

§ 7 How People are Motivated

7 - 1 Human Development Curve

The following is an anecdote of an instructor in the Israeli Air Force. The instructor developed his own theory and was quoted for saying, “When I praise, my student he often fails. To the contrary, when I reprimand him, he succeeds. That is why I keep reprimanding him and never praise him.”

In short, if one is praised, one’s skills will be lowered, but , if one is reprimanded, one’s skills will improve”. However, is this really true?

The Human Development Curve normally rises with a series of ups and downs, but let’s see what the mean of that is here.

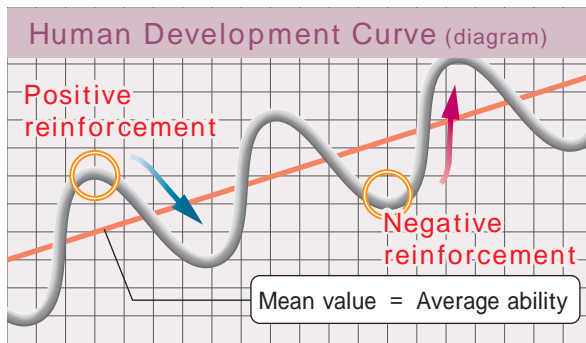


Figure 54 Human Development Curve

In the event of a good result, if someone is praised at the top of the sine curve, the probability of failure will increase. Because the curve will most likely return to the mean average. On the contrary, if someone is told off at the bottom of the sine curve, he or she will probably experience success above the mean average.

As this is a mathematical phenomenon named recursion of the average (probability theory), it is not related to the instruction method at all. It so happens that human growth is not so easily influenced, even when he/she is being praised or reprimanded. In other words, it is enough to observe and have a grasp of what went well and what did not.

7 - 2 E ective control

Question 8) We want the mouse to turn right at the end of the T-junction every time. This is why there is an electric shock on the left side and a piece of cheese on the right. The question was “What would make the mouse always turn to the right?”

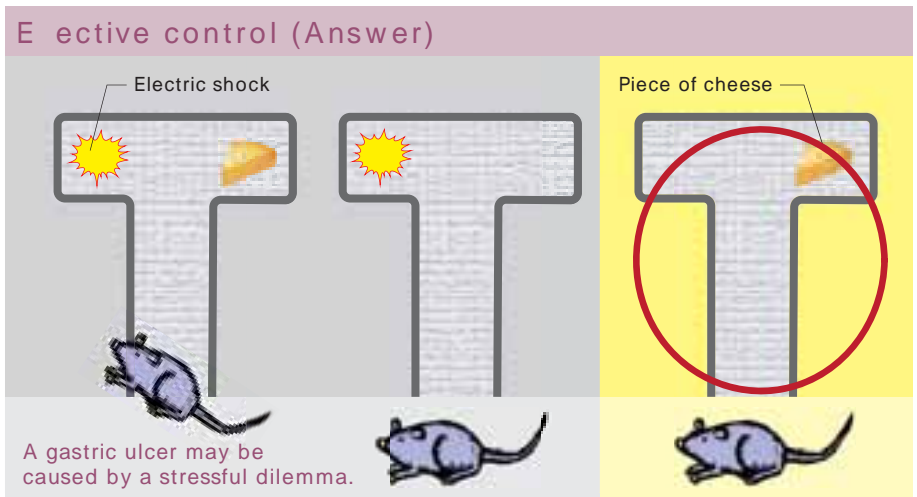


Figure 55 E ective control (Answer)

The worst situation occurred when both cheese and an electric shock were in place. The mouse’s dilemma is that it wants to have the piece of cheese, but it cannot endure the electric shock! A gastric ulcer may be caused by a stressful dilemma.

ANSWER

What if the mouse experiences only electric shocks all the time? In a situation without any rewards, yet faced with entering a dangerous area only, adding nothing but stress, the mouse stayed put where it was. The correct answer is to place a piece of cheese only.

“Cheese only” may mean “**Take the cheese and ignore anything else!**” Please ignore the alternative choices, and forget about mistakes made making the wrong choice.

When attending the Japanese Psychological Association at Keio University in 1979, a psychologist B.F. Skinner emphasized the following points in order to control people more effectively.

Avoid control using punishers (demerits), and create a social system which is regulated using reinforcers (merits).

