

## Social learning theory, learned helplessness and its applications

### Seligman on learned helplessness (partly based on Gross)

**Seligman** (1974, 1975) made an experiment with dogs strapped into a harness and given a series of shocks from which they could not escape. In a later sequence, they were required to learn avoidance behaviour where they had to jump a barrier within 10 seconds of a warning signal or suffer 50 seconds of painful shock. Control dogs, which had not been strapped, learned to jump very quickly in order to escape the painful shocks but 2/3 of the experimental dogs did not. They seemed to resign and suffered the shock and even if they had been able to escape once, they were unlikely to continue. Some dogs had to be pushed over the barrier more than 200 times before the learned helplessness stopped. According to Seligman, the dogs had learned that they could not do anything to escape the shock; they had learned to be helpless. Seligman used this to argue that depression in humans can be explained in terms of 'learned helplessness'. This line of research has been developed further and Seligman has left the entirely behaviouristic approach and introduced some cognitive elements in his theory.

Skinner would agree on the results of Seligman's original explanations of his research because he claimed that reinforcement and punishment automatically strengthen and weaken behaviour. The central idea in behaviourism is that the organism itself must make the associations or experience the consequences of behaviour itself. Later theorists within the learning perspective have challenged the way learning is explained in classical learning theory (classical conditioning and operant conditioning), for example, **Albert Bandura** (1977) who argued that all learning is social (social learning theory). He claims that all experience involve certain elements that give the learner information about possible outcomes of behaviour, also if this behaviour is experienced by others and also that our behaviour is to a large extent governed by the outcomes that we expect from them (e.g. theory of self-efficacy). Bandura equally talks about 'reciprocal determinism' in a later development of SLT, an i.e. organism are influenced by the environment and equally influences the environment themselves.

'Learned helplessness' as seen by Seligman in the original research was based on his observation of the overt behaviour of the dogs and explained in terms of S-R associations and environmental determinism in line with behaviourism. Seligman himself recognised that it was a reductionist approach and added cognitive factors to his explanation, because he realised that it is not likely that all 'learning' should be described in terms of 'overt behaviour' only. Since then biological research has shown that all forms of learning involve 'a memory', i.e. neuronal connections so in fact, the hypothetical construct 'learning' should rather be viewed in terms of different levels of explanations.]

The research is concerned with the phenomenon of 'learned helplessness', the feeling that we learn that we have no influence on a situation because previous experiences have showed that we do not have control in that specific situation and that we might generalise it to more than that situation. **Seligman and Maier (1967)** used dogs in a laboratory setting to investigate if learned helplessness could be induced experimentally in the dogs. The experiment had three conditions and involved two phases. The dogs in the experimental non-escape group were placed in an apparatus, which gave them electric shocks through their feet and they could not escape. The dogs in the escape group could escape and they did so. In the second phase, the animals were placed in shuttle boxes divided by a barrier in the middle that the dogs could jump in order to escape the shocks. Only the

dogs that had learned to escape in the previous phase tried to jump. The other dogs did not. The design was a between subjects design (independent measures) and the 3 conditions were called escape, normal control and yoked control.

Procedure:

- **Phase one:** **the dogs in the escape condition** were suspended in a hammock with four holes for the legs. Electrodes were attached to the hind legs, and the dog's head was held in position by panels on either side. The dog had the possibility to stop the electric shock by pressing either panel. **The dogs in the yoked control condition** had the same treatment but could not escape the shocks. The dogs in the control condition did not take part in phase one.
- **Phase two:** after 24 hours **the dogs in the escape condition** were placed in a shuttle box with a barrier. The dogs could jump before the shock because a neutral stimulus (light being switched off) gave warning about the shock to come. Through the process of classical conditioning the neutral stimulus was to become a conditioned stimulus that introduced the shock, and the dog had time to escape. **The dogs in the yoked control condition** had the same conditions as the dogs the escape condition and so did the dogs in the normal control condition.

