Babies

prenatal and infant development progress in highly predictable ways and are, largely, the result of genetic ‘programming’

of course, even prenatal and infant development are affected by environmental factors

Babies

e.g., teratogens (e.g., alcohol, viruses, drugs, etc.) can cause abnormal development in the womb; many chemicals pervasive in the environment are now found in fetuses

e.g., stress & mother's emotional state → birth weight, cognitive & physical development

e.g., cultural practices (e.g, sleeping on backs vs. fronts) → crawling

Babies

brain development (myelination, formation of connection between neurons) is also dependent on proper environmental stimulation, nutrition, etc.

so, even at the earliest ages, human development is an interaction between nature & nurture

Feral Children

extreme cases like these show us that being human is, like pretty much everything we've learned about, more like a skill than an innate ability; it's something we learn through PRACTICE, being bathed in language, cultural practices & affection

being "functionally human" is something we BECOME, rather than merely something we ARE

The Importance of Social Contact

a key theme in developmental psychology is that humans are profoundly social beings

who we are depends to an extraordinary degree on the human contact we have throughout our lives, from learning language to developing a sense of emotional security, to adopting the beliefs, habits, and general 'way of being' of our families

the central part of this process is the formation of attachment

Attachment

attachment is the bond that develops between the caregiver and child; the emotional connection

babies are designed to form attachments, and elicit attachment-forming behaviours from adults

- e.g., holding out arms, smiling, crying, settling down when held
- adults respond almost automatically; e.g., picking up, exaggerated expressions, higher pitched voices
- First “social smile” occurs 4-6 weeks of age

Infants are social beings

Even very young infants have highly INTERactive relationships.

E.g., emotional attunement: Infants as young as 10 weeks get extremely upset when their mothers stop showing any facial expressions of emotion

the implications of this are HUGE!!

e.g., maternal depression in 1st TWO MONTHS --> insecure attachment, poor emotion regulation, learned helplessness, even depression later in life (it's akin to early trauma....)

by 8 months, infants of unresponsive mothers are developing avoidant behavioural coping strategies

One place where Behaviourism breaks down

Some very common parenting wisdom is to reward the good, punish/ignore the bad so it extinguishes

- but this doesn't work in infants. Letting them "cry it out," leaving them alone during tantrums, trying to avoid "making them whiney" --- these strategies backfire, creating a child who feels scared, alone, unloved and powerless

- the long-term implications are huge -- emotion regulation, security, dysfunctional behaviours, relationship problems, poor goal pursuit, lower achievement.....

Attachment

attachment is like an emotional memory, laying the foundation for our emotional systems, our basic sense of security and trust in others

attachment experiences build associative networks that reflect these experiences, forming our ‘schemas’ for ourselves & others

Where does attachment come from? What is love?

- "The position commonly held by psychologists and sociologists is quite clear: The basic motives are, for the most part, the primary drives -- particularly hunger, thirst, elimination, pain, and sex -- and all other motives, including love or affection, are derived or secondary drives. The mother is associated with the reduction of the primary drives -- particularly hunger, thirst, and pain -- and through learning, affection or love is derived. "

  -- Harlow: 1957

- so.....you love your Mom because she fed you? Mom is just a Secondary Reinforcer?