Contrary to the fact that the action tends to be repeated even if the reinforcer does not appear every time, the punisher will be frequently needed to prevent repetition from occurring. As this costs, an alternative punisher should be introduced, too.

Namely, regarding the above case using a mouse, it is not necessary to put down cheese every time: they will naturally get used to turning right, even when there is no cheese.

On the other hand, in the case of controlling it using only electric shock, this would be required more frequently which will end up costing a lot. Moreover, if they get used to the situation, you will need to introduce additional punishers. It is ubiquitous to punish people who do not comply with the law. However, it is questionable, if its effect is regarded as a punisher as it would not be a preventive measure in terms of preventing recurrence.

7 - 3 Operant conditioning: behaviour contingency

Behaviour Analysis, which is a part of the field of psychology, was initiated by a psychologist called B.F. Skinner. Regarding the above described in 7-2 Effective control, let us take a closer look at Operant conditioning (behaviour contingency).

Definition (From Wikipedia)

Operant behaviour can be defined as a behaviour which changes the frequency in accordance with the environmental changes such as appearance or disappearance of stimulation immediately after the behaviour is recognized.

Operant conditioning is learning that follows self-frequency changes in accordance with the environmental changes immediately after the Operant behaviour is spontaneously recognized.

Being different from the process of classical conditioning, there is no innate stimulus (unconditioned stimulus) “trigger” behaviour in Operant behaviour but the living creature behaves spontaneously.

Also, the word operant is a coined word from operate by B.F. Skinner.

On the other hand, the term behaviour contingency can be defined as the relationship between changes in spontaneous frequency through operant behaviour and environmental changes immediately after it was spontaneously carried out. The following four factors are related to behaviour contingency.

Reinforcement

(**this can be reinforce, positive reinforcer or strengthening stimulus**)

It is a stimulus which increases the spontaneous frequency of the last operant behaviour by its appearance. (provisional translation)

Punisher

(**this can be punisher, negative reinforcer or aversion**)

It is a stimulus which decreases the spontaneous frequency of the last operant behaviour by its appearance. (provisional translation)

(Reinforcement)

An increase in the frequency of spontaneous operant behaviour.

(Punishment)

A decrease in the frequency of spontaneous operant behaviour.

With these combinations, the behaviour contingency can be classified into 4 types (please see Figure 56)

Positive reinforcer:

Reinforcement by Reinforcer appearance

Weakened negative reinforcer:

Punishment by Reinforcer disappearance

Weakened positive reinforcer:

Punishment by Punisher appearance

Negative reinforcer:

Reinforcement by Punisher disappearance

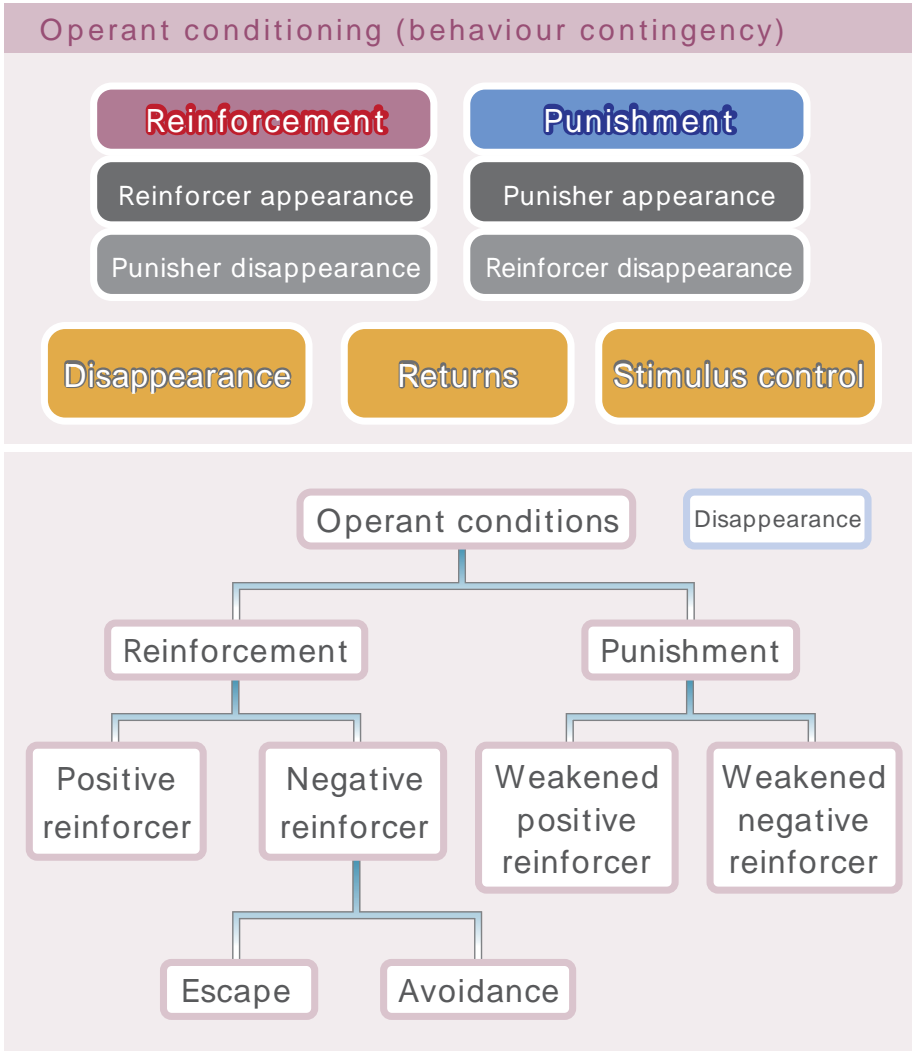


Figure 56 Operant conditioning

Let us check this with examples we see around us.

There are “patterns that become habitual” and “patterns that rarely become habitual”; patterns become habitual when merits are present and demerits disappear, and for patterns that rarely become habitual, it is when demerits are present and merits disappear.

Also, there are some patterns whereby they disappear, return or require stimulus control. Thinking about the answer to the question, “What motivates us?”, it is necessary to satisfy Belongingness and love needs, Esteem needs and Self-actualization needs (more mentioned below) together with effectively utilizing the “Reinforcer”. For this to happen, it is necessary to bestow a certain degree of freedom and authority. Especially in an organization, such as a company, it is important for the managers to talk about their dreams. And it is necessary to watch over the growth of employees without being emotional. Also, let them obtain the reinforcer, so this becomes a “ritual” and “habit”.

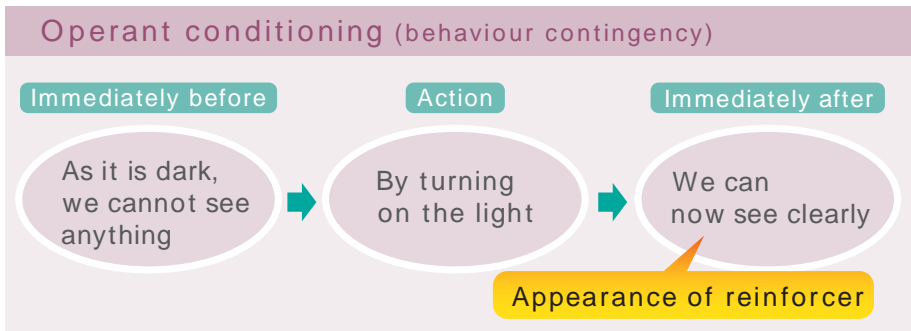


Figure 57 Operant conditioning

For example, when we use the toilet or bathroom, we ensure that we put on the light. However, in rare cases, we forget to turn off the light afterwards. This is because of a “Weakened positive reinforcer”. As it is a demerit for the user to use the toilet or bathroom in the dark, when this demerit appears, we forget to turn off the light in the toilet or bathroom.

When you were told off by your wife (partner) at home for forgetting to turn off the light in the toilet or bathroom, please make an excuse by saying “This is because of a weakened positive reinforcer according B.F. Skinner’s Behaviour Analysis. I am sorry.” Please apologise by saying so. The lecturer will not bear responsibility if your wife or partner gets even more angry, shouting “Stop being silly!”

When the “merit” of you being able to clearly see due to the light coming on, the behaviour will be repeated in the future. This will lead to the behaviour of turning on the switch every time it is dark.

