Psychopathy (or Antisocial Personality Disorder) is a type of personality disorder.

Personality traits are enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts.

When personality traits are inflexible and maladaptive and cause significant functional impairment or subjective stress, they constitute a personality disorder.
Personality disorders involve a set of personality traits that:

- deviates markedly from the expectations of the individual's culture
- is manifested in at least two of the following areas: cognition, affectivity, interpersonal functioning, or impulse control
- is inflexible and pervasive across a broad range of social and personal situations
- causes clinically significant distress or impairment in important areas of functioning
- is stable and of long duration, and its onset can be traced back at least to adolescence or early adulthood
In contrast to most other psychopathologies, personality disorders are not "episodic" in nature

- individuals will possess a personality disorder relatively early in life
- affects their life on a continual basis for a very prolonged period.

Some personality disorders may be in a "spectrum" relationship with non-personality disorders, e.g.,

- Schizotypal PD with Schizophrenia
- Avoidant PD with Social Phobia
- Obsessive-Compulsive PD with OCD

These personality disorders are generally milder, but more stable and enduring, than episodes of their corresponding non-personality disorder.
One popularly known personality disorder is *Antisocial Personality Disorder*, more commonly referred to as *psychopathy*.
Antisocial Personality Disorder, or Psychopathy?

There have historically been two approaches to conceptualizing (and diagnosing) this disorder

- one emphasizing the antisocial behaviours
- the other emphasizing the dysfunctional processes
One approach emphasizes the social maladjustment and chronic, irresponsible behaviour.

- Although specific personality processes are assumed to underlie the disorder, its diagnosis is based purely on antisocial behaviour, and is atheoretical.

- Reminiscent of 19th century notions of this disorder as involving moral depravity or defective moral character, "moral insanity".

This approach is used by the DSM-IV, and is reflected in the name of the disorder, *Antisocial Personality Disorder*.

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*Antisocial Personality Disorder*

According to the DSM-IV, the essential feature of APD is a pervasive pattern of disregard for, or violation of, the rights of others that begins in childhood and continues into adulthood.
Specifically, APD involves a pervasive pattern of three or more of:

- failure to conform to social norms with respect to lawful behaviours as indicated by repeatedly performing acts that are grounds for arrest

- deceitfulness, as indicated by repeated lying, use of aliases, or conning others for personal profit or pleasure

- impulsivity or failure to plan ahead

- irritability and aggressiveness

- reckless disregard for the safety of self or others

- consistent irresponsibility, as indicated by repeated failure to sustain consistent work behaviour or honor financial obligations

- lack of remorse, as indicated by being indifferent to or rationalizing having hurt, mistreated, or stolen from another
In addition, the individual:

- must be at least 18 years old
- show evidence of Conduct Disorder with onset before age 15 (Conduct Disorder involves similar symptoms appearing in non-adults).

Other qualities often associated with APD (or at least the concept of psychopathy) include superficial charm, self-assurance, inflated or arrogant view of self, and lack of empathy.

APD appears in 3% of males and 1% in females.

- (By these estimates, over 300,000 Canadians would meet criteria for APD.)

APD may become less evident (at least in terms of overt behaviours) as one grows older, particularly by the 40s.
**Psychopathy**

By contrast, other researchers have emphasized the processes that are involved in the disorder, and that produce the observed behaviours.

Such researchers usually refer to the condition as psychopathy.

- In this approach, social deviance is not regarded as the defining feature of the disorder; rather, the defective personality/cognitive processes that are involved mark the psychopathology.

Main advocate of psychopathy approach: Robert Hare (University of British Columbia)

Developer of primary psychopathy measure, the Psychopathy Checklist-Revised (PCL-R, or “the Hare”)

- used by trained interviewer
- assesses 20 different areas
- breaks down into two separate factors:
Psychopathy Checklist - Revised (PCL-R; Hare)

**Factor 1**
- Glib and Superficial Charm
- Grandiose Self-worth
- Need for Stimulation
- Pathological Lying
- Conning and Manipulative
- Lack of Remorse or Guilt
- Shallow Affect
- Callousness or Lack of Empathy
- Parasitic Lifestyle
- Low Behavioral Controls

**Factor 2**
- Promiscuity
- Early Behavioral Problems
- Lack of Realistic Long-term Goals
- Impulsivity
- Irresponsibility
- Failure to Accept Responsibility
- Many Short-term Marital Relationships
- Juvenile Delinquency
- Revocation of Conditional Release
- Criminal Versatility

Each item on PCL-R can be scored 0 (doesn’t apply), 1 (applies in some respects), or 2 (applies in most respects)

Maximum score is 40.

