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A SURVEY OF THE COMMUNICATION ABILITIES OF PEOPLE WITH A MENTAL HANDICAP

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INTRODUCTION

Difficulties in effective communication amongst people with a mental handicap are widely acknowledged to exist; and are often felt to contribute to behavioural and emotional problems. The project team defined an effective communicator as one who can initiate a message and respond to a message using a multi modal approach of verbal and non-verbal behaviours, i.e. can the individual "get the message across" without necessarily using spoken language? The rationale underlying this project was:–

(a) To obtain more detailed information on the range and extent of communication difficulties in people with a mental handicap

(b) To pinpoint more accurately what constitutes a communication difficulty

(c) To identify factors contributing to such difficulties.

There were two stages to the survey:

STAGE ONE

A two-part questionnaire was completed by staff in Day Centres and in Hospital for all individuals in their care (536 adults, 253 based in hospital and 283 attending day centres). This provided basic data concerning the individual's ability to:–

(a) express basic needs

(b) use communication in social interaction.

The staff who completed the questionnaire in each setting were those who spent the most time with the individual in the day setting, and had the most experience of the individual's communication behaviour.

The distribution of the individual's total scores was examined and the 25% of the sample who achieved the lowest scores was looked at in more detail.

It appeared that 73 people (13.6%) "failed" on more than half the items from both sections; these people became Group 0. 60 people (11.2%) failed on more than half the items from either Section A or B; these became Group 1. 293 people achieved a score in the maximum range (15 – 18); these became Group 2. This left

a group of 110 people (20.5%) who achieved scores between the bottom 25% and the top 54% of the population.

As one of the aims of the study was an attempt to identify factors contributing to difficulties in communication, it was decided to investigate 50 people chosen at random from Groups 0, 1 and 2. The residual subjects would not be further investigated because of resource restrictions.

Table I — Stage 2 Sample
(Group, Location and Sex)

	Hospital	Day Centres	Totals
Group 0			
Males	15	9	24
Females	20	6	26
Group 1			
Males	16	14	30
Females	15	5	20
Group 2			
Males	18	5	23
Females	9	18	27
TOTALS	93	57	150

STAGE TWO

Each of the 150 identified individuals were assessed on the following areas of ability:–

(1) A developmental measure designed to identify whether individuals were functioning at a level of symbolic understanding and thus able to appreciate "word" labels.

(2) A comprehension section related to :
(a) early situational understanding and "every day" requests;
(b) the "Derbyshire Rapid Screening Test" (using familiar adult orientated materials to assess verbal language comprehension).

(3) An imitation section which looked at:
(a) imitation of generalised hand movements such as clapping to specific sign imitation;
(b) imitation of orofacial movements, e.g. ranging from blowing to protusion of tongue tip;
(c) imitation of individual speech sounds, considering place and manner of articulation and repetitive sound sequences.
Scores in this section range from those given for imperfect attempts to perfected imitations.

(4) A section considering communication behaviours of the individuals. This was developmentally based incorporating:
(a) spontaneous initiation versus prompting and necessary repetition in order to engage the individual in discourse.

(b) the functioning of communication which the individual used, ranging from "babble/talking to self" to "sharing experiences".
(c) the manner in which these intentions were communicated, e.g. ranging from eye gaze to formal sign or connected speech.
(d) whether verbal communication had:–
  (i) developing syntax
  (ii) impaired phonology
  (iii) impaired fluency (word finding difficulties or stammer).

This section was scored by the researcher and by the parent/carer so that the "objective" view of the researcher faced with an individual for the first time can be compared with the parent/carer's more "subjective" view.

(5) A measure covering 4 main areas of effectiveness in the environment:
  (1) freedom of movement;
  (2) freedom of choice;
  (3) handling money;
  (4) responsibilities in the home – major, minor and intermediate.

  This was included to assess:
  (a) the opportunities available to the individual
  (b) how successful the individual was in capitalising on such opportunities.

(6) A questionnaire covering the individual's medical history was also completed. This information was obtained from the individual's parent/carer.
  All measures were obtained by the researcher meeting face to face with each individual and each individual's carer.

