Study Guide (Final)

**WHAT YOU SHOULD KNOW FROM THE READINGS**

- **Finkel & Eastwick**: evolution of human pair bonds, including why and how they evolved.
    - **pairbonds** - relationship between two adults characterized by affection, stability, reciprocity, and proximity seeking
    - developing pairbonds bolsters the father's contribution to raising a child
    - (**why they evolved**) evolved so the child could survive until ready to reproduce after being born immature
        - child born immature due to bipedal constraints on pelvis and increase in brain size
    - requirement of good diets and larger, more sophisticated brains let to longer neoteny (period where offspring rely on parents)
    - human females more likely to have multiple highly dependent offspring simultaneously
        - human mothers more dependent on others for assistance with survival and childrearing
        - fathers had to help
    - (**how they evolved**) pairbonds evolved on top of infant caregiver attachment bonds
        - infant caregiver bonds promoted offspring survival
        - exaptation
        - both bonds characterized by desire for physical proximity, intimate physical contact, etc
- **Hofer: In this paper Hofer uses findings from animal models to address three questions relevant to human attachment. Be familiar with his answers to all three.**
    - **What creates an attachment bond?**
        - predispositions can be created prenatally to respond to certain scents and sounds
        - newborn rats - odor exposed to them while being stroked with artist brush
            - rats then situated themselves near the scent for the rest of the testing (control group rats did not show the same behavior)
        - now know that newborns can also distinguish their mother's smell from prenatal experience and associating that with hearing and sight
        - rapid early learning process
    - **Why is early maternal separation stressful?**
        - "severing" a bond resulting in extreme behavioral responses; biphasic protest–despair response
            - initial burst of calling and searching, followed by lack of behavioral responsiveness
        - found that infant rats also show the same response as well as others
        - experiments showed that the response was due to the loss of multiple components given from the mother (nutrient, thermal, sensorimotor)
            - more in notes^
        - cannot simply regard separation as a response to stress

- **How can early relationships have lasting effects?**
    - tested early termination of relationship
        - belief that a number of physiological and behavioral systems are altered, creates a changing pattern of vulnerability over the life span
    - tested different qualities of the relationship
        - found correlation between levels of specific maternal behaviors with levels of offspring blood pressure (rats)
        - certain components of mother-infant interaction can help to regulate the later developmental paths of other biological systems in offspring
    - effects can extend until adulthood
- **Wright: Be familiar with the author's arguments against the Ferber method.**
    - by hunter gatherer societies, Wright states that the norm is for children to sleep alongside their mothers for the first few years
        - mothers typically nurse their children to sleep and nurse during the night
    - baby isn't going to develop a sense of autonomy by sleeping alone in a crib
    - refers back to natural selection: babies that cried out after being left alone (perhaps due to an incident where the mother was hurt) were found and cared for
    - or perhaps kids are scared to be left alone
    - perhaps there are benefits of breastfeeding at night
    - male doctors have again and again been wrong about practices a woman should do
    - we should recognize that people are also animals
- **Suomi: Be familiar with the methods and findings regarding "effects of maternal deprivation…" (pp. 175-177), "effects of disruptions of maternal care…" (pp. 178-179) and "effects of unusually secure early attachments…" (pp. 179-181).**
    - **effects of maternal deprivation**
        - monkeys reared in such conditions develop few, if any, idiosyncratic stereotypic behaviors, such as those developed when completely isolated
        - no "secure base" that allows the monkey to explore in unfamiliar environments
        - while there aren't any big behavioral or developmental problems, monkeys tend to be more shy and reluctant to explore
            - typically drop to the bottom of their dominance hierarchies
        - separation reactions in peer-reared monkeys seem to mirror high-reactive mother-reared subjects behaviorally and physiologically
            - peer rearing causes monkeys to be more high-reactive
            - makes them more impulsive (esp for males)
        - females are more likely to be abusive or neglectful to their firstborn offspring (tends to improve dramatically tho)
    - **effects of disruptions of maternal care**
        - can have long-term behavioral and physiological consequences
        - female bonnet macaques required to forage for their daily diet; time required for enough food was manipulated experimentally
            - low foraging demand (LFD); variable foraging demand (VFD)

- LFD infants had less secure attachments to their mothers compared to VFD infants (who were more hesitant to explore or play)
- VFD monkeys hyperresponsive to noradrenergic probe, hyporesponsive to the serotonergic probe
    - also higher cerebrospinal fluid levels
- seemingly minor environmental changes can have significant behavioral and physiological consequences (VFD)
    - due to insecure early attachments
- **effects of unusually secure early attachments**
    - temperamental monkeys were reared by non-kin females who had more than one offspring (differed from characteristic maternal style)
    - monkeys of more normal reactivity showed little difference between the different mothers
    - dramatic differences with the temperamental monkeys
        - attachment relationships appeared unusually secure
        - decreased ventral contact earlier, explored more, and displayed less behavioral disturbance
        - became adept at calming down other group members and maintained to positions in the dominance hierarchy
    - females adapted the maternal style of their foster mothers
- **Zayas et al.: focus your review on the introduction, present research, and discussion of the findings sections.**
    - **Introduction**
        - study of infants has roots in developmental psych; study of adult relationships has roots in social/personality psych
        - evidence that quality of maternal caregiving can shape an infants' attachment style
        - responsive and sensitive caregiving linked to secure attachment style
        - controlling caregiving linked with development of an avoidant style
        - unresponsive,under-involved, or inconsistent caregiving linked to development of anxious-ambivalent attachment style
        - paper looks into the continuities of attachment across lifespans and the discontinuities in the presence of life stresses
        - attachment bond between romantic partners resembles the emotional bond between infants and their caregivers
        - safe haven, exploration, and separation distress becomes pointed to peers and then to romantic partners
        - anxiety and avoidant concerns seem to underlie the individual differences between adult and infant attachment patterns
        - caregiving within the first 2 years of life expected to influence adult attachment dynamics with peers and partners

- **Present research**
    - investigating whether maternal caregiving at 18 months predicts adult attachment to each parent, close friends and partners, and abstract, generalized knowledge structures
- **Discussion**
    - sensitive maternal and not controlling caregiving predicted less avoidance and less anxiety to friends and partners
        - general influence, both peers and partners
        - less anxiety to only partners
    - romantic relationships are more likely than peer relationships to develop into full-fledged attachment bonds (separation anxiety)
    - early maternal caregiving didn't significantly predict adult attachment to either parent
        - parents still provide a source of attachment security well into adulthood
        - dynamics of the attachment system more directed towards peers and romantic partner in adulthood
- **Fink & Penton-Voak:** Focus on the sections that address the three major cues of symmetry, averageness, and hormone markers, and the evolutionary explanations for the appeal of each.
- **facial symmetry**
    - hypothesized to show higher environmental durability during development
    - symmetry has positive correlation with heterozygosity (having different variants on a gene of the same chromosomes)
    - may signal genetic diversity to protect against parasites
    - symmetry not the only factor when deciding attractiveness
- **averageness**
    - average denotes heterozygosity
    - relationship between averageness and attractiveness from nonface objects
        - attractiveness to average faces more of a natural tendency
- **hormone markers**
    - testosterone production encourages males to attract and compete for a mate
        - causes more prominent jaw and cheekbones, eyebrow ridge growth, longer faces
        - traits mark that a person has "overcome" the negative effects of testosterone on the immune system
    - for females, linked to age and reproductive ability
        - estrogen can cause higher cheekbones and other puberty related features
        - also linked to a person's durability to stand the effects of estrogen on the female's immune system
        - skin condition connected to overall attractiveness
            - infection may mean less production of androgen and estrogen and reduced reproductive ability

