SOSC2990 - Developmental Psychology

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These are notes I typed in class, so there are probably a lot of typo/mistakes, so keep an eye out for anything that doesn't make sense.

Contents

1 February 05, 2021

1.1 Nature vs. Nurture

The nature vs. nurture debate is one of the key issues in developmental psychology.

Definition 1.1. **Nature** refers to the inborn propensities of an individual and the biological influences that affect a person's actions/personality. These factors are developed during an individual's maturation.

Definition 1.2. **Maturation** refers to the unfolding of a genetically programmed sequential pattern of change

Definition 1.3. **Nurture** refers to learning from environmental experiences, e.g. from the surrounding and

Example 1.4

John Locke's "Empiricism" states that individuals are borne a blank slate, and that individual differences are due to experiences.

Example 1.5

John Watson famously said that he could train a healthy infant to be anything he wants to, regardless of his talents, abilities, and the race of his ancestors.

1.2 Environmental Factors

1.3 Bronferbrenner's Ecological Theory

1.3.1 Microsystem

The **microsystem** is the immediate surrounding of the individual, e.g.

- family
- school
- peers

There is a **bidirectional influence** of factors in the microsystem, as the environment can affect the individual, but the individual can also affect the environmental.

Example 1.6

If the child is very obedient, the parents might not be very hard on the child, where as if the child is very rebellious, their parenting style might also be different. Thus, the parents affect the child, but the child also affects the environment.

1.3.2 Mesosystem

The connection and interaction between factors in the microsystem are called the **mesosystem**.

Example 1.7
A child's parent and school do not work in isolation, as the parent might consult the child's teachers, etc.

1.3.3 Exosystem

Facts in the **exosystem** do not directly affect the child, but it does affect the microsystem. As such, these factors have an indirect impact on the child.

Example 1.8
One example of a factor in the exosystem is the parents' workplace schedule. Although it does not directly affect the child, it affects the quality of the parent-child interaction, which would in turn affect the child.

1.3.4 Macrosystem

The **macrosystem** consists of factors related to the culture the child is raised in, for example its:

- values
- customs
- laws

Although they do not directly affect the child, it creates a cascading effect on the other systems and thus affect the child.

1.3.5 Chronosystem

The **chronosystem** refers to the impact of time on the individual's development. e.g. timing of parent's death, or physiological changes in the child's development.

Remark 1.9 — You can think of the ecological theory as an onion, with each layer affecting each other. This ecological theory can be summarized in Figure 1.

1.4 Gene-Environment Interaction

Figure 2 shows how our genes might set certain limits on our intelligence, where as the environment determines where we fall in this range. Jerome and Jill are siblings that were separated when they were young and had different upbringings. As such, their IQ range is similar, as they have similar genetics. However, where they ended up within this range is different.

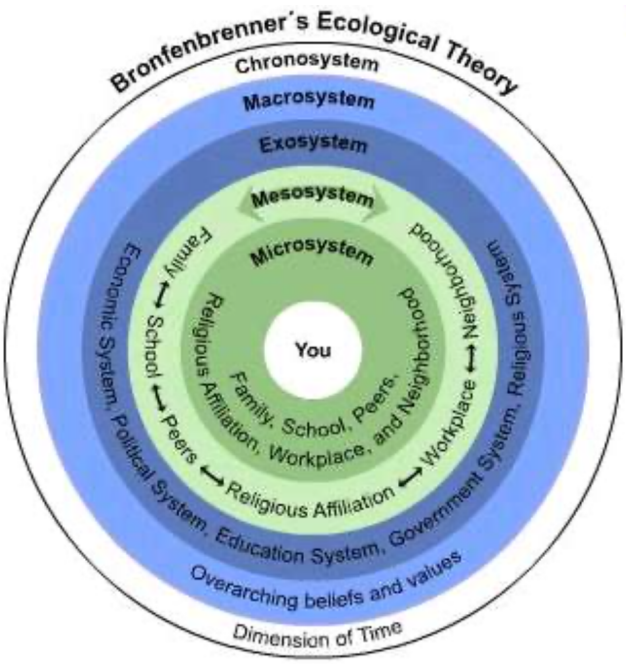


Figure 1: Bronferbrenner's Ecological Theory

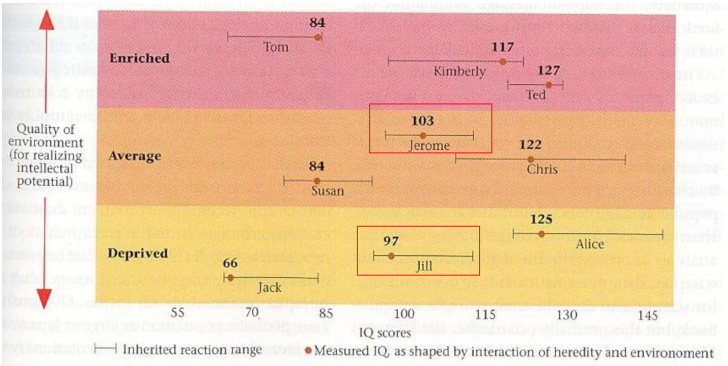


Figure 2: Gene-Environment Interaction

Definition 1.10. **Normative influences** are biological or environmental influences that affect many or most people in similar ways

Normative age-graded changes, e.g. puberty Normative history-graded changes, major historical events

Non-normative influences.

2 February 10th, 2021

2.1 Research Methods

We will cover two different research methods:

- Descriptive Research - we only observe/study the relation of the two variables
- Experimental Research - we actively manipulate one variable to discover the causal relation between two variables

2.2 Descriptive Research - Case Study

Definition 2.1. For a **case study**, we are investigating an individual or a small group of people intensely.

Example 2.2

One example of a case study is that of Genie, the feral child.

Case studies have different advantages and disadvantages.

2.2.1 Advantages

- One key advantage is that we can go deep in investigating the subjects
- Case studies are very flexible, as we can tailor the study or alter the research mid way though.

Remark 2.3 — Unlike surveys, we can change/alter the research focus during the research process.

Example 2.4

For example, initially the researchers were investigating Ginnie's language skills. However, through the research process, they found that her understanding is fundamentally different, and as such, they are interested in how she percieves information.