RESULTS

The maximum possible score was 134. Results showed that the initial questionnaire completed by hospital and day-centre staff had been effective in:–

(a) identifying people with communication difficulties, and

(b) discriminating between varying degrees of difficulty.

This was reflected in the median scores for each group:–

Group 0	Group 1	Group 2
20.5	52	96.5

Individuals in Group 1 scored significantly lower ($p < 0.05$) than those in Group 2. Individuals in Group 0 scored significantly lower ($p < 0.05$) than those in Group 1.

It should be emphasised that, despite the usefulness of the initial questionnaire in highlighting communication difficulties, there were 23 instances of overlap. This suggests that the initial questionnaire is best regarded as a useful diagnostic tool rather than a definitive measure of communication ability.

SEX DIFFERENCES

There was no consistent significant difference in communication ability on the basis of sex. However, the results were not without interest. Within Groups 0 and 2, the male/female split for the entire population was relatively equal. However, the population of Group 1 was heavily weighted towards males. As 80% of individuals fell into Group 1 on the basis of ineffective social communication, this suggests that women who have the basic skills necessary for social interaction are more likely to use them than males.

Table II – Male/Female Split for Stage 1 – Survey Population

Group	Males	Females
0	48%	52%
1	72%	28%
2	44%	56%

A further noteworthy point is that females in Group 2 scored significantly higher than males ($p < 0.05$). Many of the tasks on the environmental effectiveness measure were seen as more appropriate for women. This is reflected in the scores. 62% of women scored over 50% on this measure, whereas only 30% of males achieved such results. This highlights the need for gender-fair assessments and suggests that tasks are often allocated on the basis of sexist stereotypes rather than on the individual's capabilities.

AGE EFFECTS

Individuals in the sample ranged from 19 – 89 years, the mean age was 37 years. For comparison purposes, the sample was divided into 4 groups:–

Adolescents — 19 – 24 years (N = 32)
Young Adults — 25 – 34 years (N = 47)
Adults — 35 – 54 years (N = 43)
Middle-aged and elderly — 55 – 80+ years (N = 28)

The highest scoring group was the 35 – 54 age group (median score = 78). The lowest scoring group was the 19 – 24 age group (median score = 52). However, between these two extreme groups, there was no significant difference in the scores. Thus, age does not make a significant difference to the communication ability of adults.

MEDICAL CONDITION

To maintain reasonable sample sizes, individuals were allocated to one of 4 groups:–

(1) No medical condition (median score = 64.5)
(2) Epilepsy (median score = 50)
(3) Down's Syndrome (median score = 81)
(4) Other (median score = 58)

The breakdown of individuals' medical condition by group is shown in Table III.

Table III – Details of Medical Condition

	No Medical	Epilepsy	Down's	Other
Group 0	17	11	9	13
Group 1	18	13	9	10
Group 2	23	8	8	11
Totals	58	32	26	34

There were no significant differences in communication ability between these groups. It is worth noting that the proportion of individuals with no medical condition rises from 34% in Group 0 to 36% in Group 1 and 44% in Group 2. Also, Group 1, comprising largely those with ineffective social skills, contains the largest proportion (40%) of people with epilepsy. This is interesting, as Kleck (1968) found that non-obviously stigmatised people with a mental handicap and epilepsy were socially withdrawn.

PHYSICAL HANDICAP

Individuals with a physical handicap scored significantly lower ($p < 0.05$) than those with no physical handicap. This is not surprising, as 82% of all individuals with a physical handicap fell into Groups 0 and 1. The relationship between physical handicap and communication ability seems to be more complex than the simple equation:–

physical handicap = poor communication ability

There is considerable evidence (see McGarry & West, 1975) that interactions between normal people and those with some physical disability are characterised by reduced spontaneity and guarded stereotypic behaviours. Such interactions are not the best foundation for developing communication skills. Also, it does not necessarily follow that a physically handicapped individual will have poor communication skills. The main source of difference in the lower scores obtained by physically handicapped individuals in this study was that 61% of them were also non-verbal.