Psychopathy usually indicated at 30.

(Most people score around 4 or 5).
APD vs. Psychopathy

Because these two approaches emphasize different features, they have different ramifications.

- The defective processes approach has been accused of producing a catch-all category into which almost all personality disorders would fit.

- On the other hand, the antisocial behaviours approach may primarily capture a sociological, rather than psychiatric, category.

Contrasted with the psychopathy concept, the atheoretical APD diagnostic category, with its use of behaviour as a sole criterion:

- tends to identify more criminal offenders

- includes individuals whose behaviour arises from underprivileged upbringing (as noted in DSM itself), substance abuse, and inadequate intellectual and/or social skills

  - many psychopathy advocates (e.g., Hare) do not believe environment/upbringing plays any significant role in psychopathy
• may fail to identify psychopathic individuals whose circumstances (wealth, intelligence, social skills) enable them to avoid detection

Kenneth Lay  
CEO, Enron  
$1 billion accounting fraud

Bernard Ebbers  
CEO, Worldcom  
$11 billion misappropriated  
25 year sentence
may fail to identify psychopathic individuals whose circumstances (wealth, intelligence, social skills) enable them to avoid detection

- “psychopath CEOs”, e.g., WorldCom, Enron
  - some have estimated 1 in 10 executives meet criteria for psychopathy
- predatory, but non-violent individuals

may prevent identifying origins of disorder in children prior to the development of chronic antisocial behaviour

Which approach is correct?

Depends on the goal one has.

If we want simply to categorize those individuals who chronically cause problems in society, and predict if they will continue to, then APD is the better approach

- e.g., antisocial individuals from impoverished backgrounds will nonetheless act persistently antisocially, and "psychopaths" who act in socially acceptable ways (e.g., "ruthless" businesspeople) are not really a problem
On the other hand, if we want a theoretical understanding of why certain individuals act in this manner (perhaps to prevent the underlying cause or treat it), then it is important to understand the underlying processes (which may not be present in all antisocial individuals, and which may exist in individuals who are not overtly antisocial).

We will focus on the process approach (psychopathy).

What is wrong with psychopaths?

Traditional neuropsychological tests have generally found no differences between psychopaths and controls on measures of: abstract reasoning, short- and long-term memory, rule learning, motor speed, verbal skills, or attentional concentration.

In certain domains, however, their performance seems to be reliably impaired.

Impairments appear to involve primarily a deficit or dysregulation in processing of affective information.
Some direct evidence for problems with affect processing (Blair, 1995-2003):

• difficulty recognizing facial expressions
• difficulty recognizing affective vocal intonations
• difficulty reading the eyes
• difficulty understanding other’s emotions

Other, less direct deficits can be observed

One example is in anticipatory autonomic activity:

• use of skin conductance (SC) as a measure of fear of anticipated aversive events (similar principle behind polygraph).

  E.g., Hare, 1978:

  ▸ individuals are shown the digits 1 to 12 in order, and told they will receive a shock at 8.
• Control subjects show a pronounced increase in skin conductance as 8 approached.

• By contrast, the rise in psychopaths' SC is smaller, less rapid, and begins later.

This result is taken to demonstrate that psychopaths show less anticipatory fear of negative events.

Other differences in processing of emotional material can be seen in startle reflex work.

• When a loud noise is heard, we tend to tense up.

• The degree to which we tense has been shown to be an important component of our emotional responses
Patrick (1993, 1994): Measures eyeblink startle responses in psychopaths and nonpsychopaths while they were viewing positive, negative or neutral pictures.