2.2.2 Disadvantages

- The results of a case study might not be generalizable to the general population, as it is specifically focusing on a small group of people.
- In a case study, we cannot establish cause and effect.

> **Example 2.5**
> In the case of Ginnie, we don't know if her inability to aquire normal language from here lack of interaction during the critical period, or due to her tramatic experience.

2.3 Naturalistic Observation

Definition 2.6. **Naturalistic observation** is research in which an investigator simply observes some naturally occurring behavior and does not make a change in the situation.

> **Remark 2.7** — Naturalistic observation can only be used to observe behaviors, and as such, is not suitable for certain research studies.

> **Example 2.8**
> We can count the number of times students call out or leave their seats at different ages. There is minimal control over the natural environment. Rather the researcher is just observing the students. See Figure 3.

When conducting a naturalistic observation, we must consider the following things:

- We must conduct the study objectively. To do this, we must create an observation chart, which calculates/assess the frequency of behaviors.
- We must standardize/define each of the target behaviors.

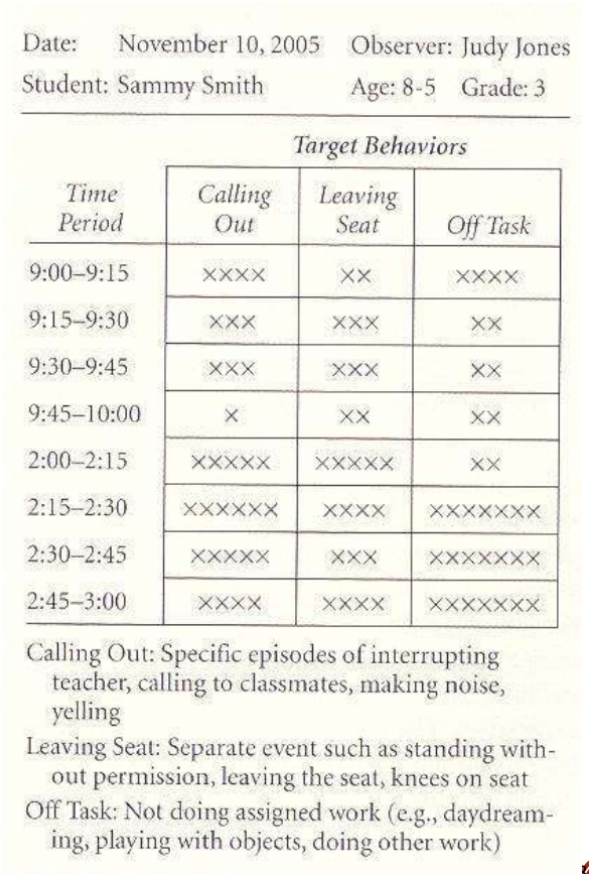
> **Example 2.9**
> In the example above, we can define calling out as: specific episodes of interrupting teacher, calling to classmates, making noise, or yelling.

This will ensure that the study is conducted objectively.

Besides this, we must also consider the following:

- Who and how many people are observing?

> **Remark 2.10** — Using multiple raters will provide more objective results, as there will be less bias. In addition, we can check for **inter-rater reliability/-consistency**. If we find inconsistency in different ratings, we have to figure out why, e.g. some might be more extreme, or the instruction might not be clear.



Date: November 10, 2005 Observer: Judy Jones
Student: Sammy Smith Age: 8-5 Grade: 3

	Target Behaviors		
Time Period	*Calling Out*	*Leaving Seat*	*Off Task*
9:00–9:15	××××	××	××××
9:15–9:30	×××	×××	××
9:30–9:45	×××	×××	××
9:45–10:00	×	××	××
2:00–2:15	×××××	×××××	××
2:15–2:30	××××××	××××	×××××××
2:30–2:45	×××××	×××	×××××××
2:45–3:00	××××	××××	×××××××

Calling Out: Specific episodes of interrupting teacher, calling to classmates, making noise, yelling

Leaving Seat: Separate event such as standing without permission, leaving the seat, knees on seat

Off Task: Not doing assigned work (e.g., daydreaming, playing with objects, doing other work)

Figure 3: Observer sheet for a study examining the relationship between age and behavioral problems

If multiple raters have the same results, then we can be more confident that we are capturing the behavior.

Remark 2.11 — We might have to reconduct the study until the results align.

- Is the study double blind?

  Definition 2.12. Both the participants and the observers must not know the research objective, i.e. the study have a **double blind design**.

  Remark 2.13 — Studies must be double blind to ensure that the participants and the rater do not know the purpose of the study, as that would affect their actions/evaluations.

2.3.1 Advantages

The results of naturalistic observation can usually be generalized to the general population, as people are assumed to behave naturally in their natural environment.

Remark 2.14 — This is different from experimental study, where the context or design of the study might be very different from real life.

2.3.2 Disadvantages

- If people know that they are being observed, the participants might deliberately change their behaviors

  Example 2.15
  If we are studying parent-child interactions and the parents know this, they might change their interactions

  Remark 2.16 — Sometimes we want to disguise the observation. However, this is not always the case, as we might need consent from the participants.

- No causal relationships can be drawn.

  Example 2.17
  In the example, the observations change based on time, with the students displaying more behavior problems in the afternoon. Thus, we might speculate that students' attention span decrease over time. However, this hypothesis cannot be verified from this study.

- Observer bias.

  Definition 2.18. When observing the participants, the observer might have certain bias that will affect their

Example 2.19
In the example before, observers might think that older students are more well behaved, but this will affect how they perceive the students.

Remark 2.20 — In order to minimize observer bias, we use multiple observers and a double blind study.

2.4 Descriptive Research - Correlational Study

Definition 2.21. Correlational study is research in which the relationship between two variables is examined to determine whether they are associated or correlated

Example 2.22
Some variables that can be the subject of correlational study include:

- Age and self-esteem
- High school grades and university GPA
- Time playing on the internet and social network

In a correlational study, there are two objectives:

1. Determine the direction of association among variables

   Remark 2.23 — Whether the two variables are positively or negatively correlated. Positive means they increase together, while negative is opposite.