Results: The results showed that the dogs that had not been able to escape in the initial phase took much longer time to escape (average 48.22 seconds) than the dogs in the escape conditions (average 27 seconds). The difference was statistically significant.  $\frac{1}{10}$  of the dogs in the yoked control condition failed to escape on nine out of ten trials compared to only 12.5% of dogs in the normal control condition and none of the dogs in the escape conditions failed.

The results were explained in the way that the experience of the dogs in the first phase influenced their performance in the second, and that the dogs that had no possibility to escape learned that they had no control and could not influence what was happening to them. Apparently this interfered with their ability to learn to escape when it was possible and not difficult in the second phase.

The results have been used to describe human learning as well, especially experiences of socially, economically, and politically character where people find that they cannot influence their own lives. This also has implications for 'institutionalisation', where people experience that they lose their individuality and capacity for self-direction.

Methodological and ethical issues to consider: The use of animal models and the problem of generalising to humans, artificiality and that researchers did not seem particularly concerned with the welfare of the dogs, at least one died during the experiment.

Learning theory is involved in this research: operant conditioning (Skinner) and social learning theory (Bandura). The concept 'learned helplessness' developed by Seligman (1975 Gross p. 169). Dweck also includes attribution theory, the way we explain why things happen (external or situational/internal or dispositional attributions). She suggests that when failure is perceived, as something you can do nothing about, the result will be something like 'learned helplessness'. If a person attributes failure to stable and uncontrollable factors, for example, lack of ability, deterioration in performance is often seen. If people attribute failure to unstable factors, they are likely to improve their performance.

Bandura's theory of 'self-efficacy' (i.e. the way you anticipate result of your actions, e.g. in school work or in life will influence what you do) can be linked to Dweck's research as well.

An 'attribution' is the process by which people use available information to make inferences about the causes of a particular behaviour. The conditions, which affect how each of us attributes causes for our own, and others' behaviour is called 'attribution theory'.

According to attribution theorists, our explanations for a person's behaviour will generally refer either to factors stemming from within that person or the factors that are external to that person such as the environment. When we explain people's behaviour in terms of being a result of 'something about them', we make a dispositional attribution. When behaviour is explained in terms of something about the environment or the social world, we are making a 'situational attribution'.

Dweck et al. found in previous studies that girls are more likely than boys to show the helpless pattern of attributions. They are also more likely to give up sooner than boys, or show decreased performance after failure or threat of failure.

A possible explanation could be the different socialisation of boys and girls. Boys are more encouraged to be independent which makes them more likely to develop their own standards and being less influenced by other's judgement. However, Dweck & Bush (1976) did not find that helplessness of girls is a generalised trait, but that girls respond with greatest helplessness to evaluations from female adults.

Why do girls learn to be helpless with adults despite better performance in schools and less negative feedback than boys? The research of Dweck et al. investigates **patterns of classroom feedback** and attempts to identify the differences in these patterns for girls and boys that might explain the helplessness effect. The basic suggestion is that boys receive so much negative feedback in all circumstances that it reduces the impact of negative comments about academic performance, but that girls seem to take these negative comments more like a question about their ability (a dispositional attribution) rather than their conduct. The boys attribute the teacher's negative comments to the teacher (a situational attribution), for example, that the teacher doesn't like him, rather than something about himself (a dispositional attribution). If a teacher is positive towards a girl, it will be attributed to the teacher's attitude (a situational) rather than something about the girl (a dispositional attribution). If a teacher criticises the girl and praises the girl about schoolwork, it will have more effect because it falls without the usual pattern.

Two studies are reported.

### **Study 1: an observational study of feedback given by teachers to girls and boys in a classroom.**

#### **Hypotheses**

- Boys compared to girls will receive more negative feedback
- Girls compared to boys will receive a greater proportion of their feedback for conduct and non-intellectual aspects of the work
- Boys compared to girls will receive more attributions of their failure to their motivation
- Teachers will use more positive feedback in relation to academic performance of boys
- Teachers will use more positive feedback in relation to girls for conduct and non-intellectual aspects of their work

**Participants:** 79 children in the 4<sup>th</sup> and 5<sup>th</sup> grades, predominantly white, lower middle class, US school.

