

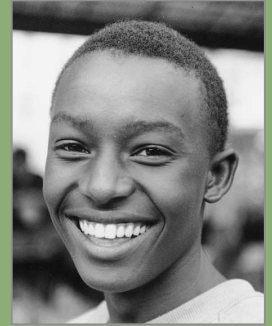
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## Adolescent Risk Taking and Decision Making

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## Section A

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### The Biologic Basis of Risk Taking

# Novelty Seeking and Risk Taking Not Unique to Humans

- Rats and mice approach novelty situations more quickly
- Juvenile primates (especially males) migrate further than those younger or older
- Higher mortality with risk taking seen in other species (e.g., Japanese macaques)

# Risk Taking Is Environmentally Influenced

- Domesticated vs. wild fish

## Risk Taking May Continue to Confer Benefits

- Increase probability of reproductive success
- Opportunities to explore adult behavior “to face and conquer challenges”
  - To master developmental challenges of adolescence
  - To increase status

## Risk Taking as Bottom-Up or “Hot Cognition”

- Knowledge learned through cold, or rational, cognition may have little applicability to conditions of emotional arousal

# Risk Taking as Sensation Seeking

- Sensation seeking is a complex trait associated with a desire for diverse, novel, complex, and intense experiences and the willingness to engage in risks to attain those experiences (Zuckerman, 1990)



# Components of Sensation Seeking

- Thrill/adventure seeking
- Disinhibition
- Experience seeking
- Boredom susceptibility

# Ennui

- Adolescents report that pleasurable situations are less pleasurable than what is experienced by younger children and adults
  - There is a 50% decline in feeling very happy between 5th and 7th grades

# Inhibition

- Inhibitory control develops through adolescence
  - Critical for resisting interference

## Somatic Response to Risk

- Adolescents may exhibit less somatic response to risky situations (e.g., autonomic nervous system responses)
  - Without such feedback youth may be more willing to engage in risky behaviors

# Amygdala

- Linked to processing emotional stimuli (e.g., fear, social signals)
- Lesions of amygdala associated with lack of somatic response to rewards and punishments
  - Risky responses on gambling tasks
- Adolescents activate the amygdala less than adults when hoped for reward was not received