2. Examine the magnitude of association among variables

   Remark 2.24 — Correlation varies from -1 to 1. The higher the absolute value of correlation, the more they are correlated.

When designing a correlational study, we must make sure that the variables are quantifiable numerically.

Definition 2.25. In order to be used in a correlational study, we must have an **operational definition** of the variable.

Remark 2.26 — The operational definition might change from study to study. For example, if we want to measure the use of internet, we might use hrs/week, or we might investigate more specific usage, e.g. number of time checking social media per day.

The general rule of thumb is if the magnitude of correlation is:

- < 0.3: the correlation is weak

- > 0.3 and < 0.7: the correlation is moderate
- > 0.7: the correlation is strong

Remark 2.27 — Even if the correlation is 0, we cannot say that there is no correlation. The relationship might be non linear. See Figure 4. If the relationship is non-linear, the correlation coefficient cannot capture the relation. Make sure to not jump to conclusion if it is zero.

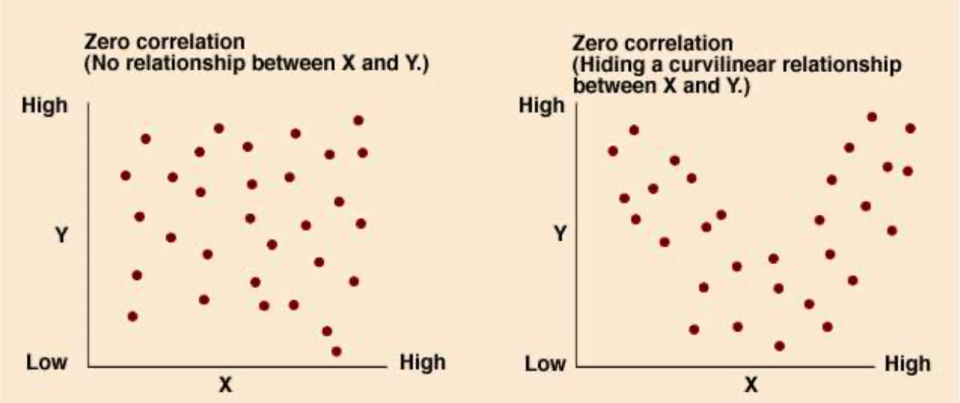


Figure 4: Non-linear correlation, but both have a correlation coefficient of 0

One thing we have to note is that correlation does not imply a causal relationship.

Example 2.28

Imaging you found a correlation (R = -0.6) between time playing on the internet and the number of friends. However, there are a few different interpretations, as can be seen in Figure 5.

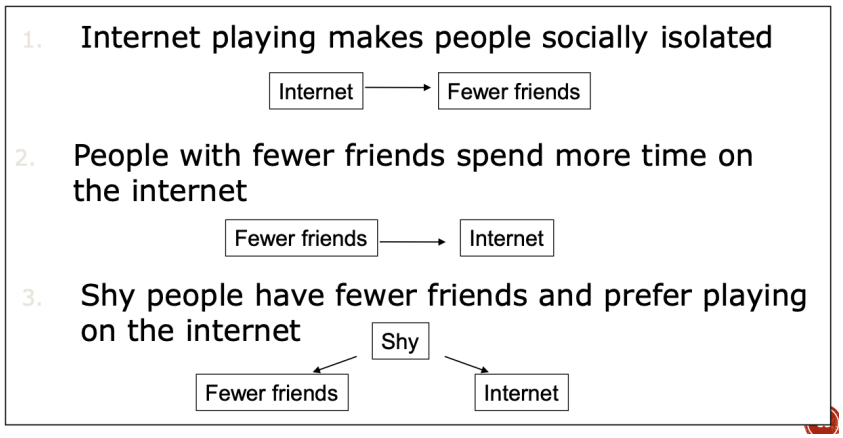


Figure 5: Different ways to interpret the correlation

Definition 2.29. In Example 2.28, shyness is a **confounding variable**.

Remark 2.30 — In Example 2.28, the correlation is moderately negative.

Example 2.31

Other examples of interpreting correlations:

- r=0.5 between show size and vocabulary size. Age is a confounding variable
- r=0.55 between number of bottled water and healthier babies. Family income is a confounding variable.
- r=0.4 between number of fire engines and amount of damage. More damage requires more fire engines.

There are a few takeaways from correlational studies:

- There are three possible interpretation of correlation
- Even if there is a correlation, the variables might not be related. It could be a confounding variable.

2.5 Experimental Research

Definition 2.32. **Experimental research** is research in which we deliberate vary one variable and observe the change in another.

There are two types of variables in experimental research:

- **Independent variable (IV)** - the variable that is being changed
- **Dependent variable (DV)** - the variable that is being observed

Example 2.33

Consider a study where we want to see the relationship of viewing violent TV and the physical aggression of people. In this case, the variables are:

- IV: Violent TV
- DV: Number of physical fights when playing with friends

In order to carry out the study, we must recruit participants. There must be two conditions:

1. Experimental Condition - Change the IV
2. Control Condition - Do not change the IV

Example 2.34

For Example 2.33, the experimental condition would be exposed to violent TV, while the control group is exposed to non-violent TV.

Remark 2.35 — The control group is important, as it serves as the comparison group. We will see the difference between people who are exposed to the change in IV.

The core logic is that we must ensure that the two groups are identical in all aspect except for the IV. This way we can be sure that the change in the DV is because of the change in the IV.

Example 2.36

If in Example 2.33, if the experimental group was mostly male, but the control group was mostly female, and the experimental group was found to be more physically violent. It could be because they are exposed to violent TV, but it could also be because men are naturally more physical than women.

3 February 17th, 2021

3.1 Design of Experimental Study

In order to ensure eliminate any pre-existing group differences, we perform **random assignment** to assign the participants to the experimental and control groups. To do this, we can generate a random number to determine how to assign the participants.

3.2 Dialogic Reading Study

One real life example of an experimental study is that of the Whitehurst et al. (1988) dialogic reading study.

Remark 3.1 — Dialogic reading means that the child and the adult have a conversation while reading the book, instead of just being read to.

