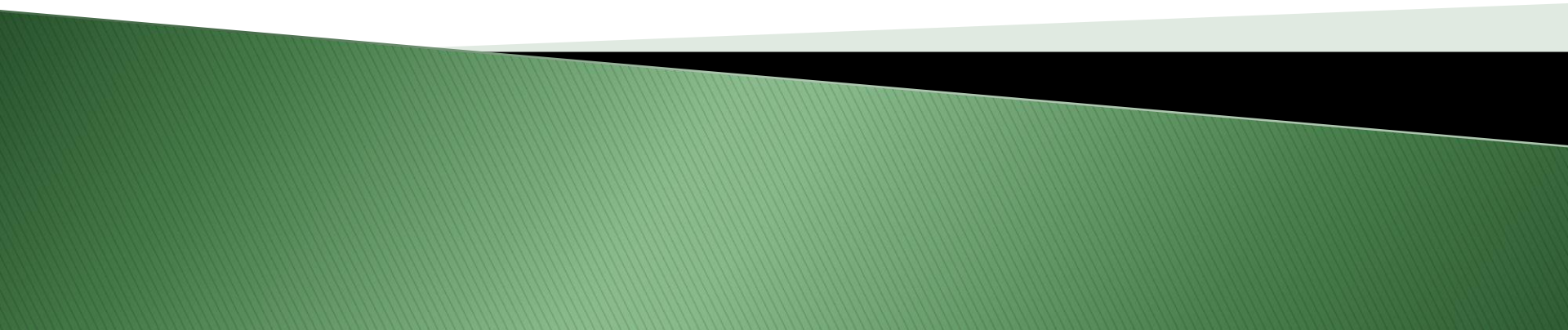


Individual Differences in Social Development:

