimposed her head on the torso of a scantily clad model and published the image on the internet, seriously offending the girl and many of her classmates. The reasons why MH was not a preferred workmate were discussed with him, and with the rest of the class when he was not present. It was decided to not have MH present was taken as it was felt that his presence in the class meeting may hamper the ability of the other students to speak freely and in complete honesty about their concerns. Based on these discussions, the outcomes were that

- MH agreed to work with the teacher in developing more appropriate social skills.
- MH would work with the teacher when group work was required until another group invited him to join them
 - The other students agreed that they would consider inviting him to join them when they felt that he showed that he was able to interact with others in a more positive way.

MH continued to work with the teacher in a pair during group work for 6 weeks, completing the set work and doing additional work on social skills and positive interaction with others. At the end of 6 weeks MH was showing more positive incidental interaction with others in the class, and one group invited him to work with them on a small task. This grouping was successful, and he continued to be a part of that group for the remainder of the term. He was slowly accepted into other groups within the class as the year progressed. His behaviour continued to be monitored by the teacher, and by self-monitoring, and some additional work on social skills was provided as needed.

Does sociometry really work?

In the case of Class A, the sociometric results were used to develop positive interaction within the students, and a sense of belonging within the class. The students were originally put into this particular class because many of the individuals were perceived by their Year 8 teachers as being difficult to manage, or at risk academically or socially. The sociometric process was used to group the students in the most constructive way, and a lot of time as spent on developing positive class interactions. By the end of the year all students, including MH were working well together. Class A was the most acknowledged group in terms of school awards received by any class in that year. At the school charity day the class worked tirelessly as a team and raised more than three times the amount of money raised by any other class group. They thought of themselves as a team, and celebrated their success as one cohesive group. The skills developed during their time together continued on, for example one of the boys originally being considered at risk socially was elected by his peers as Head Boy in his final year.

Hoffman(2001) reports results of several studies that also reflect the success of sociometry, in both work places as well as school:

- A study of choices of friends in 4th grade children showed a high correlation between the choices children made on the sociometric test and the choices children made in actual play
- One study found a significant positive correlation between group sociometric cohesion and field performance of small military combat units
- Voluntary re-grouping of construction workers based on sociometric choices resulted in a superior level of output, a drop in monthly turnover, and 5% savings in total production
- Sociometric ratings by co-workers for desirability as work partners and other job related activities correlate with positive attitudes toward work and with quality and quantity of performance on the job

Conclusion

Successful education relies heavily on the social interactions of those who work closely together, and on the sense of belonging that is generated by a positive class climate. Sociometry is a valuable tool for teachers, when they are considering social interactions and grouping within the class. The process is one which is easy to follow, and which yields useful data to assist in classroom and behaviour management. The process can be used to help in the grouping of students for work groups, and also in the identification and remediation of specific behaviour issues as indicated by the case study provided within this paper.

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