The study was conducted as follows:

Participants: Middle-class children ages 21 to 35 months and their parents

Experimental group: The parents adopted dialogic reading

Control group: Parents simply read aloud the story

Observation: After 1 month, the parents were tested on their language skills

In this study, the IV is reading method, while the DV is the child's language skills.

Remark 3.2 — After 1 month, the children in the experimental group were 8.5 months ahead of the control group in the level of speech and 6 months ahead in vocabulary. 9 months later, the experimental group was still 6 months ahead of the control group.

The reason why dialogic reading helped to develop the child's language skill because of **PEER**.

P: Prompt - the parent would ask the child about what is in the book

E: Evaluate - the parents will evaluate the response

E: Expand - the parents will expand on the child's response

R: Repeat - the parents would ask the child to repeat afterwards to solidify the expansion

The active participation allows the child to think and to practice their language skills.

3.3 Measuring Developmental Change

To measure developmental changes, there are a few different ways to research changes across a person's lifespan. They are:

- Cross-sectional research
- Longitudinal research
- Sequential research

3.3.1 Cross-Sectional Research

Definition 3.3. **Cross-sectional research** is where people from different age groups are studied at the same time point.

One major advantage of cross-sectional research is that it is relatively quick to do. However, it has a few disadvantages, as possible age differences may be due to cohort effect.

Definition 3.4. **Cohort effect** are variations among individuals who are defined by some shared temporal experience or common life experience.

Example 3.5

Suppose you find that people who are 25 year old perform better than those that are 75 year old in an IQ test. This has two possible explanation:

1. The difference in IQ could be a developmental change.
2. Could be due to cohort effect since the people who are 25 might have a more formal education.
3. Could also because of a difference in nutrition when they were infants.

Remark 3.6 — A cohort effect is a confounding variable.

Example 3.7

Figure 6 shows the result of a cross-sectional study. The study investigated the ability to recognize facial expression. Those over 60 performed worse than those who are younger. However, we don't know if this is due to age differences or because of cohort effect (e.g. education).

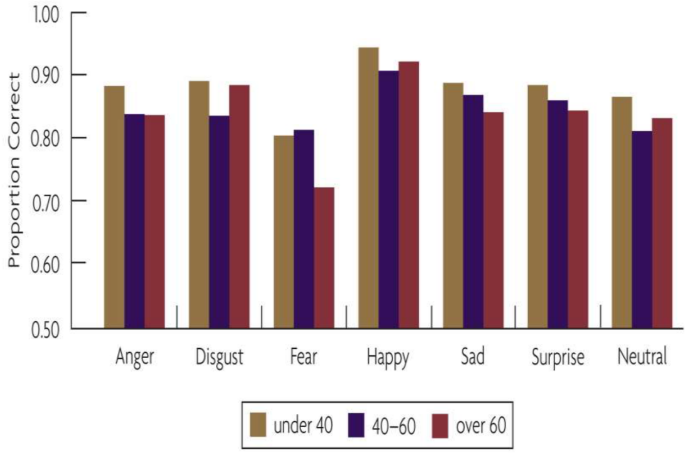


Figure 6: Example of a cross-sectional study

3.3.2 Longitudinal Research

Definition 3.8. In a **longitudinal research** study, the same group of people is traced over time to assess individual change.

Example 3.9

Say we took an IQ test now at age 20. Then we take it again at age 70. This is a longitudinal design, as the same group of people are traced over time.

Remark 3.10 — The major disadvantage of longitudinal design is because it is time consuming. In Example 3.9, it would have taken 50 years to perform the study.

In addition, this increases the chance that the participant would drop out of the study, move away, or pass away. This is called an **attrition problem**. This is an issue, as the samples that remain in the study might be a biased sample. As such, the sample that remain might not be representative of the starting sample, and of course the general population.

Longitudinal design also runs into the problem of the **practice effect**. This is because, if we take the same test over and over, we might perform better because of that.

3.3.3 Sequential Reserach

Definition 3.11. A **sequential research** is one where the researchers study a number of different age groups over several points in time.

Remark 3.12 — A sequential design allows researchers to example age change vs. age difference.

Example 3.13

For example, if we study the moral behavior of children, we might use a sequential design. We might recruit children of age 3, 4, and 5. Then, we would perform the study to these three groups over a period of time.

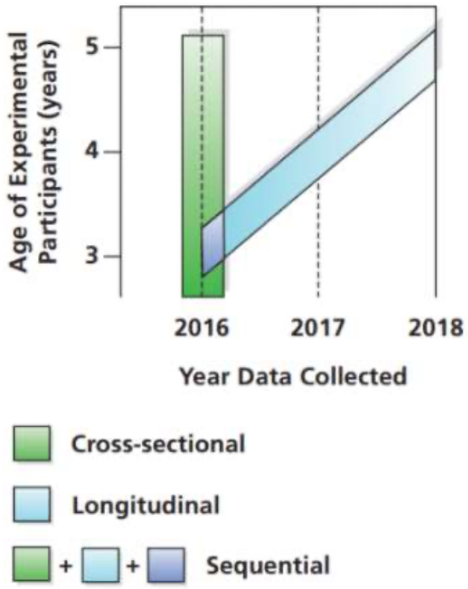


Figure 7: Differences between cross-sectional, longitudinal, and sequential design

3.4 Reading - Chapter 1

//TODO:

3.4.1 Definitions

Definition 3.14 (Lifespan Development)**.** The field of study that examines patterns of growth, change, and stability in behavior that occur throughout the entire life span.

3.5 Theories of Development

To start, we must define what a theory is. We will then talk about 5 different theoretical perspectives of development:

1. Psychodynamic perspective
2. Behavioral perspective
3. Cognitive perspective
4. Humanistic perspective
5. Biological perspective

Definition 3.15. A **theory** refers to the explanations and predictions concerning phenomena of interest. It provides a framework for understanding the relationships among an organized set of facts or principles.

Remark 3.16 — In laymen terms, a theory is a way to explain or predict a phenomenon.

Example 3.17

Say we want to investigate drug use problems. We might develop theories to explain these phenomenons, for example the observational learning theory. We can then study the correlation or causal relation of this theory. We might also be able to use these theories to predict which teenagers will be more susceptible to drug abuse.