- hairlessness may signal fertility (low androgen, high estrogen)
-
- varying female preferences towards males indicates that attractiveness not just based on genetic formidability, but also other contextual factors
- **evolutionary explanations**
- humans evolved to detect the cues for a good mate
- resistant to cultural differences
- but everyone still differs in what they call attractive
- trade off cues to better genes and benefits to other contextual factors
- ~~**Taylor et al.**: there will be no questions on this article.~~
- **Hunt et al.:** Focus on the method, Figure 2, and the discussion.
- study that shows the long you are acquainted with someone before dating, there is less reliance on the similarity between the two people (assortative mating)
- **method**
- recorded how long couples had known each other before dating and how long they've been together
- other judges rated attractiveness of each member
- **hypothesis**
- the longer a couple has known each other (before dating) the less they are to be of similar attractiveness
- those that had been platonic friends before dating would let them get to know each other without the context of romantic competition
- assortative mating would be higher for those that had not been friends before dating
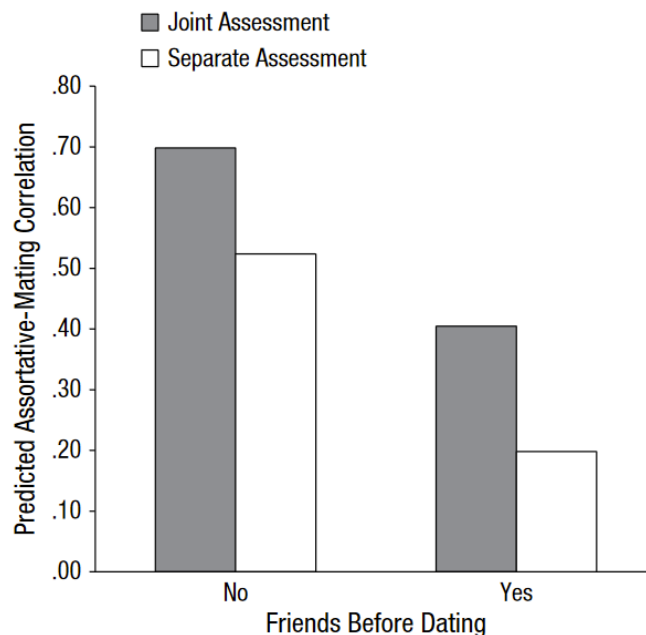
Fig. 2. Predicted values of the assortative-mating correlations for joint and separate assessments of physical attractiveness. Results are shown separately for couples who had and had not been friends before they started dating.

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- members of couple less likely to be matched based on attractiveness if friends before dating
    - higher assortative mating correlation for those who were not friends
- discussion
    - couples who got into a relationship soon after meeting were more likely to be matched in physical attractiveness than those who got into relationships after some time
    - assortative mating (based on attractiveness) stronger in couples who had not been friends before dating
    - results could reflect a higher likelihood of being attracted to those similar to you
- **Back et al.**: This study was covered in lecture, but see the article for any missed details.
- **Bosson et al.:** Focus on overview of studies and hypotheses, method for Study 3, and the general discussion.
    - **overview of studies and hypotheses**
        - sharing negative feelings over a third party person promotes closeness between two people (more than sharing positive feelings)
            - establishes boundaries, boats self esteem, conveys information about attitude holders
        - people tend to think that sharing a positive attitude is better than negative attitude because it is more socially desirable to not be judgemental
        - bonding over gossip follows these theories of bonding over shared negative attitudes
    - **study 3**
        - used to determine whether there was a causal relationship between sharing negative feelings and closeness
        - studies when two strangers shared negative or positive attitudes about a third party
            - one person shared positive or negative feelings about someone; were then told someone else in the study shared the same feelings; then rated feelings of closeness with the other person
        - measured effects of this on closeness with the stranger
        - uncommon shared attitudes might promote closeness (more than common shared attitudes)
    - **general discussion**
        - we like those similar to us
        - people recalled more shared negative attitudes than shared positive attitudes
        - people felt closer with strangers who shared negative attitudes
        - close friends recall more positive non-person attitudes
            - the more shared negative attitudes about a person, the more shared positive attitudes about a non-person
            - people more likely to open up about other things after realizing the shared negative attitude and sharing that

- **Elliot & Niesta**: This study was covered in lecture, but see the article for any missed details.
- **Toma et al.:** Focus on the self-presentation and deception section.
    - studied people's self presentation in online dating profiles
        - men lied more about height, women about weight
        - least accurate thing is photographs, most accurate about relationship information
    - self presentation and deception
        - self presentation takes into account target audience and context of the social interaction
            - involves thinking about what to keep in, leave out, and using more deceptive information
        - opposing tensions
            - might wanna highlight positive traits
            - might also want to find someone that understands and accepts then for their flaws
        - self presentation important because others will use that info to decide whether to pursue a romantic relationship
        - competition and pressure to make yourself seem better than the other people on app
- **Diamond: Focus on the "evolutionary origins" and implications for "sexual orientation" sections.**
    - looks at the relationship between sexual desire and attachment
    - **evolutionary origins**
        - adult pair bonding is an exaptation - evolved for one purpose but fulfills another
            - thought to have evolved so offspring would stay close to attachment figure
            - evolved so both parents would take care of offspring (higher survival)
        - parallels between adult pair bonding and infant attachment
            - same characteristics, same oxytocin-based circuitry
        - even though sexual desire and love are distinct, they are blended together because of societal norms and proximity
    - **implications for sexual orientation**
        - women tend to put greater emphasis on relationships as a context for sexual feelings than men
        - women sometimes develop same sex desires after falling in love with a female friend
            - oxytocin links between love and desire may make it easier for women to override their original sexual orientation
        - biobehavioral links make it possible for love and desire to trigger one another (even though they are independent of each other)
        - may be more likely for women because of higher levels of oxytocin and cultural acceptance of close women relationships
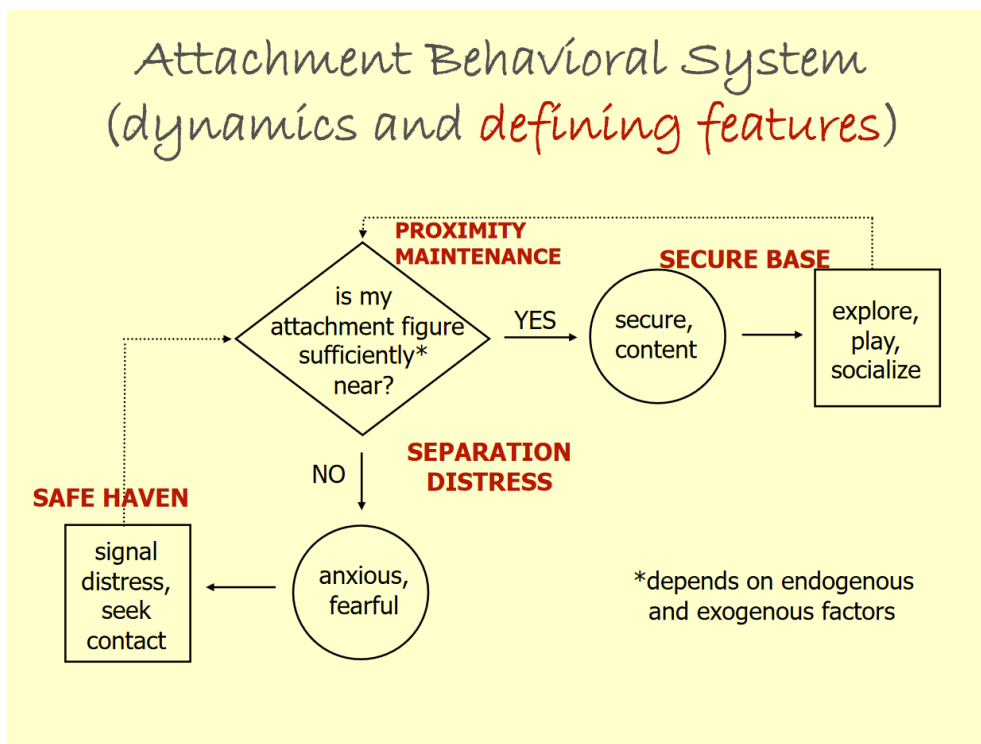
- **Master et al.**: The study will be covered in lecture, but see the article for details on the method.
- **Hawkley & Cacioppo:** focus on the intro, and the loneliness model, health behaviors, and sleep sections
    - looks at the effects and features of loneliness
    - loneliness defined as one's social needs not being met by quantity or quality
        - motivates connection or reconnection with others
    - social equivalent of physical pain, hunger, etc
    - when left untreated, can cause serious consequences for cognition, emotion, behavior, and health
    - **the loneliness model**
        - perceived social isolation is equivalent to feeling unsafe
        - makes you more wary of social threat
            - produces cognitive biases: social world seems more threatening, expect and focus on negative interactions
            - confirmation bias - negative social interactions fulfill expectations
        - creates a self-fulfilling prophecy where you distance yourself from others because you believe that they simply don't like you
        - leads to adverse health outcomes
    - **health behaviors**
        - loneliness causes diminished capacity for self-regulation
            - self-regulation in thoughts, feelings, and behaviors is crucial in accomplishing goals or complying with social norms
            - automatic attentional processes are fine but effortful attentional processes are worse compared to non-lonely people
        - regulation of emotion can enhance ability to regulate other self-control behaviors
            - loneliness correlated with less effort put into maintenance of positive emotion
            - explains lower likelihood of engaging in physical activity
        - risk factor for obesity and other health-compromising behavior (alcoholism)
    - **sleep**
        - experimental sleep deprivation has adverse effects on cardiovascular function-ing, inflammatory status, and metabolic risk factors
        - loneliness associated with poor sleep quality and daytime dysfunction
            - more daytime dysfunction meant more nightly micro-awakenings
        - lonely feelings predicted daytime dysfunction which then exerts a small but significant effect on lonely feelings the next day
            - potential reciprocal causal relationship
        -
- **Selcuk et al.**: This study will be covered in lecture. See the article for any missed details.
    - consistent perceived partner responsiveness linked to lower anxiety and depression
        - leads to better sleep

