

THE BEHAVIORAL EFFECTS
OF
ACQUIRED SENSORY DEPRIVATION

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ABSTRACT

This paper is a literature study of the behavioral effects of the acquired blind and the acquired deaf. Included in the paper are the psychological, social and interpersonal problems manifested in these two groups. In the last section is the author's correlations of the two previously mentioned groups and his conclusions.

PART I
THE ACQUIRED BLIND

INTRODUCTION

It is estimated that there are over 14 million blind people in the world.¹ Those who are congenitally blind, never having known the sighted world, are spared some adjustment process to this condition. However, for those becoming blind later in life, the acquired blind, represent a major stressful life event that encompasses many psychological, social and interpersonal factors. In fact, one study estimates that as many as 92% of recently blinded adults experience some form of dysphoric reaction to their loss of sight.²

Blindness is a vague term at best, but can be described in terms of "legal blindness." Legal blindness is termed when the best corrected visual acuity in the better eye is 20/200 or worse. A person is also considered legally blind if the full extent of the visual field in both eyes is 20 degrees or less.³ A more meaningful definition would include some assessment of the functional or "extraocular" loss incurred from blindness. That is, the physical, psychological and social loss that occurs with acquired blindness.

This section of the paper is an attempt to uncover some of the factors involved in adapting to acquired blindness, including the behavioral changes found in such individuals. It is an accumulation of the most current research done and hopefully will give the reader a better understanding of the psychological, social and interpersonal problems that these people go through.

THE RESPONSE CYCLE⁴

- 1)SHOCK
- 2)RECOGNITION
- 3)DENIAL
- 4)ACKNOWLEDGEMENT
- 5)CONSTRUCTIVE ACTION

The response cycle is natural in times of crisis and acquired blindness unequivocally falls into this realm. If a person doesn't go through the cycle or if the cycle is interrupted, "he will be mixed with grief and self-pity and will not progress with his life."⁵ Louis Cholden (1954) describes the response cycle as "an initial reorganization to the fact that he is now a different person."

The first stage, the shock phase, is thought to be a "protective emotional anesthesia."⁶ In laymans terms, it can be thought of as a protective device that enables one to take bad news without being overwhelmed with emotion. While no time limit can be placed on this phase, the more prolonged the shock phase, the more difficult the rehabilitation.⁷

Following the shock phase, comes the deep and painful emotions associated with recognition. Cholden (1954) describes this stage as, "a reactive depression involving feelings of hopelessness, self-pity, lack of confidence and suicidal thoughts." At this

stage, it has really sunken in that blindness is here to stay and there is no panacea to bring sight back. It seems as though all future plans and expectations are shattered. Common feelings at this stage are guilt, blame, shame, anger and frustration.

After and often accompanying the recognition phase is denial. Denial is a defense mechanism often seen in times of crisis.⁸ It can be thought of as a distortion of reality to make a given situation more acceptable. The primary manner in which this rejection of truth is manifested is in the permanency of their blindness.⁹ The blind person believes that there will be a miraculous cure or new surgical technique to help them see again. Of course proper rehabilitation is slow if not impossible unless this hurdle is cleared.

The last two stages, acknowledgement and constructive action, begin almost simultaneously after the individual has gone through the initial stages of the cycle and has minimized all of the defense mechanisms. The rest of this section will discuss both the desirable and undesirable factors involved in the adjustment to acquired blindness, as well as some of the adjustment disorders seen.