Developmental psychology is similar to the blind men describing the elephant metaphor, where different blind men touching the elephant would describe it differently. Similarly, in developmental psychology, we are looking at different aspects of human development, and thus result in different theories.

3.6 Psychodynamic Perspective

Definition 3.18. The **psychodynamic perspective** of developmental psychology says that development is shaped by inner forces, memories, and conflicts.

There are two main theories from the psychodynamic perspective:

- Freud's Psychoanalytic Theory
- Erikson's Psychosocial Theory

3.6.1 Freud's Psychosexual Development Theory

Freud observed a phenomenon (glove anesthesia) in his patients that couldn't be explained by Freud's theory has 3 personality structures:

- Id
- Ego
- Superego

Definition 3.19. The **id** of a person seeks to maximize **libido**, which are sexual instincts or aggressive impulses.

Remark 3.20 — Some of these libido are disturbing in nature or not socially acceptable.

Remark 3.21 — The Id is also called the **pleasure principle**.

Definition 3.22. The **ego** is in charge of gratifying the id that are acceptable to the superego

Remark 3.23 — The ego is also known as the .

Remark 3.24 — We are not born with ego and we develop it when we are around 1 year old. The majority of the ego functions are conscious to us.

Definition 3.25. The **superego** acts as the moral judge of the person and tells us what is right or wrong.

Example 3.26
The superego considers what is socially acceptable or not.

Remark 3.27 — We are also not born with the superego, but it is develop at age 5-6 through exposure.

In this theory, the ego needs to keep the three components in balance, or else tension would occur.

Example 3.28
Say your friend asks you to drink before your exam. The id would tell you to go drink, while the superego would tell you do revise. The ego strikes the balance, e.g. study with a reasonable and realistic timetable.

With these three forces, Freud develop a psychosexual development theory. This theory says that:

- Development is fundamentally stage-like, with each stage centered on a particular conflict between sexual urges and demands of society
- The specific personality a child develops depends on the degree of success the child has in moving through the various stages
- Over-indulgence (id) or lack of gratification (superego) results in fixation

  Definition 3.29. **Fixations** are conflicts or concerns that persist beyond the developmental stage in which they first occur.

  Remark 3.30 — If the ego is able to develop a good balance, then the person develops a healthy personality.

- Sequence of stage is determined by maturation

– Unvarying sequence across all individuals

This means that during the developmental stage, the ego must strike a good balance between the id and superego. Figure 8 shows the 5 stages of development according to Freud.

STAGE		PART OF THE BODY	CONFLICTS/EXPERIENCES	ADULT TRAITS ASSOCIATED WITH PROBLEMS AT THIS STAGE
Oral (birth to 1 year)		Mouth	Weaning Oral gratification from sucking, eating, biting	Optimism, gullibility, dependency, pessimism, passivity, hostility, sarcasm, aggression
Anal (1 to 3 years)		Anus	Toilet training Gratification from expelling and withholding feces	Excessive cleanliness, orderliness, stinginess, messiness, rebelliousness, destructiveness
Phallic (3 to 5 or 6 years)		Genitals	Oedipal conflict Sexual curiosity Masturbation	Flirtatiousness, vanity, promiscuity, pride, chastity
Latency (5 or 6 years to puberty)		None	Period of sexual calm Interest in school, hobbies, same-sex friends	
Genital (from puberty on)		Genitals	Revival of sexual interests Establishment of mature sexual relationships	

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Figure 8: 5 Stages of development according to the Psychosexual theory of development

Remark 3.31 — Freud's theory generally says that human development revolves around our libido and the unconscious forces to gratify these sexual desires. If we are not able to gratify (or over-indulge), we will

There are quite a few of limitations to Freud's theory:

- Lack of empirical data and verification (libido is unconscious)
- Derivation of the concepts and theories from a limited population (only on upper class Austrian women)
- Freud's theory only considers development until puberty. Development is lifelong and does not stop after adolescence
- Narrow emphasis on sexual drives and neglect other motives

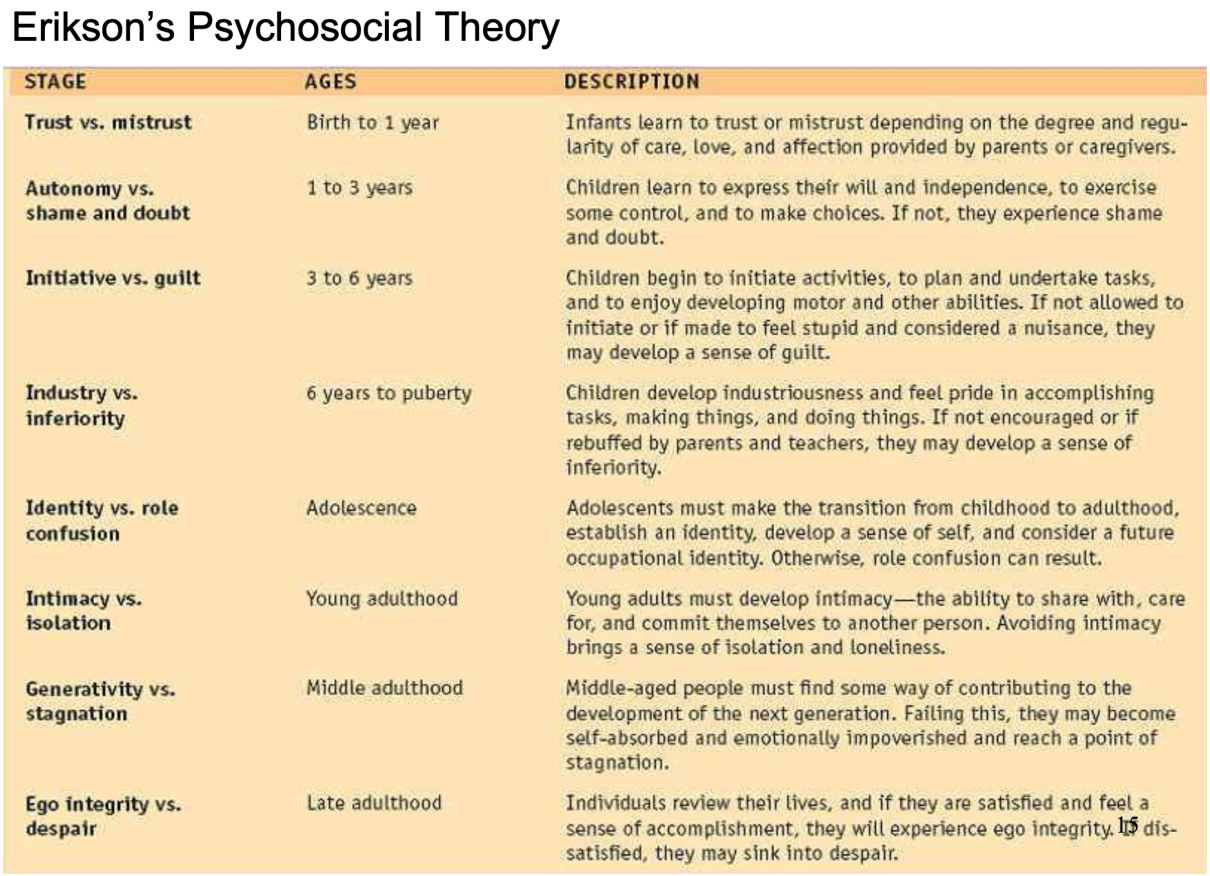
However, Freud's theory did contribute the fact of the importance of unconsciousness in human development.