VERBAL & NON-VERBAL INDIVIDUALS

Whilst the project was concerned with communication in its broadest sense, not just language usage, it is recognised that speech is "the richest language medium" (Rutter, 1972). To demonstrate the importance of speech in effective communication, the sample was divided into verbal (capable of using spoken contrastive sound segments/word approximations/words to indicate meaning) and non-verbal individuals.

Table IV Verbal/Non-Verbal Individuals – By Group

	Group 0	Group 1	Group 2
Verbal	n = 18	n = 38	n = 50
Non-Verbal	n = 32	n = 12	n = 0
Totals	50	50	50

As all individuals in Group 2 were verbal, comparisons between verbal and non-verbal individuals were limited to individuals in Groups 0 and1. Results showed that verbal individuals (N = .06) (median score = 82) scored significantly higher ($p < 0.05$) than non-verbal individuals (N = 44) (median score = 20). Also, within Groups 0 and 1, there was a significant difference ($p < 0.05$) between verbal and non-verbal individuals.

Table V – Median Scores for Verbal & Non-Verbal Individuals

Group	Verbal	Non-Verbal
0	57	16
1	63	44

The Relative Importance of Speech & Physical Handicap

The measure most effected by physical handicap was environmental effectiveness which assumed a reasonable degree of mobility. The median scores obtained on this measure by individuals in Groups 0 and 1 are shown in Table VI.

Table VI – Median Scores for Verbal/Non-Verbal & Physical Handicap/No Physical Handicap

	Physical Handicap	No Physical Handicap
Non-Verbal	2	5
Verbal	12	19

Within each group (physical handicap and no physical handicap) verbal individuals scored significantly higher ($p < 0.05$) than non-verbal individuals. Thus, the data suggest that being verbal/non-verbal has a greater bearing on the individual's effectiveness in the environment than being physically handicapped.

THE EFFECTS OF LOCATION

As well as the significant difference in total scores **between** Groups 0, 1 and 2, there was a significant difference **within** each group between those based in hospital and those attending day centres.

Table VII – Median Scores by Group & Location

Group	Day Centres	Hospital
0	70.5	16.5
1	80.5	47
2	106	84

There is an 11 year difference in the mean age of individuals in hospital ($\bar{x} = 42$ years) and those in day centres ($\bar{x} = 31$ years). However, as there is no systematic age effect, this is unlikely to explain the significantly higher ($p < 0.05$) scores gained by those in day centres. The populations are roughly comparable in terms of sex, medical condition and physical handicap. However, there are two notable differences between the hospital and day centre populations. First, 86% of the non-verbal population are located in hospital. Secondly, **at all levels of com-**

munication ability, individuals in hospital are less effective in the environment than individuals at day centres.

Table VIII – Median Scores on Environmental Effectiveness Measure by Group & Location

Group	Day Centres	Hospital
0	23	2
1	25	8
2	40	22

Obviously, the high proportion of non-verbal individuals in hospital contributes significantly to the low environmental effectiveness scores obtained by this population. However, in Group 2, all individuals are verbal and the median score for the hospital population is still just over half that of the day centre population.

To avoid the confounding effect of the high proportion of non-verbal individuals in hospital, the total scores of verbal individuals in hospital (median = 42) were compared with those of verbal individuals at day centres (median = 83). Again, the day centre population scored significantly higher ($p < 0.05$) than the hospital population.

It is interesting that, despite a trend in favour of the non-verbal day centre population (median = 20.5), there was no significant difference in the total scores gained by them and the non-verbal hospital population (median = 16). This suggests that the benefits of increased opportunity afforded to those attending day centres are better capitalised on by those who are verbal.

However, the non-verbal day centre population do benefit from this increased opportunity. This is reflected in their higher total scores and in the fact that this population are significantly ($p < 0.05$) more effective in their environment than the non-verbal hospital population. The environmental effectiveness measure is highly correlated (+ 0.93) with the total scores obtained by individuals. A high score on this measure is associated with high scores on all other assessment measures. Thus increased opportunity is correlated with increased communication ability; and the data show that the hospital population have significantly lower levels of opportunity to develop environmental effectiveness than the day centre population.