Attention Deficit/Hyperactivity Disorder

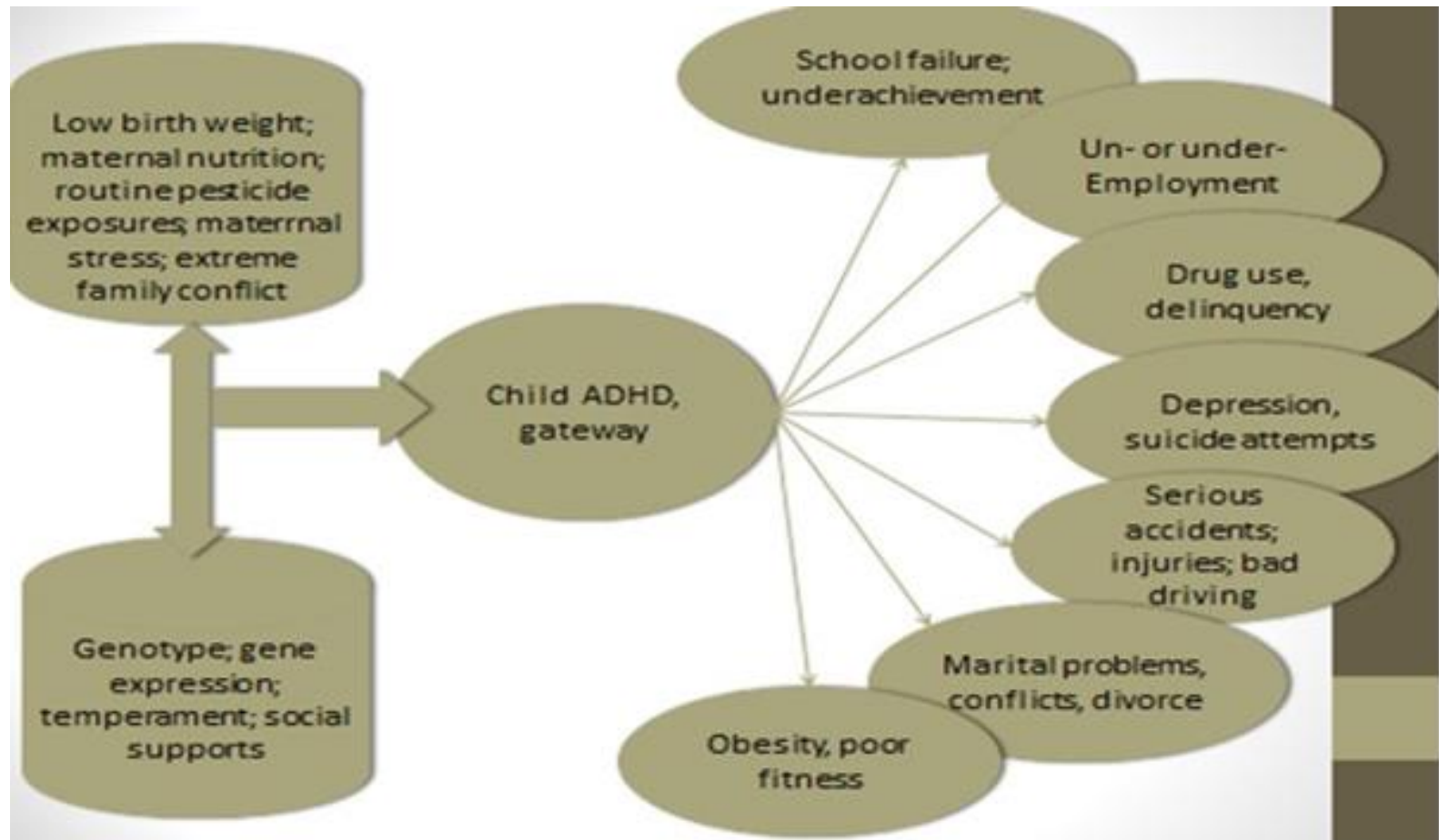
Shyness



What is ADHD?

- ▶ Extremely high activity levels, with difficulty controlling impulses (emotional, physical, verbal)
- ▶ Extreme inattention – difficulty managing social interactions
 - Can't sit still
 - Constant fidgeting
 - Talk when they should be listening
 - Not focusing on anything for long
 - Interrupt all the time
 - Constantly losing things
- ▶ May often
 - Accidentally injure themselves
 - May be so inattentive that they're unable to learn

ADHD as a risk gateway



Core symptoms: Two distinct yet strongly correlated behavioural dimensions

1. Attention

- The dimension of attention impaired in ADHD reflects
- an inability to sustain attention or persist at tasks or play activities
- To remember and follow through on rules and instructions
- And to resist distract a whilst doing so
- Problems and planning and staying organised
- Timeliness
- Staying alert

(APA, 2013)

- ▶ Problems in cognitive control, effortful control or executive function rather than focusing and alertness (Oosterlan et al, 2005)
- ▶ Inattention distinguishes ADHD from learning disabilities

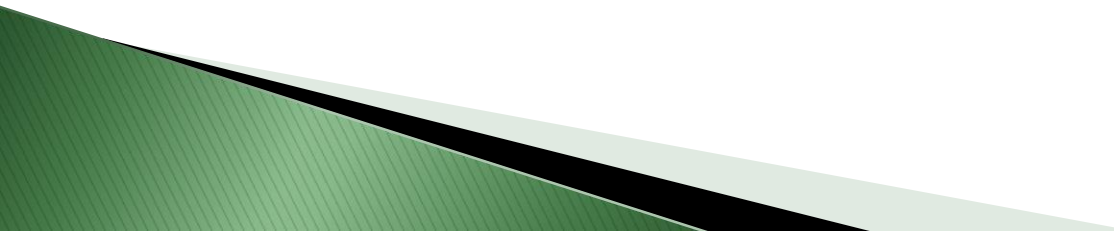
(e.g. Newcorn et al, 2001)

2. Hyperactive-impulsive behaviour (multidimensional construct)

Children with ADHD manifest difficulties with:

- Activity level and fidgetiness
- Less ability to seated when required
- Greater touching of objects
- More moving about, running and climbing than other children
- Playing noisily
- Talking excessively
- Acting impulsively
- Interrupting
- Less able to take turns