- **Feeney & Collins:** Focus on the intro through the section on "the importance of support quality."
    - explains how close relationships promotes thriving
    - **thriving** - growth and development
        - individuals thrive when they are able to overcome adversity and experiencing life opportunities
    - support of a relationship provides a **safe haven**
        - helps to strengthen the person and comfort them
    - relationships also provide support in participation of life opportunities, **secure base**
        - supportive relationships promote engagement in these opportunities that can help to expand their wellbeing
        - person can explore while knowing that they can return to someone for comfort
    - support must be **sensitive** and **responsive** so the recipient feels understood and cared for

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PRELIM 1
- **Primary drives** - innate
    - ex. food, sex, etc.
- **Secondary drives** - learned associations with primary drives
    - ex. money
- **Secondary Drive Theory of Infant Attachment** - babies associate their mothers with food, resulting in attachment due to this link
    - Bowlby doubted this after observing that WWII orphans that were well fed were still despondent and missed their parents
- **John Bowlby's Ethological Attachment Theory**
    - a child needs a warm continuous association with at least one person in order to develop as a human being

- **Attachment Behavioral Theory (Bowlby)**

Attachment Behavioral System
(dynamics and defining features)

PROXIMITY MAINTENANCE

is my attachment figure sufficiently* near?

YES

SECURE BASE

secure, content

explore, play, socialize

NO

SEPARATION DISTRESS

SAFE HAVEN

signal distress, seek contact

anxious, fearful

*depends on endogenous and exogenous factors

- **What turns the system on and off?**
    - Is my attachment figure sufficiently near?
        - *yes* -> more relaxed; can play, explore, socialize, etc.
        - *no* -> anxious and fearful; signal distress, seek contact
    - Depends on endogenous (feelings, sickness, etc) and exogenous (outside environment) factors
- According to Bowlby, child will reassure that their attachment figure is close by, then go off to explore in the presence of the figure
- If figure isn't present, child will start getting scared and react strongly (crying signalling distress)
- **Four defining features:**
    - **Proximity maintenance** - staying in touch
    - **Secure base** - knowing that they're there for you
    - **Separation distress** - getting cautious and fearful when separated
    - **Safe haven** - feeling comforted when in their presence
- **Emotion regulation function (shown in image above)**
    - emotional state of an infant regulated through proximity to attachment figure
- **Monotropy** - network of attachment figures in which there is a single person on top that you turn to for comfort
    - lower tiers for others that are backups
- **"Cradle to grave"** (with normative restructuring) - attachment behavioral system is inborn and operates throughout your lifespan
    - **Normative restructuring** - person at the top of hierarchy changes as you age; network changes as you age

- **Ontogeny:**
    - stages of bond formation in infant-caregiver attachment bonds
    - when born, not attached to anyone, no one is born attached to a specific person
    - **0-2 months: Pre-attachment**
        - not attached to anyone, just needs someone that responds to their needs
    - **2-6 months: Attachment in the making**
        - start to develop preferences
        - smile more, nuzzling, very intimate
    - **6-8 months: Clear-cut attachment**
        - separation distress
            - very sudden
        - stranger anxiety
            - under 6 months, usually very welcoming
            - now, terrified
        - self-produced locomotion
- **Three adaptive challenges:**
    - All correspond to behavioral systems
    1. **Survive to reproductive age**
        - Corresponds to attachment system
        - Keeps us close to our caretakers
    2. **Support offspring to reproductive age**
        - Corresponds to parental/caregiving system
        - Need support from adult caregivers
    3. **Successfully reproduce**
        - Sexual mating system
- **Factors that promote bonding (parental/caregiving system)**
    - **Infants' neotenous features**
        - activates a response where we want to take care of them
    - **Infants' soft, smooth skin**
        - Invites touch
    - **Aversiveness of infant cries**
        - Among the most aversive of auditory signals
        - Elicits a reaction and immediate response
        - Cultural differences
            - Infants are usually in contact with another person in many cultures; less crying (Botswana)
    - **Appeal of infant laughter**
        - Helps connect this reward system
    - **Infant-directed speech**
        - Babytalk
            - exaggerated intonation, elevated pitch, repetitions, whispers
        - Talk to them while they're preverbal
        - Another way we can regulate a baby's emotions

- **Infants' attraction to faces (especially eyes)**
    - We feed infants face-to-face
- **Ventro-ventral contact (belly to belly)**
    - The most soothing contact
    - Elicits oxytocin
- **Attachment figure "selection" factors**
    - **Propinquity** (who's around)
    - **Familiarity**
        - in the context of stress alleviation
    - **Physical maturity** (adults)
    - **Physical intimacy**
        - baby is aware of how they're being handled
- **Bi-phasic response to separation**
    - **First phase** ("protest") - emotional stage, screaming and crying
        - Immediate, acute reaction
    - **Second phase** ("despair") - depression stage, sluggish, despondent
    - Hofer experiment, pups became in a "despair" phase
        - Bradycardia, slower heart rate (solved with milk)
        - Inactivity (warmth)
        - Reduced growth hormone (touch)
    - Each symptom connected to a specific feature of the mother
    - **Conclusions**
        - psychological and physiological co-regulation is an inherent feature of attachment
        - psychological and physiological dis-regulation as a result of separation from attachment figures
- **Co-sleeping vs non-co-sleeping**
    - **Co-sleeping nights:**
        - babies and mothers woke up more often
        - more nursing
        - more adjustments of baby sleep positions
        - less time in "deep" phases of sleep
    - When non-co-sleeping; babies might be on their stomachs
        - Babies sleep better on their stomach (ventral contact) but it is extremely dangerous
        - Weak so don't have the strength to push themselves up
        - Deep sleep so don't even realize if they have apnea
        - No mother there to adjust and check on child
- **Current recommendation**
    - Infants should be placed for sleep in a supine position (wholly on the back) for every sleep by every caregiver until the child reaches 1 year of age.
    - Room sharing but not bed sharing

- **Kangaroo care**
    - Staff suggested to copy other marsupial care (kangaroos) when there was a insufficient incubators
    - **Short term effects**
        - cried less, slept longer, lower levels of stress hormones, gained weight more quickly, went home sooner
    - **Long term effects**
        - less stress-reactive, more exploratory
- Functions and activating stimuli of social-behavioral systems

Social-Behavioral Systems

System	Function	Activating stimuli
attachment	self-protection and security	self-threat, anxiety, fear
affiliation	socialization, stimulation	peer presence, op's for play
caregiving/ parental	other-protection and security	other distress/ vulnerability
sexual mating	reproduction, pair bonding	sexual maturation, fertility

- **Harlow's experiments**
    - Rhesus monkeys had a wire mother and a cloth mother
        - Though some were fed from wire mother, they were still drawn to the cloth mother as a caregiver
        - Ran to cloth mother when frightened
    - **Sleeper effects**
        - Affects their attachment behavior as well as other behavioral systems
        - Those deprived of early attachment were highly reactive and impulsive
        - Incompetent at parental'caregiving, sexual mating, and peer relations
        - Deprived attachment had long term effects