• Normal individuals manifested a greater degree of startle when viewing the negative pictures
  - sensitivity to the negative environmental stimuli

• Psychopaths (particularly factor 1 psychopaths), however, showed no increase in their startle when viewing the negative pictures
  - more startle to the neutral pictures than to either the positive or negative pictures
Deficits are also seen in delayed gratification:

- The ability to forego a presently attainable reward requires patience
- Thus, highly impulsive individuals generally show low delay of gratification abilities


- Two boxes appeared on the computer screen. One said '10 cents', and one said '20 cents'.
  - the 10 cent box could be pushed at any time, and the participant would win the 10 cents.
  - if the participant waited until the 20 cent box was ‘activated’ (30 seconds), then they would win 20 cents.
- Psychopaths much more often pressed the 10 cent box than non-psychopaths, and obtained significantly fewer winnings at the end of the task.
One phenomenon that has been taken by some to be key to understanding psychopathy is the apparent poor performance in *passive avoidance learning*.

Passive avoidance learning involves learning not to perform behaviours that produce negative outcomes (punishments).

Lykken (1957) looked at passive avoidance learning by requiring individuals to learn a complex sequence of lever presses involving 4 levers.

- At each of the 20 steps in the sequence, one lever was deemed the correct response, two were incorrect, and one produced a shock.

- However, subjects were not told that the relationship between which lever shocked at which step was consistent (indeed, they were misinformed that it was random).
• control subjects learned fairly quickly to avoid the shock levers

• psychopathic subjects were less likely to avoid the punishment levers

Is this a failure of learning?

• Because some researchers hypothesize that psychopathy results from low arousal levels, it was argued that threat of shock simply wasn't motivating enough. May not be that psychopaths couldn't learn contingencies, merely that they didn't care.
Later studies have used monetary punishments as a more motivating condition.

- Schmauk (1970) used Lykken's procedure, but had three conditions:
  - shock
  - "social punishment" condition (i.e., saying "wrong")
  - monetary punishment condition (subtracting $0.25 from an initial stake of $8).

- Psychopaths showed poor avoidance in shock and social punishment conditions, but did not differ from controls in the monetary punishment condition.

This result suggested that lack of motivation, rather than poor avoidance learning, was responsible for earlier results.
However, under appropriate conditions, even monetary punishments can distinguish between psychopaths and controls.

Siegel (1978) looked at how well psychopaths tracked reward and punishment contingencies in a card-playing task.

- Groups tested were psychopaths, non-psychopath offenders, and non-offender controls.

- Eleven specially arranged decks of 40 cards were constructed.

- Subjects were told that, for each deck, they could turn up as many cards as they liked one at a time
  - would win a penny for each number card they turned up
  - lose a penny for each face card.

- Whenever they wanted, subjects could stop playing a deck and move to the next one in the sequence.
• The decks were constructed so that the first deck contained no punishments, and the remaining decks increased in punishments from 10% to 100%.

The main measure of interest: for each deck, how many cards were not played

- how rapidly was the frequency of punishment learned?

Result: Psychopaths played more cards at every level of punishment.

Immediately after the 30% and 70% decks, subjects were asked to recall the percent of punishment cards played, and to estimate the chance that the next card would have been a punishment card.

• All groups showed excellent recall accuracy at both levels of punishment.

• Also, for the 30% deck, all groups accurately indicated punishment likelihood.

• However, psychopaths significantly underestimated punishment likelihood for the 70% deck, whereas both control groups were accurate.
Psychopaths appear to accurately remember past contingencies, but are less able to adjust their future expectancies accordingly.

How to account for this collection of results?

One prominent framework: the Behavioural Inhibition System/Behavioural Activation System (BIS/BAS) approach

- Neurologically-based approach to affective processing

- Developed by Gray (e.g., 1982)
Gray (1982): the BIS/BAS

Two basic “emotion systems”

Behavioral Inhibition System (BIS) → Avoidance

Behavioral Activation System (BAS) → Approach

Sadness
Disgust
Fear
Anger
Joy
Surprise

This framework is useful for differentiating between the two main avenues that theories of psychopathic behavior have taken:

Low BIS Functioning

Low Fear Hypothesis
They are biologically under-aroused; do not experience fear levels sufficient to promote conditioning or avoidance learning.
E.g. Startle Reflex; Countdown Paradigm

High BIS Functioning

Impulsivity Hypothesis
They are unable to look forward, to take future considerations into account. Thus, they tend to “leap before looking”.
E.g. Delay of Gratification Paradigm
Newman has proposed that these deficits impact, more specifically, *response modulation*:

- the ability to respond to negative feedback by pausing and bringing to bear additional processing resources

Newman argues that the main deficit in psychopathy is with response modulation.