comparing food vs. comfort

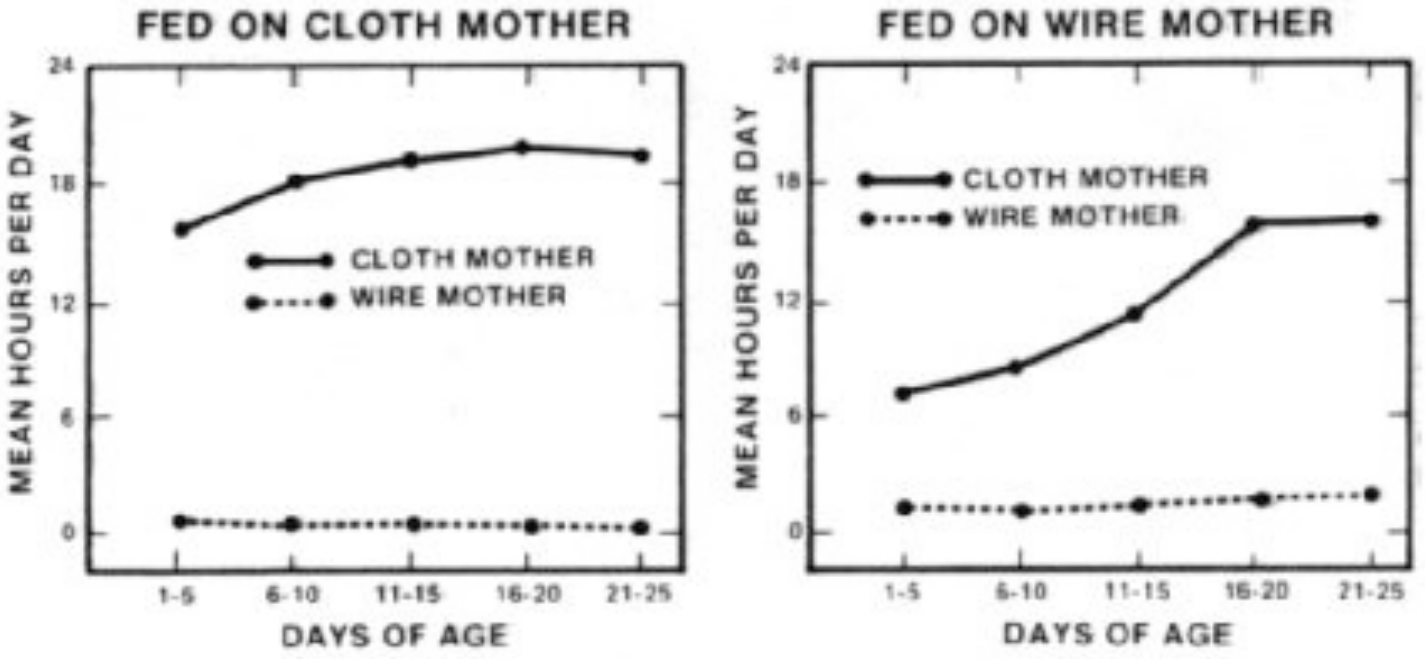


Figure 5. Time spent on cloth and wire mother surrogates.

(crying, sleeping, clinging, volatility, etc.)

Infant Temperament

touch

gentleness

eye contact

verbal interaction

play

putting pictures on the fridge

smiling, laughing, tickling

responsiveness

encouragement

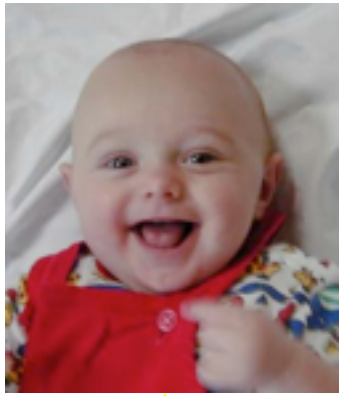
patience

enriched environment

consistency, boundaries, structure

Quality of Environment

(stress, exhaustion, time, opportunity, etc.)



Quality of Parenting

expectations of others (self-fulfiliing prophecies)

interpretations of others' behaviours (e.g., rejection sensitivity)

beliefs about self (e.g., lovable, capable)

motivation (i.e., if S is a failure, then disengage from goals)

confidence, willingness to take risks (e.g., joining play groups, trying difficult tasks, persevering after failure, exploring, being creative)

INTIMACY BEHAVIOURS & OUTCOMES

Quality of Childhood Experiences

ACHIEVEMENT BEHAVIOURS & OUTCOMES

early
attachment
experiences

Quality of
Childhood
Experiences

Intrinsic
motivation &
healthy goal-
striving

Quality of
Adult Intimate
Relationships

Openmindedness,
Defensiveness,
Violence,
Prejudice, etc.

Ainsworth's Strange Situation: Attachment Styles

the quality of the parent-child interaction, in conjunction with the child's temperament, determines the child's basic emotional climate, such as her sense of security or threat.

a lack of responsive parenting, a lack of warmth, or over-controlling parenting, tends to encourage some form of a less-than-secure attachment style

Attachment Styles in Adult Relationships (e.g., Bartholomew)

High S

DISMISSIVE/ AVOIDANT

SECURE

Low O

High O

FEARFUL

PREOCCUPIED

Low S

Interpersonal Security: Attachment Styles in Adult Relationships

generally, attachment styles function as interpersonal schemas, guiding our expectations of others (e.g., trust), which then influences our adult relationships

e.g., feeling neglected or having love withdrawn as a child --> experiencing partner's criticism much more negatively b/c of the "primal" energy contained in these past conditionings of the emotional system

Interpersonal Security: Attachment Styles in Adult Relationships

e.g., insecurity drives jealousy, suspicion, tendency to interpret partner's behaviours as rejecting or critical, neediness, clinginess, controlling behaviours, passive-aggressiveness, violence, 'stonewalling,' distrust, etc.

insecurity also tends to drive people to get into relationships too quickly, not being choosy enough, ending up in bad relationships

and drives behaviours that poison the relationship over time through a lack of **authenticity**

and the cycle repeats.....

- Insecurity also drives:
- procrastination, lack of motivation, lack of interest in what you're doing, low (or no) goals, tendency to give up & feel helpless, anxiety & depression, self-harming
- prejudice, discrimination, violence & aggression, arrogance, lack of empathy, tendency towards selfishness, tendency towards control & domination
- closedmindedness, lack of creativity
- poor performance, lack of attention & concentration
- conformity, inability to stand up for "what's right"
- consumerism, materialism
- unhappiness

How do we “learn about ourselves?”