- - **Interrelations among the systems**
  - - The three social-behavioral systems are overlapping neuroanatomically and neurochemically
  - - If attachment system is interfered with, it'll cause problems with the other systems
  - Concluded that attachment is a **primary drive** (rather than secondary)
- - **"Strange Situation" Paradigm**
  - - Baby and mother left in an unfamiliar room together
  - - Then stranger (female) enters and doesn't do much - baby has stranger awareness
  - - Then stranger chats with mom - friendly convo says stranger isn't dangerous
  - - Mother leaves the room, then comes back
  - - Then baby is left alone - tests whether any presence matters or if being alone is the reason for distress
  - - Stranger comes and leaves - somebody is back, baby not alone anymore
  - - Then mother comes again (alone with baby)

1	(S)BM:
2	BM:
3	BMS:
4	BS:
5	BM:
6	B:
7	BS:
8	BM:

- Only two episodes being coded **(5 & 8)**
  - - Reunions with mother
  - - Only coding the baby's behavior
  - - Don't wanna code the adult's behavior because they are aware of the experiment
  - - Some babies may have more experience being separated
- - **Three main patterns of infant-caregiver attachment**

Pattern	Strange Situation Behavior	Percent	Caregiving Antecedent
B (Secure)	seeks proximity and is fully soothed	67%	consistently responsive
C (Ambivalent)	seeks proximity but resists comfort and thus is not soothed	12%	inconsistently responsive
A (Avoidant)	actively avoids contact and thus is not soothed	21%	consistently unresponsive

  1. **B (secure) - 67%**
     - - When caregiver returns, baby seeks contact and is fully soothed
     - babies received consistent responsiveness at home

2. **C (ambivalent) – 12%**
    - When caregiver returns, baby seeks contact but is not fully soothed; actively resists comfort
    - babies received inconsistent responsiveness at home
3. **A (avoidant) – 21%**
    - When caregiver returns, baby actively avoids contact
    - babies had consistently unresponsive caregivers
- **Ainsworth Baltimore Study**
    - in-home 4 hours every other week for the first 3 months
        - took detailed notes on all the interactions
    - Finding: one reliable predictor of infant's strange situation behavior
        - **Caregiver responsiveness:**
            - noticing baby's expressing distress (paying attention)
            - interpreting correctly (understanding)
            - responding prompt & warmly (caring)
        - Caregiving antecedent of patterns shown above
- **Caregiver responsiveness or infant temperament?**
    - nature vs nurture
    - Inborn differences in stress reactivity, but
        - kids have different attachment styles with different caregivers
            - If just depended on temperament, attachment styles would be the same with everyone
            - depends on the quality of your relationship with person
        - neonatal temperament does not predict styles
            - can measure behavior in a hospital
        - responsiveness training changes styles
    - temperament still important
- Early attachment patterns/styles emerge from a combination of an infant's innate predisposition to form bonds with adult caregivers and the consistent/inconsistent responsiveness/unresponsiveness of the adult caregivers they happen to end up with
- **Lasting effects of early bonding experiences**
    - experiences → expectations → behaviors
        - Experiences when distressed and expressing stress shape expectations which then affect future behaviors
        - Behaviors then recreate those experiences
        - Carry into new relationships with new people
        - Autonomic nervous system & hypothalamic pituitary adrenal axis conditioning
        -

PRELIM 2
- **Bonding related milestones**
    - **~2 years** - shift in attachment/affiliation balance of prolonged parents vs peers trend
        - more focused on peer relations

- parents still secure base
- exploring away
- **~3 years** - new developments in peer relations, real ("true") social interaction
    - sustained attention
    - turn taking
    - relevant responsiveness
- **~4-6 years** - heightened gender awareness, and self-segregation
    - society may segregate boys and girls, but there is still self-segregation even without influence
    - start thinking about where you fit in gender
    - **Sexual imprinting**
        - how did your "type" develop?
        - process by which a young animal learns the characteristics of a desirable mate
        - rule in specific features/characteristics
    - **Westermarck effect (or reverse sexual imprinting)**
        - people who grow up in close domestic proximity during a critical period in early life are ruled out as later sexual partners
            - possible anti-incest mechanism
            - won't be attracted to specific people because they seem like your siblings
- **~8-12 years** - kids start to direct attachment behaviors to their peers
    - nature and import of peer relations changes onset of peer-directed attachment behaviors
    - attachment behavior, not attachment bond
        - kids start to explore more
    - don't become more autonomous
        - dependence shifts from parents to other people
    - beginning of the process of moving from parental figures to peers
- **~puberty** - hormone-related bodily changes; notably shape; facial changes
    - **estrogen**
        - causes girls to gain weight in the butt/thigh region, gain a waist
        - definition of cheekbones, suppresses growth in the lower face, increase in lower lip thickness
    - **testosterone**
        - suppresses weight gain in the butt/thigh region, shoulders get bigger
        - definition of cheekbones, prominence of brow region, growth between chin and jaw region
    - increase in sexual dimorphism
    - associated changes in physical intimacy with parents
        - parents handle you differently
        - start looking for intimacy elsewhere

Facialmetrics Results

	Female Faces	Male Faces	Feature Type	System Cued
EYE				
Height	+ + + +	+ + + +	Neotenous	
Width	+ + + +	+ + + +	Neotenous	Caregiving/ Parenting
FOREHEAD				
Height	+	+	Neotenous	
CHEEK BONES				
Prominence	+ + + +	+ + + +	Sexual Maturation	
LOWER LIP				
Thickness	+ + +		Sexual Maturation	Sexual Mating
CHIN				
Length	- - - -	+ + + +	Sexual Maturation	
Width	- - -	+ + +	Sexual Maturation	
(EYE)BROW				
Prominence	- -	+ +	Sexual Maturation	
Height	+ + +		Expressive	
PUPILS				
Height	+ + + +		Expressive	Attachment
Width	+ + + +		Expressive	
SMILE AREA				
Height	+ + + +	+ +	Expressive	
Width	+ + + +	+ + + +	Expressive	

- **neotenous feature** - activates caregiving/parental system
    - eye size - bigger eyes, positive correlation
    - forehead height - bigger, positive correlation
- **sexual maturation** - activates mating system
    - brow prominence - positive correlation for males, opposite for females
    - cheekbone prominence - positive correlation for both
    - lower lip thickness - positive correlation for females
    - chin length - positive correlation for males
- **expressive features** - gives info about attachment system
    - brow height - positive for females
    - pupil size - positive correlation for females
    - smile area - positive correlation for both
- above the shoulder features:
    - smooth and clear skin
    - white teeth
    - clear, sparkling eyes
    - color in lip, skin, and eyes
    - lustrous hair
- other features correlate with youth and health
- **symmetry**
    - more symmetry means more robustness against environment perturbations and pathogens during development
    - "good" genes
    - signifies good health
    - we are created symmetric in the womb - random deviations occur as we develop
    - for men
        - correlated with lower physical attractiveness ratings, lower desirability as mates, and fewer sexual partners

- **waist to hip ratio (WHR) for women**
    - "universal" way to rate attractiveness
        - original study had only front view; Americans prefer low WHR
        - Hadza men preferred higher WHR in frontal view but lower WHR in profile view
            - used 2D profile to show butt size
    - lower waist to hip ratio = good:
        - **sign of fertility**
            - females get a waist during puberty
            - during menopause, weight goes to the waist
            - during pregnancy, weight goes to waist
        - **sign of good health**
            - higher WHR correlates with higher increase in diabetes, cancer, cardiovascular disease, and overall mortality
        - average is 0.7
    - most attractive WHR is the average for women who are post-pubescent, pre-menopausal, and have never had a child
- **waist to hip ratio (WHR) and shoulder to hip ratio (SHR) for men**
    - high WHR and SHR are more attractive
        - average WHR is 1:1
        - average SHR is 1:4:1
        - higher WHR is associated with greater health risks (similar to females) and reduced fertility (lower sperm motility)
        - as men age, SHR declines with testosterone levels
    - indicators of sexual maturation and hormones
- **gait**
    - conveys information about age
    - conveys information about gender
        - females have more sway in their hips while males have more swagger around their shoulders
- **propinquity**
    - **Festinger et al.**
        - looked at friendship patterns in a married student housing complex at MIT
        - participants: american WWII servicemen and their families
        - neighbors and those that lived close to each other were 4x more likely to become friends
        - those near stairwells were 2x more likely to become friends with the upstairs neighbors
        - those who lived in the separate building facing the street had the least friendships
    - **Back et al.**
        - looked at friendship between those in the same class
        - people who sat in neighboring seats were more likely to know the person one year later; same row also more likely than different row