After that, when you forget to turn off the light after leaving the toilet or bathroom, “Weakened positive reinforcer” appears and if this becomes a bad habit, you will always forget to turn off the switch. At this moment, if your wife or partner warns you by saying “turn off the light”, 6-1 Psychological reactance (If you are told “Do it!”, you do Not want to do it.) may come into play. And, if recovery of self-efficacy is working effectively in the brain, you will find it tedious turning off the light.

It is necessary to be aware of the following in order to change someone’s behaviour:

Clarify the goal :

Be specific about what kinds of changes are to be brought about. For instance, reducing weight by 10kgs.

Observe the behaviour:

Continue to check if the desired effect is being attained. For example, record you weight in graph every day.

Use of Reinforcement for needed behaviour:

For example, compliment him/her on losing weight. For human beings, recording the activity will play a role of reinforcement. If it is possible to see the weight loss on a recorded graph, he/she will continue with the weight loss programme. This can be generalized as “Token Economy” .

* Token

Exchangeable (having a possibility to be exchanged) reinforcers are those that can be exchanged with other reinforcers, for example, collecting tenders, vouchers, points etc. These can be referred to as tokens. For example, for a chimpanzee to perform a task repeatedly, hand it a voucher that can be exchanged for food.

Reduce the incentive to unwanted behaviour:

For instance, snacks and sweets cannot be placed in the kitchen, etc.

7 - 4 Maslow's Hierarchy of Needs

This Hierarchy of Needs, the so called pyramid, was created by the U.S. psychologist, Abraham Harold Maslow (1908-1970).

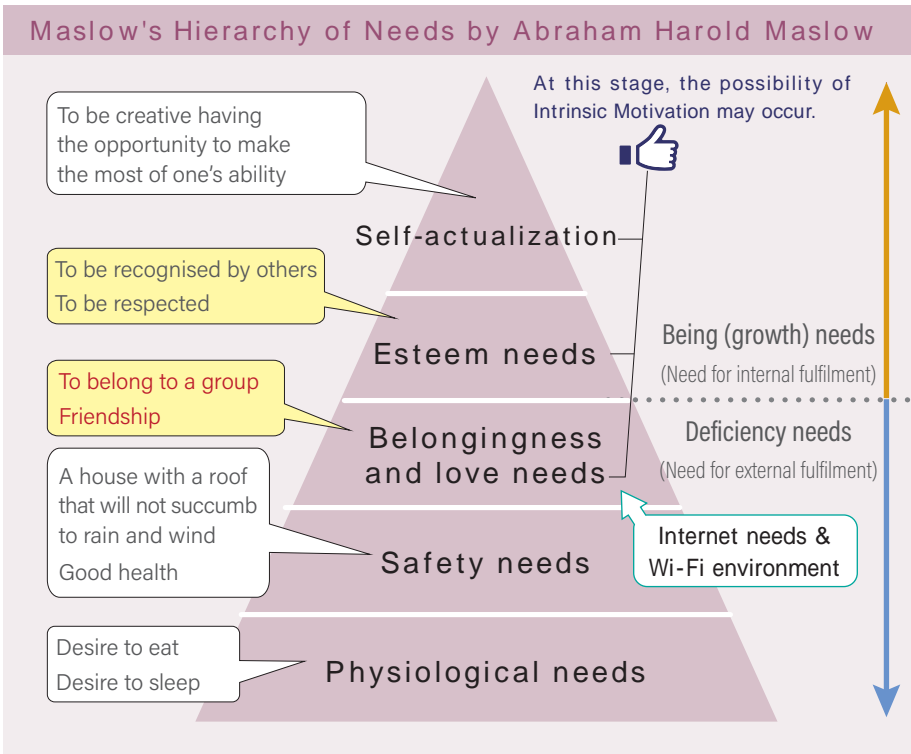



Figure 58 Maslow's Hierarchy of Needs

There are deficiency needs such as Physiological needs, Safety needs and Belongingness and love needs among human needs. General Japanese employees would be almost satisfied with their Physiological needs and Safety needs.

The following needs to be satisfied would be Belongingness and love needs. These needs: to belong to a group or circle, would also be satisfied once one enters a school, company etc.

More recently, there are new needs on a Vessel: Needs to connect to the Internet. Although the lecturer dares to use the phrase “Youth of today”, there are new needs in the Belongingness and love needs stage. If a ship is “Without Wi-Fi connection, they will not get on board.”