4 February 19th, 2021

4.1 Erikson's Psychosocial Theory

According to Erikson, development is determined by internal drives and social/cultural demands. On the one hand, we have our own demands, which may be unconscious , and on the other is put onto us by external factors.

Erikson also believes that there are 8 stages of development that everyone goes through, and for each, we must resolve some crisis or else we might not develop healthily. In addition, the stages are interconnected, meaning that the development of one stage might influence the development of another. Figure 9 shows these 8 stages.



Erikson's Psychosocial Theory

STAGE	AGES	DESCRIPTION
Trust vs. mistrust	Birth to 1 year	Infants learn to trust or mistrust depending on the degree and regularity of care, love, and affection provided by parents or caregivers.
Autonomy vs. shame and doubt	1 to 3 years	Children learn to express their will and independence, to exercise some control, and to make choices. If not, they experience shame and doubt.
Initiative vs. guilt	3 to 6 years	Children begin to initiate activities, to plan and undertake tasks, and to enjoy developing motor and other abilities. If not allowed to initiate or if made to feel stupid and considered a nuisance, they may develop a sense of guilt.
Industry vs. inferiority	6 years to puberty	Children develop industriousness and feel pride in accomplishing tasks, making things, and doing things. If not encouraged or if rebuffed by parents and teachers, they may develop a sense of inferiority.
Identity vs. role confusion	Adolescence	Adolescents must make the transition from childhood to adulthood, establish an identity, develop a sense of self, and consider a future occupational identity. Otherwise, role confusion can result.
Intimacy vs. isolation	Young adulthood	Young adults must develop intimacy—the ability to share with, care for, and commit themselves to another person. Avoiding intimacy brings a sense of isolation and loneliness.
Generativity vs. stagnation	Middle adulthood	Middle-aged people must find some way of contributing to the development of the next generation. Failing this, they may become self-absorbed and emotionally impoverished and reach a point of stagnation.
Ego integrity vs. despair	Late adulthood	Individuals review their lives, and if they are satisfied and feel a sense of accomplishment, they will experience ego integrity. If dissatisfied, they may sink into despair.

Figure 9: Erikson's Psychosocial Theory

Trust vs. Mistrust (Birth - 1 year): In the first stage, the infant learns to trust or mistrust the parent/caregiver.

Autonomy vs. Shame and Doubt (1-3 years): In the second stage, the child wants to take control of things, e.g. which clothes to pick. If the parent provides them with this autonomy, then the child can develop the sense of autonomy. However, they must also set some boundaries

> **Remark 4.1** — According to Erikson, having a controlling parent is not

healthy for the child's development. If they aren't provided with this autonomy, then the child will develop shame and doubt.

Initiate vs. Guilt (3-6 years): In this stage, the child would like to initiate activities or make plans. If parents do not allow this, then the child will experience guilt.

Example 4.2
The child might want to plan their own birthday.

Remark 4.3 — This third stage is kind of like an extension of the previous stage.

Industry vs. Inferiority (6 years - pubery): The child would like to feel pride in accomplishing tasks, making things, and doing things.

Identity vs. Role Confusion (adolescence): The adolescents needs to establish an identity, and develop a sense of self, e.g. deciding what they want to do in the future, gender identity.

Intimacy vs. Isolation (young adulthood): Young adults must develop intimacy, the ability ot share with,care for, and commit themselves to another person. Otherwise, the young adult would develop a sense of isolation and loneliness.

Generativity vs. Stagnation (middle adulthood): The middle-aged person would like to find a way to contribute the next generation, e.g. having children or teaching others.

Ego integrity vs. Despair (late adulthood): The person reviews their lives, and if they are satisfied, they will feel accomplished. Otherwise, they might sink into dispair.

Remark 4.4 — Depending on whether we have more positive experiences than negative, we would have a better, more healthy development.

Remark 4.5 — According to Erikson, even if we aren't able to resolve a crisis at a previous stage, we might be able to rectify it later. This is different from Freud's theory, which is more permanent.

Example 4.6
Say the child's parent isn't very affectionate, and thus the child develops a mistrust in stage one. Later on, they might have positive experiences with others, e.g. a healthy long-term relationship. From these experiences, we can rectify it and develop trust in others.