- neighboring seats > same row > different rows
    - we know implicitly that something can happen when you're in close proximity with someone
        - have higher expectations and more likely to act from the closeness
    - **types of propinquity:**
        - physical - geographically close
        - social - mutual friends
        - cyber - dating websites, chatrooms
- **assortative mating**
    - non random mating
    - picking mates that are more similar to you
    - active phenotypic assortment
        - actively looking for mates similar to you
    - social homogamy
        - choosing mate from pool of friends or acquaintances, who tend to be similar to you
- **familiarity**
    - **Saegert et al**
        - "taste" experiment where two people would taste a substance in a cubicle at the same time
        - the more times a person was encountered, the more likeable they are
    - **Moreland & Beach 1992**
        - person who attended the most class sessions received higher likeable ratings as a person
            - other people around her see her face more often and feel she is familiar
    - why does familiarity enhance attraction?
        - easier to perceive and process things we are familiar with
        - we automatically make judgement on friend or foe due to stranger wariness
            - when more familiar, less wary, enhanced attraction
    - familiarity caveats
        - repeated exposure enhances liking only when the initial reaction is positive/neutral
        - repeated exposure to those initially disliked tends to enhance disliking
        - familiarity dampens physiological arousal and sexual arousal
            - more relaxed and less exciting/novel/new
- **contextual factors**
    - bridge study
        - those who met a woman on the swaying "dangerous" bridge were significantly more likely to call her back compared to the control "safe" bridge
    - when your heart rate is elevated, you're more likely to rate others as more attractive
        - works for bridge, gym, etc
    - people are more attractive when the rate is in a positive mood (watching happy film, listening to happy music, comfortable)

- people more attractive after rater has consumed alcohol
- **red and attractiveness**
    - could be from biological ancestors (monkey behinds are red when ovulating)
    - Elliot and Niesta (2008) - red increases physical attractiveness and sexual desirability
    - Beall & Tracy (2013) - women are more likely to wear red/pink when ovulating
- **smell and attraction**
    - major histocompatibility complex (MHC) - codes for disease and pathogen resistance
    - co-dominant so combines the features of both alleles
    - female humans prefer the scents of males whose MHC is different from their own (better genes)
        - those who had familial smell were less attractive
    - heterosexual men find body odor of women more attractive
        - show testosterone response to scents when women are ovulating
        - Miller, Tybur, and Jordan 2007
            - lap dancers earned highest tips during fertile cycle
            - birth control lowers attraction to smell
    - # of offspring might be a higher priority for males
    - robustness of offspring might be higher priority for females
- **scarcity of options**
    - if you think there are less options, each option will seem more attractive
    - Pennebaker (1979) - increase in perceived attractiveness of other patrons at bar after 10:30 pm
    - Lenton & Francesconi (2010) - speed dating
        - the more options, the more cognitive demand so more taxing to remember info about other people
        - more options, more focus on superficial characteristics
        - more options, harder to commit to one person
- **length of acquaintance**
    - longer the acquaintance before two people started dating, the lower the physical attractiveness matching
        - friends before dating
        - goes back to propinquity
    - very high correlation to very low correlation based on length of acquaintance
- **reciprocal liking**
    - appeal of those who find you attractive
        - from someone you find at least acceptably attractive
    - if they're very selective (fewer people they like), boosts their attractiveness
        - playing hard to get?
        - but still some indication that you're making progress
    - reciprocal liking is often a trigger for romantic infatuation
    - new information tends to enhance their appeal and your interest in them

- **local indicators of status** - whatever matters in your social network, being better at something
- **universal indicators of status** - accepted among the general population as something valuable
    - wealth, material resources, power, influence, etc
- higher standing means more attractive
- **personality**
    - can have impressions or inferences about personality
    - facial expressions and other cues
        - positive emotion, warmth kindness
        - duchenne smile - genuine smile
        - those that show duchenne smiles in their photos are rated higher in attractiveness
        - addition of baby or dog also increases attractiveness
- **finding the one**
    - can reduced the millions with a multitude of factors
    1. **determining who is accessible**
        - look at who is eligible; those close, similar, and familiar to you
        - propinquity, similarity, familiarity
    2. **determining who is appealing**
        - personality, status, and looks (and other contextual factors)
        - online profiles
            - deception in the above traits
        - evolutionary perspective
            - personality - shows how you and offspring will be treated
            - status - shows how you and the offspring will benefit
            - looks - shows whether they are young, healthy, and fertile
    3. **determining who is attainable**
        - reciprocal liking
        - strong attractions alter our emotions, cognitions, and brain chemistry
            - will try to make reciprocal liking a reality in our minds
    4. **determining the one**
        - infatuation
- **international mate preferences**
    - what males are looking for
        - first four are the same for males and females
        - first four about positive personality and health
        - males rank physical attractiveness higher than females
    - what females are looking for
        - first four about positive personality and health
        - females rank good earning potential (status) higher than males
    - prioritization of personality, then gender differences

- **trade offs in mate choice**
    - personality vs status
        - personality > status (money)
        - for men and women, ST and LT
    - personality vs looks
        - looks > personality in ST
        - personality > looks in LT
    - looks vs status
        - looks > status
        - for men and women, ST and LT