The next stage is Esteem needs. The need to be recognized by other members of the group, to be recognized or respected by others, too. For instance, this includes feelings of joy when you see “likes”  on your Facebook wall and in Instagram etc.

Then, the highest need is Self-actualization which is a desire to elicit self abilities and do creative work. The desire is to work with one’s own talent and to be recognized without being tied down to a place such as company or organization.

At this stage, there is a high possibility of intrinsic motivation (thinking by yourself and acting actively and independently) manifesting.

Regarding the satisfaction of Belongingness and love needs, it is essential to show your acceptance as a group member. An odd man out shall never been recognized. In order to satisfy this, the most simple thing to say is good morning or thank you in return. It is important to start from this kind of simple greeting. “Ignoring” someone should be the last thing to do. Problems of bullying at school or ostracising emanate from this.

Esteem needs will enable one to raise their personal presence within the organization. In order to encourage this, provide opportunities for employees to give presentations, which are common in many companies and, regarding those results, to praise them via a commendation system. Such systems and activities including Quality Control activities of the 1970s are very effective.

In order to satisfy self-actualization needs, it is important to determine the person’s ability through “education” and “training”, to recognize talent and to bestow freedom to some extent in a company.

Give them authority and allow them to talk about their dreams. The opposite of this would be to neglect them, to suppress their proactive behaviour, not to listen to them, and not to expand their range of responsibilities.

We hear that more and more resourceful employees leave companies even when they have high salaries. However, the reason is never because of the salary. It is because these “things not to be done” are too restricting for them. From the title “How to build the strongest team: lessons learned from the US navy (provisional translation)” translated originally from Michael Abrashoff’s “It’s Your Ship”.

7 - 5 Obedience to Authority

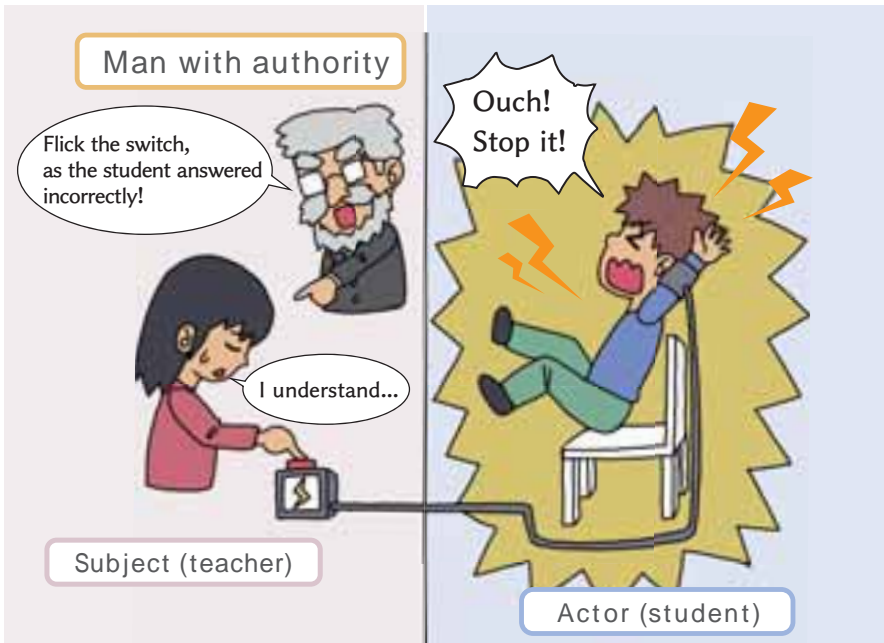


Figure 59 Obedience to Authority

There was an experiment on “obedience to authority”. Adolf Otto Eichmann Commander of the SS was responsible for Auschwitz. After the war, he was arrested while on the run and then held for trial. Though it may be considered that he was a kind person really. But, how could such a kind person be capable of carrying out such a cruel act of mass extermination? To find out, an experiment was conducted at Yale University US.

It was to find out to what extent a sincere person, known to be just, on average would obey orders to give a helpless victim fatal electric shocks.