(APA, 2013)



Development and ADHD

- ▶ **Hyperactivity and impulsivity** are apparent first (around age 3–4 yrs)
 - Hyperactivity tends to decline normatively with age
 - Adolescence –may manifest as extreme restlessness and a ‘fast tempo’
 - Impulsivity is more likely to remain elevated relative to peers during development
- ▶ **Inattention** apparent around age 5–7 yrs
 - Inattention and disorganisation tend to remain stable into adolescence (Hart et al, 1995)
 - Eventually decline but not to normal levels
- ▶ **Different emergence and duration**
 - Asynchronous nature of neural development, with limbic and subcortical structures playing a role in hyperactivity

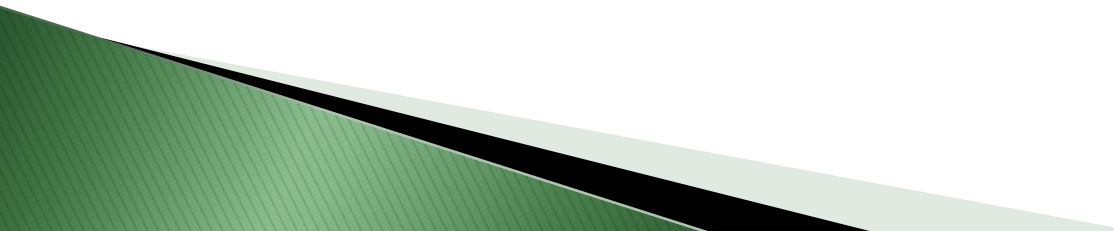
Situational and Contextual factors

- ▶ The task performance of children with ADHD is worse:
 - Later in the day (Dane et al, 2000)
 - In more complex tasks (organisational abilities) (Douglas, 1983)
 - Where restraint is demanded (Barkley and Ulman, 1975)
 - Under low levels of stimulation Antrop et al, 2000)
 - Under variable schedules of immediate consequences to a task Carlson and Tamm, 2000)
 - When there are longer delays between task and reinforcement (Solanto et al, 2001)
 - In the absence of adult supervision (Gomez and Sanson, 1994)

Associated outcomes

- ▶ Associated health outcomes
 - Accident-proneness and injury
 - Driving risks and auto accidents
 - Sleep problems
- ▶ Associated functional problems
 - Motor coordination problems
 - Academic functioning
 - Reduced intelligence (in some cases)
 - Social problems

(Nigg and Barkley, 2014)



► Associated developmental impairments

- Developmental deficiencies in a range of other cognitive and emotional abilities often seen in:
 - Physical fitness, gross and fine motor coordination
 - Speed of colour naming
 - Verbal/nonverbal working memory and mental computation
 - Story recall
 - Planning and anticipation
 - Verbal fluency and confrontational communication
 - Allocation of effort
 - Development, application and self-monitoring of organizational strategies
 - Internalization of self-directed speech
 - Adherence to restrictive instructions
 - Self-regulation of emotion

- ▶ Barkley (2010): emotion regulation
 - Children with ADHD are more likely to get angry, sad, explosive or moody than children without ADHD
- ▶ BUT – what about the dynamic interplay?
- ▶ How are children with an ADHD diagnosis responded to?

Age and developmental patterns

- ▶ Diagnosis of young children controversial
 - Diagnosis of ADHD in very young children as young as 2 or 3 yrs
 - DSM requirement of symptoms lasting 6 months for a diagnosis
- ▶ At 3 years of age problems with attention and activity levels can last more than 6 months but then subside