4.2 Discussion About Erikson's Theory

Do you agree with Erikson's theory? Some comments from the class:

Example 4.7

I disagree with Erikson's theory:

1. I believe that development is more like a continuum which one learns and develop across time in different orders and timeframes, setting definite ranges in terms of age ignores individual differences;
2. Values and self-perception could be greatly affected by the environments around oneself - For instance, **there could be people who don't feel that passing on to the next generation is necessary**

Example 4.8

I agree with the Erikson's theory. There are different needs in different stages of life. **However, there maybe overlapping for each area**. E.g. we build our industry (e.g. having good grades) and identity at the same time (e.g. bring a good student)

Example 4.9

I also think that the pairs of adjective are **not really going in opposite directions** and not much logical explanation into why failing in one stage (e.g. in generatively vs stagnation leads to the feeling of stagnation)

Example 4.10

I think this theory ignore the factor of intrinsic traits of individuals (i.e. personality). Some may born to mistrust others regardless of their experiences. (**individual predispositions are ignored**)

Remark 4.11 (Summary of Discussion) —

- Some crisis aren't fixed at a particular point in time, or might experience multiple at the same time
- Environment might be more important
- Some people might not experience a crisis at all (not applicable to everyone)
- The sequence of what crisis you experience might be different

4.3 Evaluation of Erikson's Theory

Contributions: Development is lifelong with changing needs (in contrast with Freud).

Limitations:

- Not all individuals go through the same sequence

Example 4.12

Some people might experience the crisis of intimacy before self-identity. They might find who they are through the relationship.

- Oversimplifies development, as there is only one crisis in each period.

4.4 Behavioral Perspective

The previous theories were looking at development from the psychodynamic perspective. This section will cover the **behavioral perspective**, which says that development is shaped by the person's experience, such as environmental experiences or their upbringing.

According to psychologists who support the behavioral perspective, nurture is much more influential then nature.

Definition 4.13. According to the behavioral perspective, **learning** is a relatively permanent change in behavior (or behavioral capacity) brought about by **experience**.

4.4.1 Pavlov's Classical Conditioning Theory

Pavlov believe that all are actions are reactions to stimulus. Thus, **classical conditioning** is the type of learning in which a neutral stimulus comes to bring about a response after it is paired with a stimulus that naturally brings about that response.

Definition 4.14. A **neutral stimulus** is a stimulus that does not bring a response in you.

When we develop a reaction to a neutral stimulus, then we say that learning has occured. Pavlov's dog experiment is a famous example of this:

- Initially the sound of the bell is neutral stimulus, meaning they don't naturally bring about a response.
- Then meat, an unconditioned stimulus, is presented, which provokes a unconditioned response in the dog (salivation).

  Definition 4.15. An **unconditioned stimulus** is a stimulus that naturally brings about a particular response without having been learned

  Definition 4.16. An **unconditioned response** is a natural, reflexive response that needs no training

- During conditioning, the neutral stimulus is presented with the unconditioned stimulus, which triggers the response in the dog.
- After repeated exposure to this paring, the sound of the bell will trigger the response, thus making the sound of the bell a **conditioned stimulus (CS)** which triggers a **conditioned response (CR)**.

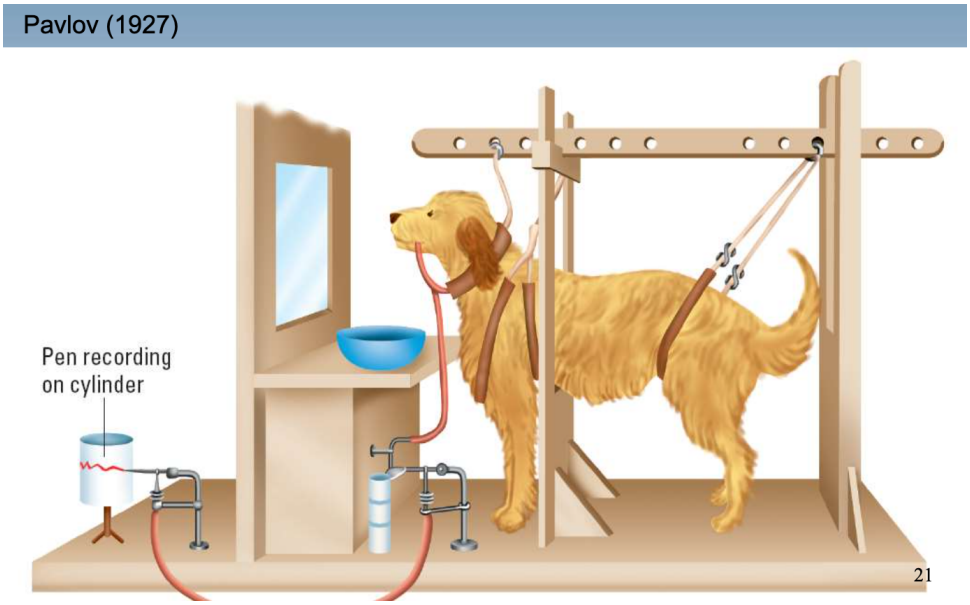


Figure 10: Pavlov's Conditioning Theory

Remark 4.17 — The conditioning process can be unlearned, after the dog realizes that the bell does not result in food.

Remark 4.18 — The timing between the stimulus presentation is important. Ideally, the neutral stimulus could be presented just before the unconditioned stimulus. Otherwise it won't be effective.

The classical theory can explain how fear is developed in people. This can be seen in the "Little Albert" experiment (Watson, 1927):

- Little Albert is not afraid of the rat and other things.
- Watson presents the rat with a clanging noise.
- Eventually, Little Albert is afraid, not just of the rat, but also of all furry things.

In this Little Albert experiment, we have the following:

CS: Rats/things white and furry

UCS: Loud clang sound

CR/UCR: Fear

Remark 4.19 — Watson calls this **behaviorism**.

Figure 11: Little Albert was conditioned to fear rats

5 February 24th, 2021

5.1 Operant Conditioning - Skinner Box

Apart from classical conditioning theory, another behavioral theory is operant conditioning theory, discovered by Skinner while studying in "Skinner boxes".

Example 5.1 (**Skinner Box Experiment**)
Skinner box

- The rat is placed in a box with a lever. When the rat presses the lever, it is given food.
- At the beginning, the rat does not know that when they press the lever, they are given food, but after a while

Definition 5.2 (**Reinforcement**)**.** If the behavior is followed by positive consequences, the behavior becomes more likely.

Definition 5.3 (**Punishment**)**.** If the behavior is followed by negative consequences, the behavior becomes less likely.

Remark 5.4 — There are both positive and negative reinforcement and punishment.

Positive Reinforcement: A behavior is followed by a pleasant stimulus.

Example 5.5
Giving a raise for good performance.

Negative Reinforcement: A behavior is followed by the removal of an unpleasant stimulus.