- Psychopaths are unable to regulate their behaviour in light of negative feedback

- Newman, Patterson, and Kosson (1987) interpreted Siegel's card-playing paradigm results as supporting Newman's response modulation model
  - once available reward establishes a dominant response set, it will be resistant to change by feedback (such as punishment).
  - In the Siegel study, the initial deck (all reward) establishes the necessary set, and later switching of response is difficult.
Newman et al. examined whether providing psychopaths with an obligatory delay to consider their actions might assist them to switch out of a dominant response set.

They modified Siegel's procedure:

- 100 cards in ten blocks

- first block had 90% reward/10% punishment, then each additional block decreasing reward by 10%.
Three conditions were used:

- immediate feedback of reward/punishment
- immediate feedback plus a cumulative display of all cards played (to allow more explicit tracking of changing contingencies)
- an obligatory 5 second delay after each response, during which the immediate & cumulative feedback were visible

In the first two conditions, psychopaths performed more poorly (played more cards) than did controls.

In the third, delay, condition, the two groups performed equally well.

Newman et al. argued that the reward set initially set up by the initial block could not be overcome by psychopaths in the first two conditions, and only when they were forced to pause and confront the explicit contingencies did their performance improve.
In a followup, Newman, Patterson, Howland, and Nichols (1990) measured the amount of time that subjects suspended behaviour to process negative feedback.

They used a modified version of the delay condition

- feedback information stayed on the screen for a maximum of 5 seconds or until the subject pressed a button to start a new trial.

The amount of time a subject paused was recorded by subtracting the mean pause time after a reward from the mean pause time after a punishment, Newman et al. estimated the time spent on processing negative feedback ("reflectivity").

Psychopaths paused less than controls after punishment trials (i.e., showed less reflectivity) and also played the task longer (i.e., lost more money, i.e., showed less passive avoidance learning).

Furthermore, the more reflectivity shown, the more passive avoidance learning shown.
Generally, then, in monetary punishment cases where an initial reward response set is not involved (as in Schmauk), psychopaths show normal ability to learn to avoid punishments.

However, when the task involves a behaviour that initially produces a reward, but later produces punishment, psychopaths show great difficulty in changing their behaviour (switching their responses).

Overall, these suggest that the best way of conceptualizing of psychopathy is a failure of automatic processes that are involved in using negative feedback from the environment to modify an already-occurring behaviour.

Such a deficit would have the short term consequence of limiting the influence of negative outcomes on current maladaptive behaviour.
It would also mean that, in the long term, a failure to link behaviour with negative outcomes would hamper the ability to anticipate future negative outcomes and avoid inappropriate responses.

(Such learning may be involved in the internalization of societal norms and the development of empathy and conscience.)

Problems with response modulation may arise due (in part) to overfocussing:

- Excessive filtering of non-focal/distracting stimuli
Jutai & Hare (1983):

Psychopaths and non-psychopaths played a video game with and without an extremely annoying, high-pitched tone in the background

- The tone affected the performance of the nonpsychopaths, but not the psychopaths

Hiatt, Schmitt, and Newman (2004):

- Psychopaths and nonpsychopaths performed a normal emotional Stroop task, and a version in which the colour of a box surrounding the word, rather than the word itself, need to be named

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  fear
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- Psychopaths showed normal Stroop interference on the original version
- showed a lack of interference in the box condition

Overall, no one single specific theory may be able to fully account for the range of behaviours seen in psychopaths.

May best be thought of as multifactoral.
Various Biological or Cognitive Deficits which make the psychopath incapable of feeling negative emotions (ie. anxiety, fear, guilt, shame, etc.)

- Low Fear/Anxiety
- Low Response Modulation
- Impulsive/Stimulation Seeking

Psychopathic Behaviour