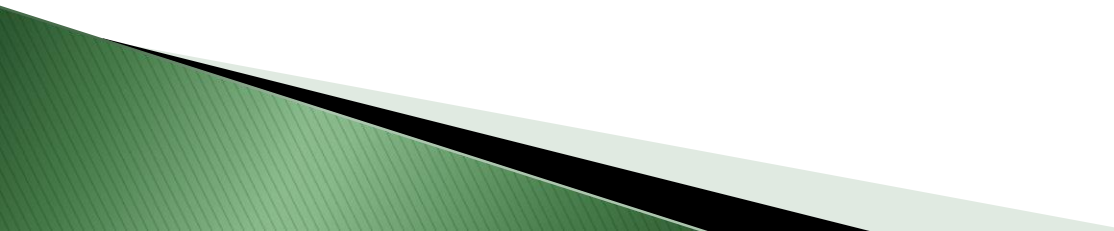
(Campbell, 2006)
- ▶ Duration for diagnosis – argued should be minimum 12 months
 - If symptoms last 12 months they are likely to persist throughout schooling

Theoretical considerations

Psychological explanations tend to fall into one of two groups of theories:

- ▶ Top-down theories: emphasise some form of cognitive control
e.g. Barkley's (1997) concept of a deficit in rule-governed behaviour
- ▶ Bottom-up theories: emphasise motivational or energetic factors
e.g. Quay's (1997) concept of behavioural inhibition – that ADHD arises from a deficit in the brain's behavioural inhibition system

Theoretical considerations

- ▶ Sergeant's (1988) integrative model:
 - ▶ Behavioural control arises from a specific interplay of 'energetic factors' such as arousal (readiness to respond) and effort (motivation) with executive functioning (i.e. cognitive control)
 - ▶ Sergeant proposed that ADHD might be most particularly associated with problems in activation or arousal
- 

Theoretical considerations

- ▶ Barkley (e.g. 2001a and b, 2012c) – strong top-down argument
 - Self regulation requires the ability to inhibit a behavioural response
 - Four other executive functions are dependent on this for own successful execution – these interact to increase adaptive social functioning
 - Provide for self-regulation, bringing behaviour progressively more under the control of time and the influence of future over immediate consequences.
 - Problems with arousal regulation and reward discounting are 'downstream'; from a fundamental problem in behavioural inhibition



► Barkley (e.g. 2001a and b, 2012c)

- These five executive functions develop via a common process
- All represent private, covert forms of behaviour that at one time in childhood (and human evolution) were directed outwards
- With maturation, these outer-directed behaviours become internalised e.g. speech becomes inner speech
- Children with ADHD – less ability to behave internally ('in the brain/mind') without showing that response through the body
- Barkley : ADHD is a deficiency in behavioural inhibition (self-restraint) and also in metacognition (self-directed attention and working memory)

Most recent theories of ADHD are 'multiple pathway' theories

- ▶ Acknowledge that parallel developmental streams influence ADHD
- ▶ There are probably subgroups of ADHD with different causes

e.g. Sonuga-Barke (2005)

- **Inattention** due to a breakdown in executive functioning and response inhibition (neural circuits implicated)
 - **Hyperactivity-impulsivity** is related to is related to breakdown in motivational responding located in a different neural circuit
- ▶ This theory attempts to integrate both bottom up and top down aspects in a parallel model

Aetiology: Neurobiological factors

- ▶ **qEEG studies** and event-related potential measures
 - Increased theta activity, reduced beta activity –under-arousal and underactivity in ADHD (e.g. Loo and Makie, 2012)
 - Problems with sustained attention and inhibition –under-responsiveness to stimulation (improved or corrected by stimulant medication)
- ▶ **Cerebral blood flow studies**
 - Decreased blood flow to the prefrontal regions and to pathways connecting these to the limbic system, the caudate and the cerebellum (e.g. Yeh et al, 2012)
 - Degree of blood flow to the right frontal region – correlated with behavioural severity of the disorder
 - More posterior regions like the cerebellum – related to degree of motor impairment (Gustafsson et al, 2000)

Aetiology: Neurobiological factors

► Neurotransmitter associations with ADHD

- Possible neurotransmitter dysfunction or imbalances
-
- Change the availability of dopamine at the synapse via various mechanisms
- Produce some effects on the noradrenergic pathways (noradrenalin)
(Connor, 2006)
- Increased dopamine levels, particularly in circuitry related to motivation and incentive response are implicated and can be effected via medication
- Also good response to noradrenergic agonists
- So – noradrenalin and dopamine might be involved in ADHD