AFTER PRELIM 2
- **symptoms of romantic infatuation**
    - **acute onset** - remembers the exact moment when the infatuation began
    - **physiological arousal** - increased heart rate
        - typically have decreased appetite and reduced sleep but still more energy
    - **mental preoccupation** - person always in your mind
    - **mood dependency** - how you feel depends on whether the person likes you back
        - dramatic swings in mood depends on how the other person responds
    - **idealization** - tendency to focus on the positive, overlook shortcomings
    - **single target** - tends to focus on a single person
- **average duration**
    - infatuation lasts 2 years (only if two people get into a relationship)
    - peaks fast into the relationship
    - infatuation most intense in the beginning
        - begins to decline in first year
    - reaches a steady back and forth after 2 years
- **similarities and differences from lust/sexual attraction**
    - **similarities:**
        - time courses are essentially the same
        - primary targets (those that you are sexually attracted to) are the same
        - overlapping neurochemical systems
    - **differences:**
        - not just about sex
        - people care about reciprocal affection
        - hatfield study
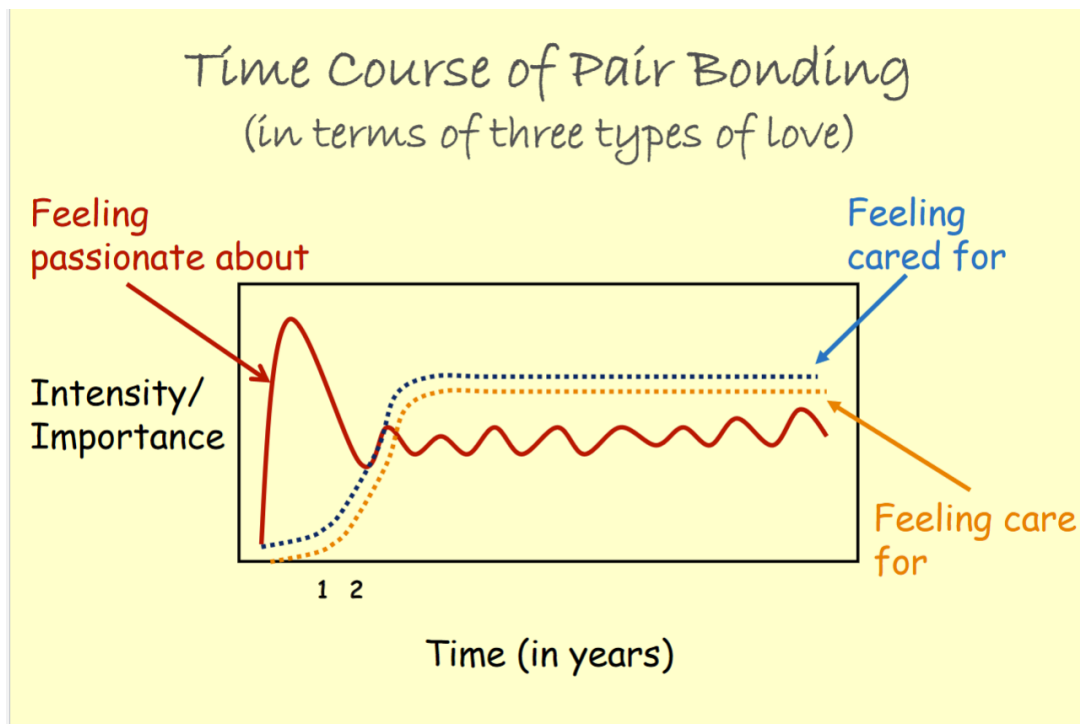   - pre-pubertal infatuation (ages 5-15)
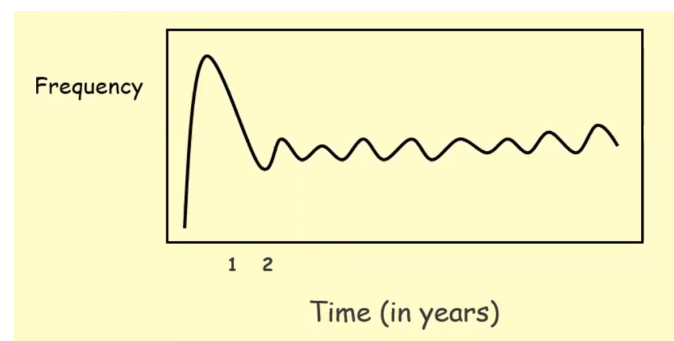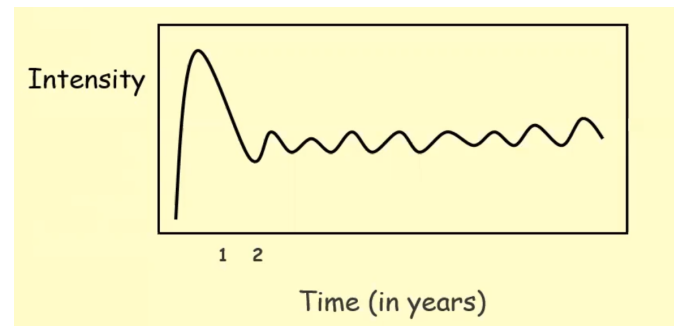
- large portion of children experience romantic infatuation
- intensity of feelings from young children similar to the older participants
- **uncertainty fuels infatuation**
  - attracted to a person but don't exactly know how they feel about you
  - important characteristics of infatuation dependent on uncertainty
- **underlying neurochemistry**
  - neurochemistry is distinct but overlapping for infatuation and sexual attraction
  - romantic infatuation might precede sexual attraction or vice versa
  - **sexual fluidity** - women would start off as het and would then say they are bi/lesbian or the reverse
    - cause was likely due to romantic infatuation <-> sexual attraction
  - **dopamine**
    - appetitive/approach system - activated when you see something you want, desire, or are hungry for
    - releases before and during sex
    - activates same receptors as cocaine
    - downside - habituation, need more and more to be satisfied over time
  - **opiates**
    - consummatory reward system - make you feel sated, satisfied, and content
    - released during and after sex
    - activate same receptors as heroin
  - **oxytocin**
    - cuddle chemical - feels closeness, comfort, and trust
    - triggers labor in pregnant women and milk letdown in nursing mothers
    - also triggers care, makes you feel like you wanna care for someone
    - peaks during sexual orgasm
      - higher for women on average
    - sensitizes reactions to dopamine
      - oxytocin is the reward
    - inhibits habituation to opiates
      - same degree of feeling of contentment
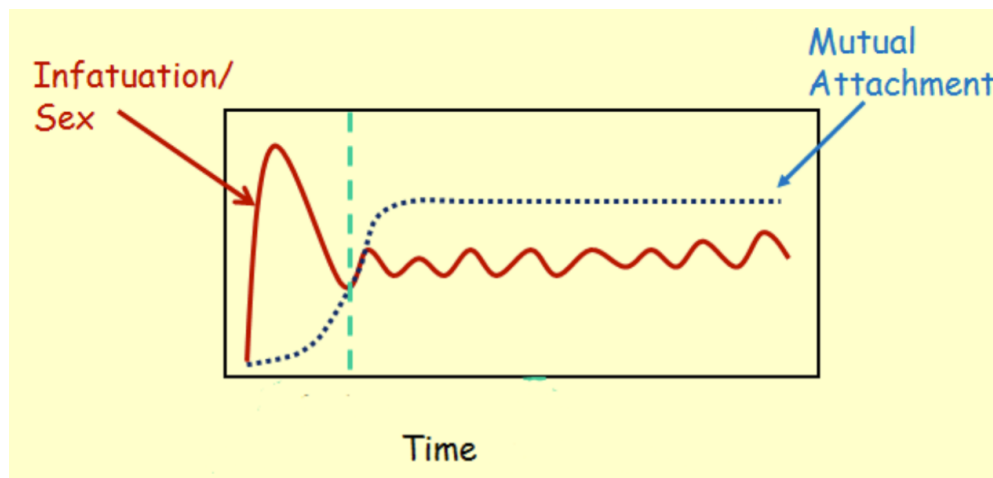
  -
- initial infatuation phase (large spike in attraction)

- fueled by dopamine (wanting/hungry for the person)
- cocaine-like phase
  - leveled off phase
    - heroin-like phase
    - feeling contentment/satiation
  - oxytocin effects on both phases
    - enhances cocaine-like phase and prevent habituation in the heroin-like phase
- **theorized function of romantic infatuation**
  - promote bonding between reproductive partners
  - high probability that offspring will result from having sex multiple times
  - having two partners increases the probability that the offspring will survive
- **three types of love**
  - **feeling protected, secure, cared for**
    - ex. a child loving a parent
    - attachment system
    - adaptive challenge - survive to reproductive age
  - **feeling protective, caring, responsible**
    - ex. a parent loving their child
    - parental/caregiving system
    - adaptive challenge - nurture offspring until they are ready to reproduce
  - **feeling excited, aroused, passionate**
    - ex. a romantic/sexual partner
    - sexual mating system
    - adaptive challenge - successfully mate
  - need to love other people to survive as a species
- **time course of each type of love**

Time Course of Pair Bonding
(in terms of three types of love)

Feeling passionate about
Feeling cared for
Intensity/Importance
Feeling care for
1 2
Time (in years)

-

- feeling passionate - intense early on
- feeling care for and feeling cared for becomes the most important over time
    - mutual attachment in partner
- **features used to determine monogamy (vs promiscuous)**

	Monogamous	Ambiguous	Promiscuous
Os penis? NO	✔		
Testes size? Medium		✔	
C/Overt ovulation?		✔	
Sex for fun? YES!	✔		
Sexual behavior?		✔	
Sexual dimorphism?		✔	
Paternal care? Yes	✔		
Sep distress? Yes	✔		

-
- **os penis (penile bone)** - humans do not have a penile bone
    - when you don't have a penile bone, you need to be sexually aroused before you have intercourse
    - sexual arousal involves release of oxytocin; facilitates bonding
    - indicator of promiscuous mating pattern
- **testes size** - promiscuous species tend to have proportionally larger testes
    - producing sperm to compete with other males in a promiscuous species
    - not gonna be competing with other males in a monogamous species
    - males have a significant decrease during physical separation compared to when you are just taking a break from sex
    - humans have medium sized testes
- **overt or covert ovulation** - less advertised ovulation in monogamous species
    - might have to spend more time and have more sex when you don't know when they're ovulating
    - traditionally, humans are classified as covert
        - but there are subtle cues to males
        - ambiguous category
- **sex for fun**
    - humans have sex when conception is not a possiblity
    - serves more than a reproductive function
- **sexual behavior**
    - reported extramarital affairs
    - men have much higher percentages of reporting extramarital affairs
    - significant number but not a very high
- **sexual dimorphism** - greater dimorphism indicates more promiscuous pattern
    - humans are moderately sexually dimorphic
- **paternal care of offspring** - fathers caring for their offspring typically indicate monogamy

- **separation distress in pairs** - indicates monogamous pattern
- evidence that we are socially monogamous; sexually can be monogamous or promiscuous
    - sexual monogamy depends on other factors (ex. age, sexual orientation, gender, etc)