ROLE OF INTRINSIC FACTORS IN THE ADJUSTMENT TO ACQUIRED BLINDNESS

Ash et al. (1978) looked at social adjustment to acquired blindness in terms of causes of vision loss. The subjects were separated into six categories according to visual disorder and were given the Duncan Multiple Range Test For Social Adjustment. The following shows the results of their study:

Age and Social Adjustment as a Function
of Type of Eye Disease

Eye Disease	n	Mean Age	Mean Social Adjustment
Non Diabetic Retinal Disorder	42	52.07	51.44*
Diabetic Retinal Disorder	14	53.04	39.44
Glaucoma	17	60.61*	33.69*
Trauma	7	44.00*	43.83
Optic Atrophy	21	48.55*	39.84
Other Disorders	13	46.04*	39.72

The glaucoma group had the poorest social adjustment, while the non-diabetic retinal disorder had the best. The study found that the difference between the two groups cannot be related to age or duration of blindness. However they did find that there were considerably more subjects with poorer vision in the glaucoma group, which may partially explain the findings.

The authors did come up with some plausible explanations of why the glaucoma group was more poorly adjusted. First, it was felt that this group had failed to give up false hope of regaining their vision. This in turn was thought to be related to the frequent contact between the eye practitioner and the patient in

these individuals, thus preventing the patient from coming to the conclusion that there visual deficit was permanent.

Although not reported in the study, the diabetic groups inability to socially adjust may be more related to the accompanying manifestations of other bodily functions that occur in the systemic disease of Diabetes Mellitus.

Ash et al. (1978) also noted that those people with lesser degrees of vision loss would better adjust to blindness:

Degree of Vision		n	Mean Social Adjustment Total (S.A.T.)	Mean Self Help	Mean Socialization	Mean Communication
Standard Rating	Study Rating		---	---	---	---
Count Fingers	See Fingers	45	49.40*	23.51*	13.88*	4.97*
Hand Motion	See Shadows	27	40.02	19.02	11.16	5.08
Light Perception	See Bright Light	18	34.94*	16.05*	9.11*	5.33
No Light Perception	None	15	39.57	17.57	11.07	6.41*

These results were felt to be due to an increase in the ability to function as a sighted individual. However, they did find that the group with NLP (no light perception) were better socially adjusted than those who were LP (light perception) only. This was felt to be due to the fact that the LP group still tried to function as a sighted individual, but failed.

Fitzgerald (1987) also did a study on looking at some intrinsic factors as they apply to psychological adjustment to acquired blindness. They chose to use depression and distress as a measure instead of social adjustment. They found the following

predictors of depression and distress:

- 1)Marriage (including age and sex)
- 2)NonProtestant (including lower socio-economic status)
- 3)Health History/ Medical Status

Originally the authors thought that marriage would be a predictor of less depression and distress, but came up with quite the opposite conclusions. However, they found that the age and sex of their subjects may have contaminated their results. They found that in the under 55 year age group, four of the five married men in the study were in the highest third of the depression scores. Conversely, they found that five of the six married men in the over 55 age group were in the lowest third of the depression scores. When interviewed by the authors, all four men in the depressed group were young males complaining of impotence, which more than likely contributed to their depressive problems. Furthermore, it was thought that the younger males had higher role expectations and greater demands made upon them, including sexual ones.

The second finding of the study was that being nonProtestant predicted a higher level of depression and distress. However, the study was done in England and most of the 10 nonProtestants in the sample were Irish Catholic immigrants from the lower socio-economic class. These individuals were found to be more vulnerable to the various cultural and physical determinants of depression and distress inherently. The authors also found these

individuals to be older and in somewhat poorer health, thus further explaining the cause for these individuals depression and distress.

The final finding of the study was that the health history and/or medical status of the individual can be a predictor of depression and distress in the acquired blind. A positive correlation was found between poor health and increased depression and distress. The authors contributed this to the inability to gain independence and thus self-reliance.

ROLE OF PSYCHOLOGICAL FACTORS IN ADJUSTMENT TO ACQUIRED BLINDNESS

Body Image

Body image can be thought of as the mental representation one has of his own body.¹⁰ According to Cull (1966), there are two aspects to body image, the ideal body image (desired body image) and the actual body image (perceived body image). The closer these two images are to being the same, the better the psychological adjustment. Conversely, the further these two images are apart, the worse or more difficult the psychological adjustment.