The Range & Extent of Communication Difficulties

The project resulted in valuable epidemiological data; showing that 33% of the survey population had some communication difficulty, and that in 25% of cases this was marked. That 29% of the study population were non-verbal; and that 86% of this non-verbal population were based in hospital. That 37% of the study population were physically handicapped and that physically handicapped individuals were evenly split between the hospital and day centres. In contrast, 81% of non-verbal and physically handicapped individuals were located in hospital.

What Constitutes a Communication Difficulty?

Communication difficulties arise when individuals do not successfully initiate and/or respond to verbal and/or non-verbal messages.

This study has shown that it is possible to pinpoint areas of weakness (i.e.: that of ineffective social communication). There is also evidence that effective communication is a joint endeavour, depending on the speaker's ability to take the listener's perspective and the listener's ability to take the speaker's perspective. This is best illustrated by the ratings for communication behaviours assigned by the researcher as compared with those given by parents/carers. The difference in these ratings changes across groups. In Group 0, parents/carers rate individuals' communication behaviours significantly higher ($p < 0.0001$) than the researcher. In Group 2, however, there is no significant difference between the ratings given by the researcher and those given by the parent/carer. Thus, it seems that in the less able groups, parents/carers interpret behaviours, which are not clearly expressed, as communicative. This results in the establishment of shared meanings and communication patterns between parents/carers and individuals which the researcher was unable to pick on. Equally, it seems that reliance on such methods decreases with increased communication ability to the point where individuals in Group 2 are rated equally by parents/carers and by the researcher. Such results lend weight to Bell's (1984) view that one "should adopt a generous definition of communication" when dealing with individuals with a mental handicap.

What Factors Contribute to Communication Difficulties?

The rationale behind splitting communication ability into sub-skills, i.e.: comprehension, imitation and communication behaviours, was to determine the relative importance of each of these skills. However, the extremely high correlations (+ 0.86 to + 0.93) between all assessment measures (with the exception of developmental level) indicate that all the aspects of communication ability tested were equally important.

The lack of relationship between developmental level and communication ability is probably a function of the inadequacy of the 12 month developmental level measure which was scored on a pass/fail basis. Only 8 individuals failed; this suggests that the measure used was too gross. Thus no valid conclusions concerning the relationship between developmental level and communication ability can be drawn on the basis of this data.

CONCLUSIONS

(1) Those involved with people who have a mental handicap should adopt a generous definition of communication and recognise that effective communication is not the sole responsibility of the individual with a mental handicap.

(2) The results emphasise the interactive nature of all the skills involved in communication ability. Thus, improvements in language usage are more likely to stem from programmes working on the entire process of communication.

(3) Medical condition and physical disability do not necessarily hinder communication ability. Physical disability may have a detrimental effect on communication ability, particularly when the disabled individual is also non-verbal.

(4) The ability to use language has a greater effect on communication ability than physical disability.

(5) Individuals at day centres showed significantly greater communication ability than those in hospital.

(6) At all levels of ability, individuals in hospital had significantly less environmental opportunity than those at the day centres.

(7) Increased environmental opportunity is highly correlated with improved communication ability.

(8) Being verbal enables individuals to capitalise more fully on environmental opportunity.

(9) Opportunities for environmental control (making choices and decisions) should be more readily available. Such opportunities result in naturalistic settings for the development of communication ability.

By their nature, both ATCs and hospital settings often find this difficult to achieve. However, the facilitation of communicative ability should be of an equivalent priority to the development of feeding and other self help skills. This has both management and training implications for the service providers.

SUMMARY

The authors report on a comprehensive survey of all adults with a mental handicap, receiving day or residential care from the Durham County Social Services Department, Durham District Health Authority and the local branch of the Mencap Society. 536 adults were screened for communication ability and 3 resulting groups were studied in greater depth. The findings in relation to sex differences, age, medical condition, physical handicap and environment are discussed.

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