How do we learn anything?

Assimilation: Using current schemas to make sense of reality: "I can suck this bottle" → other bottles...blankets... …….fingers....the dog?

Accommodation: But sometimes reality just doesn't fit with one's current schemas: .....the dog? Blech! Hmmmm...maybe some things are suckable & some things aren't....

Learning is a dynamic process of Assimilation & Accommodation

Piaget noted that these processes interact over the course of our lives, resulting in an increasingly complex, sophisticated, and generally functional view of the world

this basic model of learning has been extremely influential; e.g., Thomas Kuhn's "Structure of Scientific Revolutions"

How smart “are” you?
How smart “could” you be?

Learning is linked to motivation, of course. Learning (generally) requires that you concentrate on the task, accept critical/corrective feedback, & try, try and try again.

Who will do this? Who won’t?

It depends on their SCHEMA of themselves as learners!

If “you either have or you don’t,” then failure/difficulty/frustration/errors will lead you to give up!

If “you can get better,” then you are better able to keep trying, learn from mistakes, listen to corrective instruction, etc.

Carol Dweck: How do you raise smart kids?

Don’t tell them they’re smart.

“fixed” mindset vs. “growth” mindset

e.g., study of low-achieving grade 7 students

ALL students get workshops in study skills & effective learning.

“growth” group is told that intelligence is like a muscle, that gets stronger with exercise

“control” group gets some extra instruction on how memory functions

DVs: academic motivation & math grades

Everything in the brain is the same.

intelligence, math ability, giving a good presentation, telling funny jokes, playing chess, etc., are **trainable, improvable skills**

so are motivating ourselves, being happy, trying hard, dealing with frustration, concentrating during a task, learning from failure

so are giving up, feeling badly about ourselves, being distracted, rejecting criticism

- "Study skills and learning skills are inert until they're powered by an active ingredient" Dweck explains. Students may know how to study, but won't want to if they believe their efforts are futile. "If you target that belief, you can see more benefit than you have any reason to hope for."
- (from Scientific American)

Self-Regulation

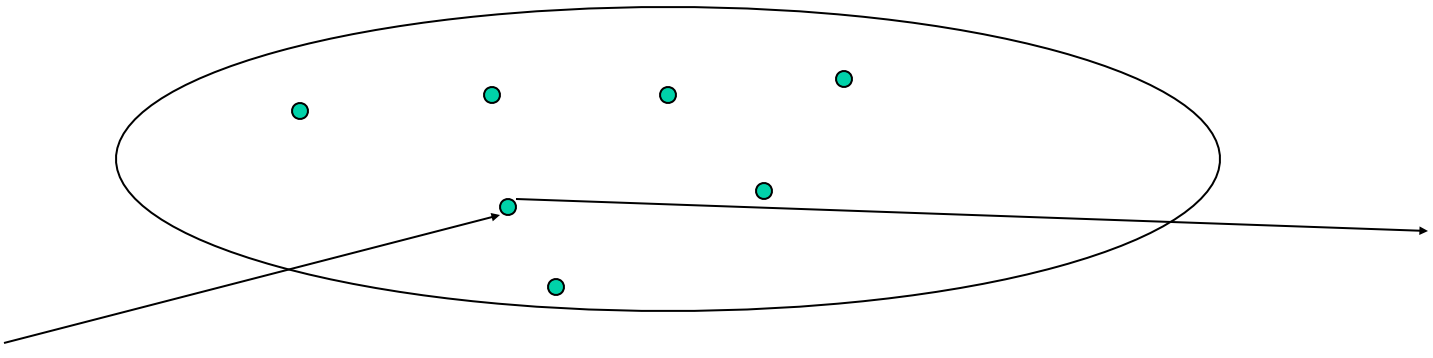
Self-control is one of our greatest assets, and the inability to control oneself is a great weakness.

e.g., putting off immediate pleasures in order to pursue long-term goals, persevering after failure or criticism, focusing attention on the task at hand so that you do well, overcoming fear, organizing your life so you have time for extra-curricular activities, not having those 5 extra drinks, that tub of ice cream, giving up on the gym....