> **Example 5.6**
> Applying ointment to a itchy rash.

Positive Punishment: A behavior is followed by a unpleasant stimulus.

> **Example 5.7**
> Yelling at a child for stealing.

Negative Punishment: A behavior is followed by the removal of an pleasant stimulus.

> **Example 5.8**
> Getting grounded for misbehaving.

5.1.1 Discussion

"Is reinforcement or punishment more effective to discipline children?"

> **Example 5.9**
> I think it depends on how well the children can take stress and adversity. If the child can take stress and adversity, punishment might take an opposite effect then expected. It could also be depending on how the child perceive reinforcement/punishment vs how the parents think.

> **Example 5.10**
> I think reinforcement is more effective to encourage children to do something and punishment is more effective when prevent them from doing something.

> **Example 5.11**
> I guess both are needed. Since children may not be mature enough to understand all the rules that their parents set, so both punishment and reinforcement could let the children learn if certain behavior is socially acceptable. However, the parents should explain the reason behind the rules to have a long term effect.

5.2 Bandura's Social Cognitive Theory

Bandura's **social cognitive theory** says that:

- Behavior can be learned without direct experience

Example 5.12
You don't have to be hit by a car to know that it is dangerous.

- Studying learning in terms of thought processes that underlie it.

Definition 5.13 (Observational Learning)**.** A process in which an individual learns new responses by observing what others do and what happens to them for doing it, instead do through direct experience.

Remark 5.14 — Imitation of role models is more likely when:

- The role model is prestigious, smart, popular, or talented
- Target behavior is desired by the society
- The role model is similar to you

Remark 5.15 — Learn chunks of behaviors and integrate them into new, complex behavioral pattern.

5.2.1 Bobo Doll Experiment

- Children are exposed to two conditions, in one, the child is shown an adult being aggressive to it, and one where the adult is not.
- After watching, the child is put in a room with a bobo doll with toy hammers.
- For the children who watch the adult being aggressive, the children also acted aggressive towards it.
- Those in the control group were less likely to act aggressively towards the bobo doll.

Remark 5.16 — The children who are exposed to adults that are acting violently model their action. Thus, learning can be done through observations.

5.3 Evaluation of Behavioral Perspectives

5.3.1 Contributions

- Evidence do support that behaviors are developed by conditioning and modeling
- Particularly useful in explaining emotional responses

5.3.2 Limitations

- Too optimistic that behaviors can be changed by changing the environment

  Example 5.17
  Raising the price of cigarettes does little to affect smoking.

- Humans are not passive recipients of environmental influences. People will change/affect their

  Example 5.18
  People will change which role model they will follow. Even if we are exposed to a selected role model, it is not guaranteed that they will model themselves off of them.

- Does not explain age-related changes, e.g. how children think differently from adults.

5.4 Cognitive Theories

Cognitive theories broadly states that **"Development is a process of age-related changes in thinking and reasoning"**. We will look at the following theories in this course:

- Piaget's Cognitive Theory
- Information Processing Theory
- Vygotsky's Sociocultural Theory
- Cognitive Neuroscience Approach

We will first look at the latter two in this lecture, and return to Piaget and Information Processing theory later.

5.5 Vygotsky's Sociocultural Theory

According to Vygotsky's Sociocultural Theory, complex forms of thinking have their origin in social interactions. Cognitive development is the result of social interaction, and thus are different for different cultures/society.

Example 5.19
Children's toys reflect difference in cultural values. In western cultures, toy cars are more mechanical In some African cultures, there are also cars, but they are often hand-crafted.

Children's acquisition of cognitive skills is guided by a more skilled person.

Remark 5.20 — In laymen's terms, Vygotsky believes that

Vygotsky proposed two ideas:

- Zone of proximal development
- Scaffolding

Definition 5.21. The **zone of proximal development (ZPD)** is the distance between what the child can do by themselves and the next learning that they can be helped to achieve with competent assistance.

Remark 5.22 — If the child is provided with assistance (appropriate scaffolding), they are able to achieve substantially more than they can on their own.

Definition 5.23. **Scaffolding** is an instructional approach in which a more knowledgeable other provides scaffolds or supports to facilitate the learner's development.

Remark 5.24 — Often, there are tasks that are too difficult for the child to perform on their own. However, with proper scaffolding, these tasks might become manageable.

Example 5.25
Parents helping children with proper motor skill, e.g. cutting shapes in paper.

As time goes by, the amount of scaffolding decreases, as they take on more responsibility.

Remark 5.26 — The main idea with scaffolding is that we have to decrease the amount of support over time to instill the sense of **autonomy** in the child.

Example 5.27
Scaffolding can be applied to cooking:

- First, the child might only be mixing ingredients
- Later on, they might be to cut ingredients
- Eventually, the child can cook on their own

5.6 Discussion

"According to Vygotsky's theory, what kind of education programs would be effective in promoting a child's development?"

Example 5.28

Guided case-base learning with debriefing may help, with guided case-base learning, information/materials could be broken down into smaller pieces for learning. While debriefing could also help child to understand what they couldn't do and how to improve with support/guidance.

Example 5.29

More in class activities, where teachers can give immediate feedback and help to the kids

Example 5.30

other than spoon feeding method, I think we can just let the student to find the answer first instead of give the answer directly, I think of the maths lessons as example, maybe some simple theory is taught then give a simple question to students to solve it by themselves first , then tell them what is the answer , and the difficulties of questions increase gradually with the step above

5.7 Summary of Discussion

- Teachers should know the abilities of the students. This is important to know, in order to know what the child is able to achieve on their own, and what kind of assistance should be offered.
- Activities should be challenging enough to the children so that they can maximize their abilities and expand their limits.
- Instead of spoon-feeding the students, the students should undergo assisted discovery, e.g. the math example

5.8 Evaluation

5.8.1 Contributions

- A better account of the internal processes that shape behavior

5.8.2 Limitations

- Ignores the huge variations between people in how the think and act
- Neglect the influence of emotions, as our emotions will affect how we think or behave.

5.9 Cognitive Neuroscience Approach

The cognitive neuroscience approach examines cognitive development through the lens of brain processes an d neurological activity. This is a recent field of development.

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