- **intimacy**
    - definition: to make the innermost self known
    - makes attachment more likely and makings the relationship more satisfying
- **intimacy factors**
    - **verbal self-disclosure**
        - easiest and quickest way to expose yourself
        - typically, reciprocal, gradual, and becomes increasingly risky
            - gradually you go deeper with more personal information
            - there's a chance you could be rejected by the other person with more information (risky)
            - reveal similar levels of personal information
        - "violations" - too much information or too little information interrupts the process
            - need to expose yourself gradually, gotta test the waters
        - acceptance and validation are essential
        - bi-directional - promotes and reveals intimacy
            - can reveal that an intimate relationship exists or it can help to develop and intimate relationship
    - **kinesics (body language)**
        - defended or undefended posture
            - shows whether you are open to letting someone in
        - flirtatious behaviors
            - locking eyes then looking away then looking back and smiling
                - arousing enough that people engage in self-soothing behavior (adjusting hair, ventral contact)
        - readily observable
        - bidirectional - promotes and reveals
    - **proxemics (use of physical space)**
        - intimate space, personal space, social space, public space
        - differs across cultures
        - every person knows that they have an intimate space
            - recognize when someone is too close immediately
        - gender differences (maybe)
            - women don't like people getting too close in front of them
            - men don't like people getting too close to their sides
        - eye contact
            - space larger when there's eye contact with another person

- much more intimate when you are in close proximity and making eye contact
- physical touch (where, how, how long)
    - where - backside less intimate than frontside or face
    - how - can pat anyone on the back/shoulder, stroking is more intimate
    - how long - holding onto someone is more intimate
- flirting
    - whole idea of flirting is you are testing the waters
    - you want to be able to take it back, "accidental" touching
    - subtly finding out if they reciprocate
- bidirectional
- **paralinguistics (manner of speaking)**
    - pitch, intonation contours, whispers
        - higher pitch - exaggerated intonation contours
        - whispers - more intimate
        - baby talk
    - tone vs content (Harma 2014)
        - solely on the basis of tone, you can tell if two people are in an intimate relationship
    - bidirectional
- **settings**
    - private vs public
    - alone vs group
    - possibility of interruption
    - specified or unspecified ending
        - specified ending - less intimate environment
    - eating and sleeping
        - eating with someone can be a turning point
        - sleeping in the same vicinity facilitates intimacy
        - makes people more like family members
    - dim lighting
        - not gonna be doing work
- **essence of intimacy - vulnerability**
    - **vulnerability** - letting down defenses, sharing personal information, allowing someone to get "dangerously" close
    - intimacy means the degree to which you can make yourself vulnerable, feeling accepted and validated for the person that you are
        - intimacy related to satisfaction within a relationship
        - intimacy related to positive health outcomes (RIR)
            - feel less lonely (which can be a cause of stress and health issues)
- **commitment**
    - definition: the intention to continue a relationship
    - commitment alone is enough to sustain a relationship

- **three basic types:**
    - personal commitment
        - "I want to" - personal desire
    - moral commitment
        - "I ought to" - obligation
    - structural commitment
        - "I need to" - no alternative
- **commitment factors:**
    - going public with a relationship - planning on continuing the relationship
    - investing/making sacrifices - giving expensive gifts, etc.
    - identifying with ("we" language) - see yourselves as a unit
        - sharing gains and losses
    - making future plans with
    - investment
        - continuing the relationship because you have invested so much into the relationship (not necessarily because you want to)
    - comparison level for alternatives
        - determining whether there are other potential partners (alternatives)
            - talk themselves out of alternatives
- **ABC's of attachment**
    - cognition - can you count on your attachment figures to be responsive?
    - affect - how does that make you feel?
    - behavior - how do you react to that?
- **secure attachment style**
    - cognition - yes, can count on AFs to be responsive
    - affect - makes them feel secure and safe, loved
        - makes you feel like you're lovable
    - behavior - seek contact/reassurance whenever needed, can engage and explore
- **avoidant attachment style**
    - cognition - no, AF consistently unresponsive
    - affect - feels loneliness, anger, rejection
        - makes you feel like you're unlovable
    - behavior - rely on self and avoids closeness
- **anxious/ambivalent style**
    - hyperactivation of attachment behavior system
        - opposite of avoidant response
    - cognition - maybe, sometimes, not reliably
    - affect - angry, anxious, fearful, insecure
        - makes you feel like you're unlovable
    - behavior - express needs more loudly, make more demands, cling, cry, etc.
- **theory of the lasting effects of early bonding experiences**
    - **autonomic nervous system (ANS)** and **hypothalamic pituitary adrenal axis (HPA)**
      getting tuned by early experiences of stress

- makes it hard to change
- cycle of experiences, expectations, and behaviors
- empirical evidence of some stability from infancy to adulthood
    - may have some evidence that they do predict adult attachment styles
- Barnard study
    - unresponsive caregiving and controlling caregiving at 18 months significantly correlated with insecure attachment in romantic relationships
- also evidence of instability (change from infancy to adulthood)
    - multiple AFs in life (even during infancy)
        - can affect the way you think
        - childhood and adolescent relationships
        - variations in responsiveness
    - some AFs do matter more
- Minnesota study
    - secure attachment at 12 months → better relationships with peers in grades 1-3 → higher quality friendships at age 16 → romantic relationships more positive (less negative behavior, better conflict resolution)
        - secure attachment carries over from caregiving to friends to relationships
- **different theoretical models of mate "choice"**
    - **Sexual Strategies theory (Buss & Schmitt, 1993)**
        - **prediction:** if there are sex dfferences in parental investment then there will be sex differences in mating strategies and preferences
        - what do different sexes need to invest in order to reproduce?
            - human males and females
                - females - one egg per month for around 25 years
                - males - millions of sperm produced per day
            - time investment
                - females - 9 months of gestation, 2-3 years of lactation
                - males - a few minutes, minimal investment
        - optimal male strategy - many partners
            - fertility criterion - choosing partners by how fertile they are, goes for those youthful and healthy
        - optimal female strategy - one or a few partners
        - ideal number of sexual partners? (study)
            - asked undergraduates
            - women average: 2
            - men average : 64
            - mode for both is 1 though
        - international ranking of characteristics
            - men rate physical attractiveness higher than women
            - women rate good earning potential higher than men

- **Likes Attract hypothesis**
    - **likes attract hypothesis** - individuals who strongly possess a particular trait will make strong demands for the same trait in a partner
    - Buston & Emlen (2003)
        - adaptive strategy for stable partnerships
            - accurately assess own mate quality
            - form a mate preference based on how you perceive yourself
            - choose a mate of similar or equal quality
        - long term stable partnerships increases probability of survival of offspring
        - relationships where partners are more on equal footing have greater stability and longevity
    - **predictions**:
        - couples could complement each other
            - males that were wealthy or committed to family would want females high in physical attractiveness or sexual fidelity
            - females that were attractive or loyal would want males who had high status or family commitment
    - **results**:
        - men and women were attracted to people that were similar to them
        - wanted qualities that they were high in themselves
        - valuing the same trait in a potential mate
- **Adventitious model**
    - lawful choice - something about you determines what you look for in a mate
    - **predictions**: you and your hypothetical clone would have similar choices in mates
    - Lykken & Tellegen (1993)
        - twins and their spouses
        - looks at actual mate choices and not just ideal preferences
        - **two major findings:**
            - identical twins were not more likely to find their co-twin's spouse attractive
            - spouses of identical twins were not more similar than randomly selected pairs
        - **conclusions** - human mate choice is inherently adventitious (accidental) based on available options (propinquity)
        - this makes evolutionary sense
            - surviving and reproducing from whatever options are available
- **Speed Dating, Eastwick & Finkel, 2008**
    - do people really know what they want in a mate?
    - looked at their stated preferences and who they actually ended up with (speed dating)
        - failed to predict attractions

- physical appearance, earning potential, warmth, and other characteristics
  - expected there to be no/little correlation if stated that these traits were not important
  - but people showed the same correlation between desire/satisfaction as those who said it was important
- concluded that we're not very good at knowing what we want
- **three common characteristics of breakups:**
  - a process - doesn't happen suddenly (rarely sudden)
  - typically unilateral- one person that initiates the breakup, the other partner is the recipient (rarely mutual)
  - initiator oftentimes already has a potential alternative attachment figure
- **stages of breakups**
  - **stage 1 - private doubts**
    - normal fluctuations in personal commitment
      - happens in all relationships
    - anxiety provoking
      - people try to put that thought out of mind
    - doubts solely in the mind of the initiator
  - **stage 2 - indirect expressions**
    - doubts still private but they've been happening for some time
    - unhappiness starts getting expressed indirectly
      - complaints about small things
    - partner's perspective:
      - initiator complaints are trivial
      - ignores (easier to ignore when in a committed relationship)
    - initiator's perspective:
      - partner doesn't get it
      - trying to communicate unhappiness
  - **stage 3 - turning outward**
    - if the previous stage persists, people start seeking satisfaction elsewhere
      - new friend, new hobby, new activity, etc
    - self improvement is always good but does it in a way that excludes the other partner
      - reduces couple similarity
      - increases propinquity with potential new partners
  - **stage 4 - rewriting history**
    - people start to rethink their relationship
    - opposite of romantic idealization
      - focusing on the negative
  - **stage 5 - public expression**
    - starts to tell another person - making your thoughts public
    - "turning point"
    - disrespecting the partner in public