The paradox therefore lies in the ideal body image. When a person loses their sight, the body image must be altered to that of a blind person. As Cholden (1954) states, "there must be a

death of the old eyes and a birth of the "blind" eyes."

Giving Up False Hope

The ability to give up false hope is well documented in the literature to be a positive factor in the psychological adjustment to acquired blindness.11 An interesting study was done by Ash et al.(1978) that looked at the time interval from the time of onset to the time of giving up false hope in terms of dependency, depression, social adjustment, self help and socialization. They came up with the following results:

Psychological and Social Adjustment as a Function of Give Up Hope (G.U.H.P.)*

Time Interval from G.U.H.P.	n	Dependency	Depression	Social Adjustment Total	Self Help	Socialization
Not give up hope (0)	36	181.77a°	73.08a°	31.00a	15.08a	8.00a
Give up hope 1 - 2 years	18	152.47b	63.10b	47.84b	22.52b	14.26b
3 - 4 years	29	143.75b	58.87b	54.62b**	24.93b**	15.87b**
5 or more years	31	145.13b	60.90b	49.84b	22.41b	13.90b

The results show that the greatest dependency and depression occurred in those individuals who failed to give up false hopes. The best social adjustment, self help and socialization scores were found in those individuals that gave up hope 3-4 years after onset, although the authors did not find these individuals to have scored significantly different from those giving up hope in

1-2 years or greater than 5 years. In summary, it was found that giving up hope for visual recovery is very significant in psychologically adjusting to acquired blindness.

Previous attitude toward blindness

According to Cull (1966), the individual's attitude prior to going blind plays an important role in his ability to properly adjust. If the individual had a negative attitude towards the blind, he will invariably have more trouble adjusting than someone who had a neutral or positive attitude toward blindness or the blind. These attitudes about the blind or blindness itself are thought to be based upon personal experience or stereotypes developed.¹²

Sighted individuals behavior on the blind

If inappropriate, the behavior elicited by a sighted person upon the blind can have serious implications on the self-reliance of the blind person.¹³ According to Rickleman (1983), the common opinion is that blind individuals are abnormal, helpless, and dependant. For example, he finds that sighted people elicit one of two responses when encountering a blind person. One response would be an uncomfortable or anxious feeling that results in simply avoiding blind people all together. The other response would be an over-solicitous attitude giving the blind a feeling of helplessness and abnormalcy.

In assessing the reactions of the blind, Cutsworth (1961) found that they react in three broad categories:

- 1) They internalize the stereotypes and accept them as part of their own self-concept.
- 2) They withdraw from the sighted world.
- 3) They confront the sighted world and assert their unwillingness to fall into the category of helpless, abnormal and dependant.

From the study done by Rickelman (1983), it was found that 57% of those interviewed reflected withdrawn or passive responses, while only 34% reflected assertive responses, leaving only 10% reflecting aggressive responses.

PART II
THE ACQUIRED DEAF

INTRODUCTION

Loneliness and isolation are the best terms to describe the life of a deafened individual. Deafness is a disorder that disables the ability to communicate, thus imposing a constant strain on interpersonal relationships.¹⁴ The purpose of this section of the paper is to look into some of the psychological, interpersonal and social problems found with acquired deafness.

Deafness is a broad term used to cover a wide variety of hearing impaired individuals. The deaf can be classified by using three categories: Type, Threshold, and Onset.

TYPES OF HEARING LOSS

The two main type of hearing loses are: conductive and sensori-neural.¹⁵ Conductive hearing loss results from a middle ear malfunction or an infection for which medical or surgical treatment is available. Furthermore, this type of hearing loss is best suited for artificial amplification by a hearing aid device. A sensori-neural hearing loss on the other hand arises from permanent and irreversible damage to the sense receptors or the auditory nerve. Moreover, this type of hearing loss is often accompanied by vertigo, tinnitus, and recruitment. Tinnitus is the term used for the "ringing" in the ears only heard by the sufferer. Recruitment is a disproportionate increase in sound resulting in an inability to dissociate speech. Hearing loss associated with aging is sensori-neural. If a hearing loss

contains both conductive and sensori- neural then it is termed a mixed hearing loss.