Environmental and Genetic factors

- ▶ Family studies – ADHD runs in families (e.g. Mick and Faroane, 2009)
- ▶ Twin and/or adoption studies using parent ratings have shown that substantial portions of liability are carried by genetic variation
 - But heritability estimates are lower when teacher ratings are used
 - Rater bias may occur with parents emphasising differences more in dizygotic than monozygotic twins
- ▶ BUT – gene–environment interaction?

Developmental course

DSM has changed over the time of many longitudinal studies

▶ Preschool-age children

- Overly active, noisy and disruptive in class
- ADHD linked to greater parenting stress and directiveness

▶ Age 6–12 yrs

- Attentional difficulties join the hyperactivity
- Difficulties with work organization and completion
- Socially aggressive and defiant behaviour may start
- By 8–12 yrs Defiance and hostile behaviour may increase (links to ODD and Conduct Disorder)
- Achievement significantly below child's ability

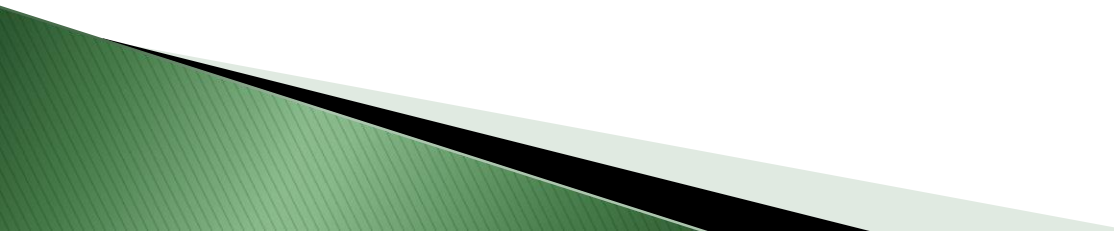
▶ Adolescence

- 50–80% children retain the disorder through adolescence
- Increasingly lose participants from the study

▶ Adulthood

- More self-reporting, so can be marked difference in estimates of persistence of ADHD

Is ADHD a real disorder?

- ▶ Wright (2005) argues that it's a fad disorder
 - ▶ Argues that symptoms are elevated into descriptions of symptoms and then into disorders
 - ▶ Once described – serious over-diagnosis and medication results
 - ▶ Control?
 - ▶ But don't children benefit too?
- 

BREAK



10 MINUTES!

Shyness and Embarrassment



Shyness

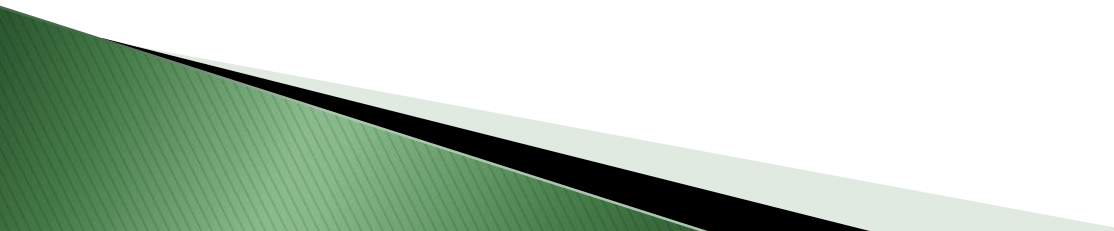
- ▶ Loosely associated with a range of social fears, that vary in degree
- ▶ Impact on mental and physical health
 - Self-consciousness
 - More negative thoughts about oneself
 - Seeing oneself as awkward, unfriendly, incompetent
 - Feeling less physically attractive
 - Talking less, averting the eyes, using fewer facial expressions, touching oneself self-consciously
 - Remembering negative comments and responses to oneself better than positives ones
 - Dealing ineffectively with stress by worry
 - Pessimism
 - Loneliness and social isolation
 - Abusing alcohol to relax/cope

What is shyness?