- stage 6 - exploring single life
    - such as:
        - spending more time with single friends
        - heightened interest in breakup accounts
        - excuses for not wearing the ring
        - reluctance to make future plans
- stage 7 - taking action
    - not direct behaviors but somewhat suspicious
    - aimed at provoking partner to break up
        - want partner to initiate the breakup
    - plans for partner's care post-breakup
    - partner is finally aware that something is wrong
- stage 8 - trying
    - partner's goal
        - repair the relationship
    - initiator's goal
        - convince partner that relationship cannot be repaired
- stage 9 - separating
    - initiator is determined to end the relationship
    - gives partner false hope
        - breaks, taking space, need some time to think
    - keeps partner as a backup
- **four horsemen of the apocalypse (Gottman)**
    - four characteristics of conflict resolution that predict divorce
    1. **global criticism - "this is just like you", "this is typical behavior"**
        - you attack their character
        - why important? **opposite of idealization**
            - ("you're a terrible person" over "you're an amazing person")
    2. **defensiveness - "me? what about you"**
        - defending yourself from partner rather than being open to them
        - why important? **opposite of intimacy**
    3. **contempt - expressing disrespect and disgust**
        - tipping into this stage predicts later divorce
        - why important? **opposite of attraction**
            - being repulsed by partner
    4. **stonewalling (gender differences) - no longer engaging in the conflict**
        - male member gets more negatively aroused more quickly
            - usually first to pull out of the discussion
        - female will persist
        - why important? **opposite of commitment**
- **avoiding the four horsemen**
    - effective conflict reduction/interruption
        - validation - validating that your partner has a right to be upset

- "I get why you're upset"
        - affection
            - "I don't want to argue with you"
        - humor - recalling a humorous memory, being silly
            - can be dangerous
- **Markman's intervention program**
    - couples that were newly engaged
        - half got information about getting married
        - half were trained on Gottman's four horsemen and how to avoid them
            - divorced reduced by 50%
    - can teach people how to avoid the four horsemen
- **Fincham's research**
    - emphasis on positive vs negative interactions in relationships
    - might ex'spect that relationship is fine as long as these interactions balance out
    - **method**:
        - studying primarily married couples
        - had each partner record feelings after interactions with their partner that lasted for a few minutes
            - did I feel better? did I feel worse?
    - had them record interactions with partner
        - **"magical" ratio** - took a minimum of 5 positive interactions to balance out one negative interaction (10:1 is preferable)
    - takeaway: be nice
- **when are relationships most likely to end**
    - **2 years (+/- 6 months)**
        - infatuation related
    - **4 years**
        - modal divorce (peak of divorce)
            - modal meaning most common
        - reproductive cycle-related?
            - usually have produced one offspring
    - **7 years**
        - median divorce (another peak)
        - "early divorcers"
            - typically have negative cycle of resolution
    - **14 years**
        - often offspring-related
        - having kids generally have a negative impact on marital satisfaction
        - "later divorces"
            - tend to fit more with the balance of positive and negative interactions
    - **may, september, and december**
        - academic terms (undergraduate relationships)
        - not randomly distributed

- **correlates of infidelity**
    - **social norms**
        - more likely if friends or family do it; normalizes the behavior
        - societal variation in morality (is it wrong to cheat?)
            - ex. french vs americans
            - not as much variation in how much it hurts
        - rules stricter and punishment harsher for women
    - **evolutionary perspective**
        - men more likely overall
        - but when women cheat
            - more likely in the follicular phase of the menstrual cycle (most likely to get pregnant)
            - more likely if partner has similar MHC
                - cheat "up" - higher social status, higher sperm quality
    - **individual differences**
        - increased probability if:
            - narcissism, insecure attachment style, cheated and got away with it, more previous sexual partners (high sociosexuality)
    - **relationship factors**
        - decreased probability if:
            - mate similarity (characteristics that are important to people)
            - higher intimacy and commitment
- **common types of infidelity not related to relationship dissatisfaction**
    - **"initiator" unhappiness**
        - initiator - someone who is thinking about breaking up with their partner
        - often has to do with the initiator experiencing personal loss (not because the relationship is bad)
        - need a boost in their own mood ("cocaine phase" of infatuation)
            - get involved with someone and feel better
    - **an unexpected, tempting opportunity**
        - combination contextual attraction factors that can start this feeling
- **current perspective on jealousy**
    - evolved to protect mating relationships
    - neither gender, age, nor mating-specific
    - a psychological mechanism related to human bonding
    - normative counterpart to human bonding
        - born with tendency to develop bonds with other people
        - if that bond is jeopardized, triggers jealousy (puts you in danger when they might be taken away from you)

- **autonomy limiting behaviors**

Violence against wives and husbands' autonomy-limiting behaviors

Statement	History of violence against wife		
	Serious violence N=286	Minor only N=1,039	None N=6,990
"He is jealous and doesn't want you to talk to other men"	39%	13%	4%
"He tries to limit your contact with family or friends"	35%	11%	2%
"He insists on knowing who you are with and where you are at all times"	40%	24%	7%
"He calls you names to put you down or make you feel bad"	48%	22%	3%
He prevents you from knowing about or having access to the family income, even if you ask"	15%	5%	1%

Note: From a national probability sample survey of 8,000 Canadian women living with male partners.

- jealousy is a primary motivation for spousal homicide
- homicide is much more likely to happen against the spouse compared to other people living in the household (parents, child, other relative)
    - doesn't just happen because wife is "readily available"
- **uxoricide (wife-killing)**
    - probability of a women being killed by her husband is much higher after they are separated
        - lower if they continue to be in a relationship
    - related to structural commitment (feeling like you need to stay in a relationship)
    - jealousy phenomenon
    - wife most likely to be murdered during her reproductive years (sexual jealousy)
    - women who experienced serious violence from their spouse (emergency room level) were much more likely to agree with problematic statements on their partner's jealousy
- **reducing the normative decline in relationship satisfaction**
    - **pursue physiologically arousing activities together (Aron et al)**
        - had couples spend an additional 4 hours together
        - experimental group were tasked to do physiologically arousing activities together (hike, dancing, etc)
        - control group had more quiet activities together
        - results: experimental group were more satisfied and happy with each other

- **idealize the real instead of realizing the ideal (Murray et al)**
    - appreciating the qualities that a partner brings to the relationship can prevent the normative decline
        - idealizing the real
- **take an outsider's perspective in conflicts (Finkel et al)**
    - 2 year study in chicago area
    - 3 times a year, each member of the couple had to spend 7 minutes writing a detailed description on the worst argument they had in the last three months (first year)
    - divided into 2 groups, control group does same thing as first year, experimental group told to take an extra 7 minutes writing about the argument from an outsider perspective
- **loneliness**
    - **definition**: perception of social isolation
    - measured in the quality of your relationships and social connections (not quantity)
    - if you have at least one person that you can count on, then you don't feel loneliness
    - **risk factor for psychological and physical health**
        - loneliness is stressful
        - loneliness impairs the immune system
            - blisters healed more quickly in more supportive couples
        - increased risk of cardiovascular disease, dementia, anxiety, sleep disorders, and premature death
    - when lonely people are stressed, they seek support less often
        - when they do seek support, they are usually less comforted by it
    - **correlates:**
        - living alone, increase in one-person households in many countries
        - loneliness correlated with stress
        - impairs the immune system
        - increased risk for health disorders
- social and physical pain regions overlap in the brain (Kross et al)
- **hand holding studies (Master at al)**
    - had to option to hold someone's hand during the electric shock
    - social support attenuates pain (experiences less intensely)
        - better with someone you have a close relationship with
        - partner photos also reduces pain
- **do pain meds reduce social pain (DeWall et al 2010)**
    - acetaminophen vs placebo
    - pain medication does alleviate social pain
- **broken heart syndrome**
    - after extreme social loss, left ventricle changes shape (tako-tsubo)
    - potentially fatal condition
- effect size of not being lonely is equal to or greater than diet, exercise, smoking