THRESHOLD OF HEARING LOSS

Deafness can be classified by the threshold of hearing for pure tones at different frequencies.¹⁶ The greater the threshold the more pronounced the hearing loss. One table for classifying hearing loss by threshold is:

borderline-----	0-39db
moderate-----	40-69db
severe-----	70-89db
profound-----	90+db

ONSET OF HEARING LOSS

The last means of classifying deafness is onset. The terms used here are acquired versus congenital. Congenital or prelingual takes place from birth and has a severe impact on the acquisition of speech and language. On the other hand, acquired or post lingual takes place after birth and has more of a social and pschological impact. As one source states:

"Those suffering from profound prelingual deafness suffer a sensory deficit; those deafened in adult life suffer a sensory deprivation. The problems of one are developmental, of the other traumatic. They cannot be equated." (Denmark,1969)

THE RESPONSE CYCLE

The response cycle to deafness is almost identical to that of blindness. The same five phases occur in the same order:

- 1) Shock
- 2) Recognition
- 3) Denial
- 4) Acknowledgement
- 5) Constructive Action

The difference is that the deaf frequently have a hard time communicating this with anyone, thus having a more drawn out cycle. People with beginning hearing deficit disorders often think that people are not talking loud enough.¹⁷ The end result of this cycle often is a depressed, withdrawn state, as will be noted further on in the paper.

PREDICTORS OF PSYCHOLOGICAL PROBLEMS IN THE ACQUIRED DEAF

Several studies have been done on the psychological problems found in the acquired deaf.¹⁸ Most of these studies concentrate of anxiety and depression. According to a study by Thomas (1981), 41% of the acquired deaf interviewed had significant psychological disturbance. The following items have been looked at for their likelihood of causing psychological problems:

- 1) Degree of Hearing Loss
- 2) Type of Hearing Loss
- 3) Age/Hearing Aid Usage

Degree of hearing loss

According to Thomas et. al. (1980), those that are mildly hearing impaired are just as likely to have psychological problems as those who are profoundly hearing impaired. However, he did find that there is a correlation when you combine a severe pure tone

loss with pure speech discrimination, in which case he found that 57% of these individuals were psychologically disturbed.

Type of hearing loss

In the same study done by Thomas et al. (1980), he looked at 211 deaf people in which 86 had conductive losses and 125 had sensori-neural losses. He found that 20% of the former and 18% of the latter were found to be psychologically disturbed. This was despite the fact that a significant number of people in the sensori-neural sample were experiencing tinnitus, vertigo and recruitment.

Age/ Hearing Aid Usage

It would seem logical that the older the patient, the more likely they are to have psychological problems. Stevens(1982) looked at age and hearing aid usage with respect to social isolation, coping deficit and social intolerance:

Handicap scores from factor-derived variables

	Number	Social isolation	Coping deficit	Social intolerance
With hearing aid	49	37.1**	41.8*	38.6**
Without hearing aid	50	62.7	58.1	61.1
Age under 60	32	39.8	21.7**	43.2
Age over 60	67	54.9	63.5	53.3

It is evident from this research that the over 60 age group and the group without the hearing aids had more social

isolation, a greater coping deficit and a more significant social intolerance. In general, it can be said that the ability to cope in social situations is decreased in these two groupings.

SOCIAL ISOLATION VS EMOTIONAL ISOLATION

Loneliness is known to be the overriding social effect in acquired deafness. In a study done by Thomas et al. (1980), it was found that 24% of the hearing impaired interviewed described themselves as "lonely people." Loneliness is so prevalent in the deaf, researchers have broken it down into two distinct components: "social isolation" and "emotional isolation."