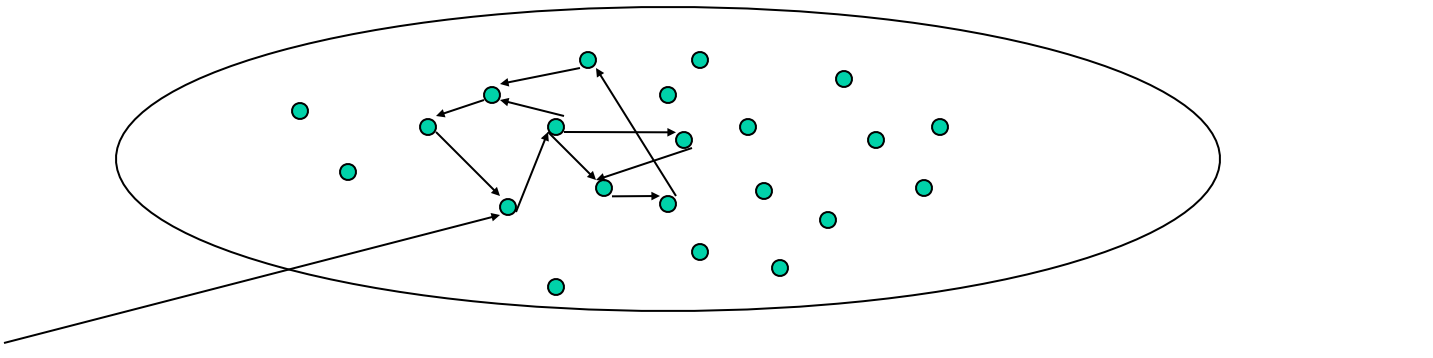
This basic **self-control** ability is rooted in early childhood AND is something people can very easily learn to do more effectively

HOT	COOL
emotional	cognitive
"go"	"know"
simple	complex
reflexive	reflective
fast	slow
develops early (e.g., amygdala functions at birth)	develops late (e.g., hippocampus & frontal lobes develop quite late)
accentuated by stress	attenuated by stress
stimulus control	self-control

HOT



COOL



Delay of Gratification Research

the classic research in this field involves the ‘delay of gratification’ paradigm, a simple test of foregoing an immediate reward in order to achieve a greater reward in the future

e.g., 1 marshmallow now? or 2 marshmallows in 15 minutes?

mean time = ~1 minute!

the # of seconds a preschooler can wait is highly predictive of many cognitive and social outcomes **decades later**, including SAT scores!

Table 2

Correlations Between Preschool Delay Time and the Adolescent Coping Questionnaire

Adolescent Coping Questionnaire items	Spontaneous ideation		Suggested ideation	
	Rewards exposed	Rewards obscured	Rewards exposed	Rewards obscured
How likely is your child to be sidetracked by minor setbacks?	−.30*	−.01	.19	−.09
How likely is your child to exhibit self-control in frustrating situations?	.58***	−.12	.05	.27
How well does your child cope with important problems?	.31*	−.10	−.10	−.09
How capable is your child of doing well academically when motivated?	.37*	.19	.19	.16
How likely is your child to yield to temptation?	−.50***	.09	.39	−.09
Faced with a choice . . . how likely is your child to settle for the immediate [but less desirable] one?	−.32*	.11	.23	−.25
How able is your child to pursue his or her goals when motivated?	.38*	.11	.03	.13
How intelligent is your child?	.42**	.15	−.06	.30
When motivated, how capable is your child of exhibiting self-control in tempting situations?	.36*	−.32*	−.13	.39*
How skilled is your son or daughter at maintaining friendships and getting along with peers?	.10	−.15	.14	.00
When trying to concentrate, how distractible is your son or daughter?	−.41**	.08	.09	−.02
How capable is your child of exhibiting self-control when frustrated?	.40**	.07	−.16	.38*

Table 4

Correlations Between Preschool Delay Time and Scholastic Aptitude Test (SAT) Scores

Measure	Spontaneous ideation		Suggested ideation	
	Rewards exposed	Rewards obscured	Rewards exposed	Rewards obscured
SAT Verbal	.42*	−.12	−.40	−.21
SAT Quantitative	.57**	−.31	−.26	−.23

Delay of Gratification Dynamics

shifting attention to other items/objects: decreasing hot activation; e.g., Slinky condition = 50%+ able to delay gratification

In related studies, the single most important correlate of delay time with older youngsters (ages 5 to 13 years) was *attention deployment*, where the children focused their attention during the delay period: Those who attended to the rewards, thus activating the hot system more, tended to delay for a shorter time than those who focused their attention elsewhere, thus activating the cool system by distracting themselves from the hot spots (Rodriguez et al., 1989).

Delay of Gratification Dynamics

shifting attention to internal aspects of experience: decreasing hot activation; e.g., thinking about anything that is fun = 12 min. average delay

reconstruing the meaning of the hot stimulus: e.g., looking at a picture of the object → 9 min, 13/16 children wait all 15

putting a mental frame around the object → 18 min

Battling Temptation

to a large degree, temptation, which leads to a failure to achieve our goals, is a battle between our HOT and COOL systems

because COOL processes CAN help us to overcome the powerful HOT processes, much of the secret of emotional control, and ultimately motivation, is learning how to **direct our attention** effectively