A renowned university professor (authoritative person) assembled two groups of volunteers in their 20s-50s, one group playing the role of teacher (the one with the questions) and one group to play the role of a student (the one who answers questions). The purpose was to measure the impact of punishment on learning and memory. The students were then set a task of remembering simple words. The experiment was as follows: A student sat in an electric seat, and if he/she was unable to answer the teacher’s question, the teacher would give him/her an electric shock.

When the teacher asked the question, “Red”, and the student mistakenly answered “House” instead of the required answer “Box”, the teacher would flick a switch that delivered 15 volts of electricity. Every time the respondent answered with the wrong answer the voltage was increased by another 15 volts.

On seeing the pain on the respondent's face and not being able to stand it any longer, the teacher would ask the professor, “Can I stop?”, but the professor would only reply “This is an experiment, please continue.” The experiment would then continue with the teacher asking questions, until the current was at 450 volts. The purpose of this experiment was to see how long the teacher could keep asking questions for until he/she gave in.

With the voltage set to 100 volts, there was a possibility of death, 450 volts would mean imminent death. But, the respondent was an actor posing as a volunteer, and the chair was not connected to a source of electricity, so naturally there was no electricity running to the

chair. The agonizing pain on the respondent's face was all a show.

The study at Yale University predicted that 1-2% of the subjects would see the experiment through to the end (450 volts resulting in fatality), but the actual results are as follows.

When the subjects could only hear the respondents on the other side of a wall, 60% kept electrocuting the respondents. In Germany, as many as 85% of the subjects continued.

On the other hand, that percentage was 30% when the subjects were in front of the respondents and could actually see them in agony. Subjects who stopped in the middle of the experiment apparently felt the most stress.

This shows that no matter how kind or loving a person may be, he/she will have the tendency to easily yield to authority.



Figure 60 Obedience to authority (in the Vessel)

What is going on in a Vessel? Safety First is always the number one priority. However, pursuing profit is also important at the same time. Because those responsible for ship operation need to avoid troubles, they tend to say, “We understand that safety must come first, however, delays at port must be avoided.”

Also, the Master will have to consider meeting the delivery date even if it appears to be somewhat impossible.

From the crew members’ perspective whose priority it is to ensure safe navigation, that first priority seems to have disappeared somewhere.

If there are two criteria with a huge gap in between (in this case, safety first and profit first), in order for someone to have a better impression of you, you can give a negative impression first and then give a positive impression. In the human psychology, a gain loss effect can be anticipated, if the negative impression dramatically changes into a positive impression. However, if you get this wrong, they will be confused and ask the question "Which criteria should we go for?"

Although the top management says safety first, it is also necessary to confirm whether it has been achieved through their every action.

For example, when entering port is delayed for a safety reason, does the sales manager not say, “It is always hard to clean up afterwards, and we are always the ones to be doing this.”?

Also, when the crew are behaving carefully, does not the Master say, “Hurry up!” or “Don’t just stand there!” ?

Please check it out either in the office or on board. Human beings are weak beings that have to obey authority. Therefore, the attitudes of managers and on-site managers who embody Safety will influence safety.

§ 8 Conclusion

Following the Meiji Restoration, Japan was propelled to a formative global power as a result of technical strength grounded in strong mental virtues. On an international scale, Japan is no longer becoming a country with a “falling birthrate and ageing population” but already is a country with a low population with a substantially greying society. Sweeping mental health problems aside, the country is still seeking to resolve problems of safety using mainly only technology. The author feels that the current and prevalent atmosphere is one that does not desire a “sustainable society”. Already more than 1% of employees in a Japanese company are non-Japanese, thus globalisation should progress. The more the population grows with the new generations, the prevalently held conservative “common sense” way of thinking will no longer be the norm.

While being aware of these changing environments, it is important to become more human oriented in many ways by deepening one’s understanding of human psychological characteristics; five different psychologies and a variety of psychological biases were mentioned above. If you are interested, I guarantee that you will have a new value sense if you read a book on “Psychology” either at a bookshop or in a library.

In concluding this seminar, the lecturer apologises for coining the word: “Know yourself as well as your mission”, for today’s theme.

If you know both yourself and your mission well, the various choices in your life will be assured. (Nobutoshi Tsutsui)

Know yourself as well as your mission.

If you know both yourself and your enemies well, the various choices in your life will be assured.



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