- ▶ Shyness may appear as **chronic** and **dispositional**
- ▶ Crozier (2001; 2002); Henderson and Zimbardo (1997):

May manifest of any/all of four levels:

1. Cognitive

- Negative thoughts about the self
 - Worry and rumination
 - Fear of negative evaluation and looking foolish to others
 - Self-blaming attributions
 - Believing the self as weak and others strong
 - Negative bias around the self-concept (e.g. I am socially inadequate)
 - A belief that there is a correct way of doing something that the shy person doesn't know, or must guess
- 

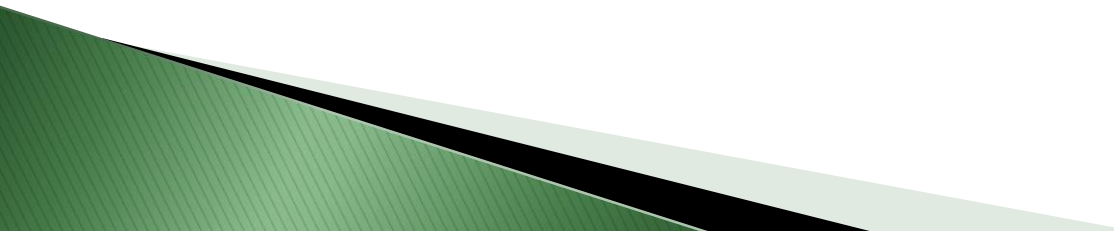
2. Affective

- Embarrassment or self-consciousness
- Shame
- Low self-esteem
- Dejection or sadness
- Loneliness
- Depression
- Anxiety

3. Physiological

- Racing heartbeat
 - Dry mouth
 - Trembling or shaking
 - Sweating
 - Feeling faint, dizzy, sick, nervous
 - Blushing
 - Feeling unreal or detached
 - Fear of losing control, or having a panic attack or heart attack
- 

4. Behavioural

- Inhibition or passivity
 - Averting gaze
 - Avoidance of fearful situations
 - Speaking very quietly
 - Little body movement/excessive body movements (e.g. nodding, smiling)
 - Speech faults (e.g. tongue-tied, rapid speech)
 - Nervous behaviour (e.g. touching own hair/face, pulling at clothes, rubbing hands)
- 

State and Trait shyness

State shyness

- ▶ Interplay of processes between the cognitive, affective, behavioural and physiological levels of experience
- ▶ withdrawal from or avoidance of the situation
- ▶ Buss (1980):
 - the experience of shyness emerges when a person is placed in a position of uncertainty or a situation that focuses attention on them
 - the compounding variable of trait shyness

Trait shyness

- ▶ Relatively stable and may reflect a genetic predisposition toward inhibition and excessive anxiety
- ▶ OR – it might emerge as a trait due to problems in development, especially during adolescence when a person's trying to establish a sense of identity

Shyness and personality

- ▶ Shyness and introversion – not the same
- ▶ Introverts generally like their own company, but do not all avoid social situations
- ▶ Some extroverts are actually privately shy
 - – may have the social skills to ‘carry it off’ (Zimbardo and Henderson, 1997), so have less fear of ‘being found out’
- ▶ An individual may be shy, but remain sociable

Shyness, genetics and behavioural inhibition

- ▶ Behavioural inhibition – thought to emerge from child's reactions to a perceived threat when confronted with a experiences that elicit shyness
- ▶ Kagan (1994b): suggests a biological basis for shyness
 - amygdala – fear and aggression
 - hippocampus – long-term memory
- ▶ Children with behavioural inhibition
 - May have overstimulated fear responses
 - Fight or flight response
- ▶ Shyness is related to heart-rate variability (Davidson and Rickman, 1999)