Social Isolation

The term social isolation is used to describe the inability of the deaf to initiate and maintain relationships outside the home when compared to the normally hearing population.¹⁹ In a study done by Thomas(1980), social isolation was looked at in the acquired deaf and compared to a control group of normal hearing individuals:

Table 2.
Comparison between hearing impaired and control group for two questions concerned with "social isolation"

	<i>Hearing Impaired</i>	<i>Control</i>	<i>Level of Significance</i>
I have no friends at all	12 (6%)	6(1.5%)	p<0.001
I have fewer friends than most people	70(34%)	96(23%)	
	n = 208	n = 410	
I find it quite or very difficult to make friends	84(40%)	62(15%)	p<0.001
	n = 209	n = 409	

It is evident that in all questions asked, the deaf are more "socially isolated" than in the control group. Thomas(1980), feels that this may be due to a significantly depressed self image found in these individuals. This finding also shows an increase in the need for rehabilitation in these individuals.

Emotional Isolation

The term "emotional isolation" is used to describe the perceived lack of support and involvement by the immediate family.²⁰ Thomas (1980), found that as many as 42% of hearing impaired interviewed felt that their hearing problem was not understood by those nearest to them. Of the married people in the same study, only 48% felt that their spouse understood what it was like to be hearing impaired. The results of the Thomas (1980) study appear below:

Table 3.
Comparison between hearing impaired and control group for questions concerned with "emotional isolation"

	Hearing Impaired	Control	Level of Significance
I have no one to turn to for support in my day to day life	52(25%)	61(15%)	p<0.01
I have one person only to turn to, and no one else	42(20%)	43(11%)	p<0.001
	n = 207	n = 406	
I get left out of discussions and decision-making at home	55(27%)	47(12%)	p<0.001
	n = 203	n = 398	

In all the questions asked, the acquired deaf were shown to be more "emotionally isolated." Once again, Thomas attributed this to that depressed self image. This data shows that a better understanding of deafness and the deaf needs to be understood in the home.

PART III
CONCLUSIONS

The purpose of this paper was to compare the behavioral changes that occur in those individuals suffering from a primary sensory deficit, that is, the acquired blind and the acquired deaf. The idea came from a quote by Helen Keller: "Deafness is far more devastating to a person, because blindness isolates you from things, where deafness isolates you from people." This reasoning appears to hold true, as I did find that depression secondary to isolation or perceived isolation was definitely a real problem in the acquired deaf.

After looking at these two groups, it is apparent that both of them are psychologically devastating in their own way. To compare the two, would be like comparing apples and oranges. Even so, this last section looks at some correlates and how they are similar or dissimilar.

GENERAL HEALTH AND AGE

It appears that in both the acquired deaf and the acquired blind, poor general health and an increase in age are both predictors of increased psychological problems.²¹

DEGREE OF SENSORY DEFICIT

In acquired blindness, a decrease in visual acuity was found to be a predictor of poor social adjustment.²² Although it was found in this same study that the group with NLP (no light

perception) were better socially adjusted than the group with LP (light perception). In acquired deafness, there appears to be no correlation of psychological problems to the degree of hearing loss.²³

TYPE OF LOSS

In acquired blindness, the type of sight loss appears to be correlated with the ability to socially adjust.²⁴ In this study it was found that the glaucoma group had the most difficulty in this area. In acquired deafness, there appears to be no correlation of psychological problems to the type of hearing loss.²⁵

As one can see, the only predictors that both sensory deprivations have in common are general health and age. This is important though, as a large percent of both the acquired blind and the acquired deaf are older individuals and often times in less than perfect health. The population, in general, does not seem to understand or react appropriately towards such individuals. Hopefully, with the advent of a more intellectual and sophisticated society this attitude will change.

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