**Procedure:** Observations carried out over a period of five weeks for two full days each week. All evaluative feedback from teachers were coded and analysed according to the sex of the child.

Evaluations were described in terms of

- Negative/positive
- Conduct or work-related
- Intellectual (e.g. competence and correctness) or non-intellectual (e.g. neatness, speaking clearly).
- Teacher's attributions for success/failure of a child.

The observers were five undergraduates who were unaware of the hypotheses. They had 14 hours training until they obtained 90% agreement on videotaped observations. 25% were conducted with two observers to provide a reliability check, and the average inter-observer agreement was 91.5%.

### Results:

There was no sex difference in the amount of feedback given on the intellectual quality of the work, but there was a sex difference in the feedback given for the intellectual aspects of the work as a percentage of the total feedback (including non-intellectual aspects and conduct aspects, as well as the intellectual quality of the work. For boys, more than 90% of all the positive feedback they received concerned the quality of their work, whereas for girls it was less than 80%. Even when conduct elements were left out of the analysis, there was still a sex difference in that positive comments to boys' work were much more about intellectual quality whereas for girls it contained comments about neatness etc. (non-intellectual aspects).

The difference is even more marked for the negative comments. For boys, only 54% of the work-related criticism related to intellectual inadequacy, whereas for girls 88% of the criticisms referred to intellectual performance.

In summary, despite the fact that girls received more positive and less negative evaluations than boys, the patten of comments and attributions made by teachers were more likely to increase feelings of helplessness in girls than in boys.

## **Study 2.**

The participants were 60 children in the 5<sup>th</sup> grade (30 boys and 30 girls) randomly assigned to each of three experimental conditions. Parental permission was obtained for all the children who participated.

**Procedure:** the children were taken individually from their classroom to the testing room with the male experimenter (male chosen because previous research has shown sex differences in helplessness responses with female adults). The child was given a word puzzle, which consisted of 20 four-letter anagrams. The child was given four cardboard squares with a letter on each and asked to make a word from them in 15 seconds. After some practice trials the children were given 20 experimental trials consisted of 10 soluble anagrams (for example EAMG) and then insoluble anagram (FTOE)

The experimental conditions varied in the type of **failure-feedback** that the experimenter gave the child.

- ‘the teacher-boy condition’ feedback like the sort boys received in the classroom observation was given: a mixture of failure feedback about the correctness of the task, and also non-intellectual aspects such as neatness.
- ‘the teacher-girl condition’ feedback like the sort girls received in the classroom observation, failure feedback specifically addressed the correctness of the solution.

After the anagram tests, the children had to solve other problems. They were told to hurry in the tasks, but were all stopped before they had finished and told that they had not done well. After three failures to complete the task, each child was asked to answer a simple question on a piece of paper to find their attributions about the failure (outlined on the paper)

1. I did not try hard enough
2. The man was too fussy
3. I’m not very good at it

After the experiences of failure, the children were given tasks to do, which they were successful at and really praised to cheer them up.

The results showed that both boys and girls in the ‘teacher-boy condition’ made far less attributions to their own ability when asked to explain their failure on the second task. They were more likely to explain failure in terms of effort (I did not try hard enough) or the fussiness of the experimenter. The children in ‘the teacher-girl condition’ were more likely to explain their failure in terms of their lack of ability.

**Discussion:** the study supports the initial hypotheses about the different styles of praise and criticism for boys and girls and the effect of it on their judgement of own ability. The general praise given to ‘good girls’ dilutes the impact of praise for good work, whereas the general criticism given to ‘naughty boys’ dilutes the impact for poor work.

The first study is more convincing and shows that suggestions of sex differences due to ‘socialisation’ must be questioned. The second study highlights difficulties of carrying out controlled experiments on complex social and personal experiences. The first study looks at some very specific exchanges between adults and children, and it makes clear predictions based on theory. It is possible to test these through structured observation, because this approach simplifies the complex interactions between children and their teachers and does not include the social world of the classroom even though it provides useful data for the analysis of the different social world of boys and girls.