Fearful and self-conscious shyness

- ▶ Age differences:
 - Children less likely to suffer presentation anxieties
 - Levels of cognitive, emotional and social awareness not yet developed
 - More likely to experience fearful shyness
 - Self-conscious shyness emerges when a child develops a theory of mind
- ▶ A person can have one or both forms of shyness (Crozier, 2000)

Embarrassment

- ▶ Now researched as an independent construct
- ▶ Four theories of embarrassment
 - Dramaturgic model
 - Social evaluation model
 - Situational self-esteem
 - Personal standards model

The dramaturgic model (Silver, Sabini and Parrott, 1987)

- ▶ Embarrassment follows a poor performance
 - Can't calmly and gracefully continue
 - Agitation and aversive arousal
 - Feelings of awkwardness, stupidity and immobilisation
 - Concern for public image *accompanies* embarrassment – it is not causal
 - Caused by individual's belief that they cannot perform (cannot act a 'part')

The social evaluation model (Edelmann, 1987)

- ▶ Contrast to dramaturgic model
 - ▶ It is the concern for what others think of us that is the basis of embarrassment
 - ▶ Feelings of being at a loss are merely the result of embarrassment
 - ▶ Individuals simply want to avoid negative evaluations of others – judgments that they performed poorly
 - ▶ But do people still feel embarrassment in failure even when they're not bothered about impressing the people watching
- 

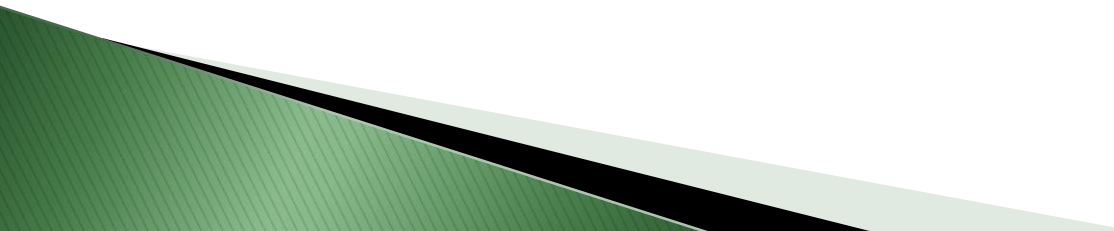
Situational self-esteem

- ▶ Negative evaluations set in motion the further events that actually cause embarrassment (Miller, 1996)
- ▶ Modigliani (1971): the basic cause for embarrassment is a temporary loss of self-esteem that results from public failure
- ▶ Negative self-evaluations do not cause embarrassment alone
 - They are the trigger that allows individual to judge themselves poorly
- ▶ So – it is our own opinions of ourselves and how we perform in faulty situations that are the cause of embarrassment
 - But – both low and high-self esteem individuals still feel embarrassment if others think they have performed poorly (Miller, 1996)

The personal standard model (Babcock, 1998)

- ▶ Embarrassment results when we realise that we've failed in the standards of behaviour that we've set ourselves
- ▶ Argues that the situation itself is not the cause of embarrassment
 - If you are happy to behave outrageously or fail spectacularly, then you will not feel embarrassment
- ▶ But
 - When we are alone we don't feel embarrassment if we fail
 - We may feel we've done well, but feel embarrassed at the response of others

(Miller, 1996)



Consideration of embarrassment models

- ▶ Miller (1996)
- ▶ The models overlap
 - Different situations can cause embarrassment resulting in not knowing how to respond (*dramaturgic model*)
 - That may involve the fear of unwanted social evaluations..... (*social evaluation model*)
 - That may affect your self-esteem..... (*situational self-esteem model*)
 - That may result in the realisation that you have let yourself down (*personal standards model*)

So – embarrassment may contain all four models

- ▶ Dramaturgic and Situation Self-esteem models provide the strongest explanations for embarrassment
- ▶ Awkward situations do tend to cause embarrassment
- ▶ But can't cause embarrassment without creating unwanted social evaluations
- ▶ So – Negative evaluations are at the core of embarrassment

Questions?

