# Trait Approaches to Personality

Trait Approaches to Personality

- Virtually every dimension displays a strong biological component

  - Evidence is greatest for extraversion, neuroticism, and psychoticism

  - Inheritance make-up almost half of personality

  - Suggests that the genetic effect far outweighs the environmental effect

- Family and environmental factors cannot be discounted

Raymond Cattell
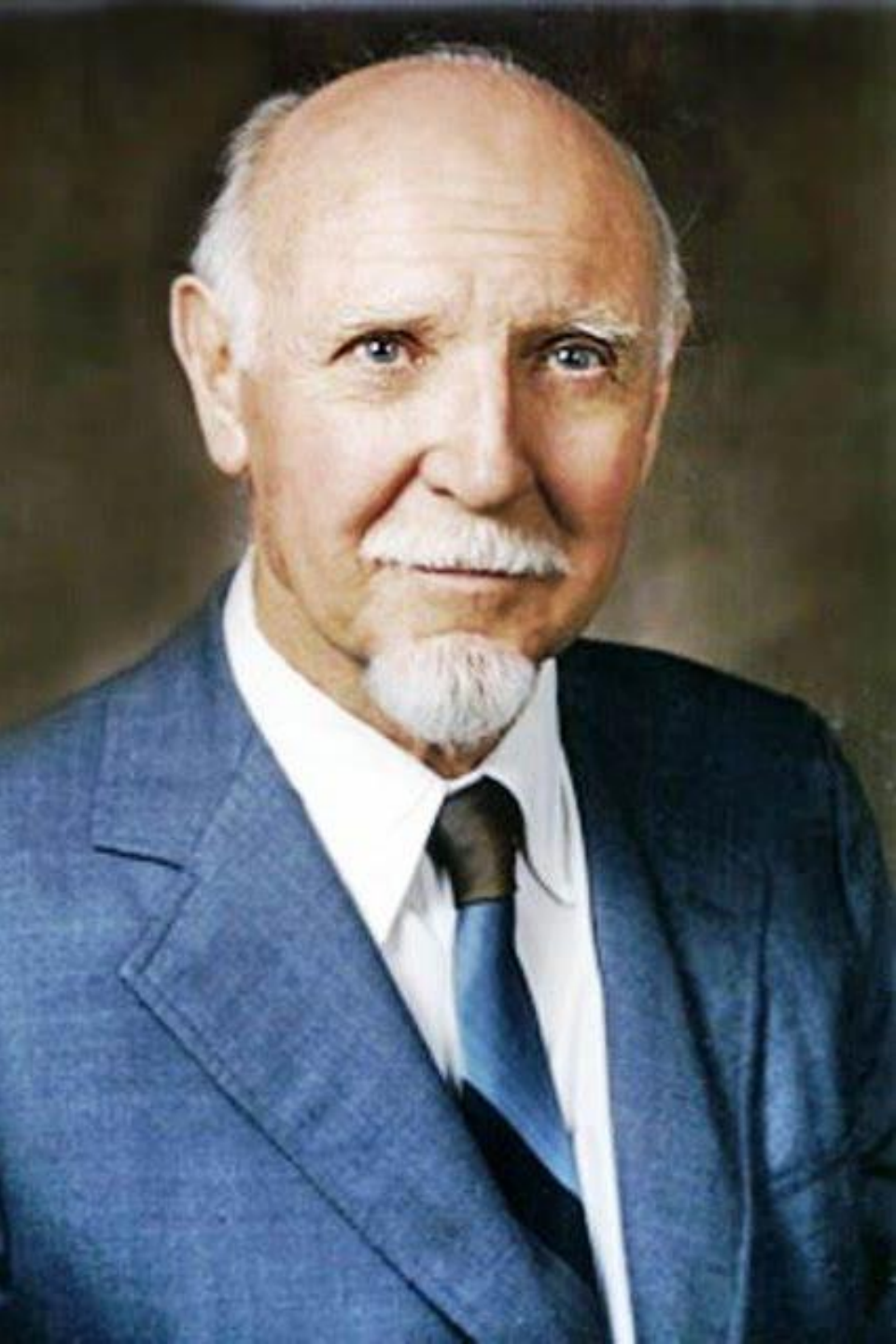
Life of Cattell

- 1905–1998

- Born in England to parents with high standards and competed with older brother

- Studied physics and chemistry at the University of London and graduated at age 19

- Worked with psychologist-statistician Charles E. Spearman, the developer of factor analysis

Life of Cattell

- Earned his Ph.D. in 1929 from King's College London

- Found success when he moved to the United States
  - Worked with Gordon Allport and William Sheldon at Harvard University
  - Worked with Edward Thorndike at Columbia University
  - Published over 500 articles in 20 years at the University of Illinois
  - Taught at the University of Hawaii in his seventies

Cattell's Theory

- Sought to predict how a person will respond to a given stimulus situation

  - Defined **personality** as "that which permits a prediction of what a person will do in a given situation"

- Described predictable behavior as lawful and orderly

  - Reasoned that predictions are difficult without regularity and consistency in the personality

Cattell's Theory

- Used a rigorously scientific approach to study normal personality

  - Was not interested in changing or modifying behavior from abnormal to normal

  - Relied on observations of behavior and masses of data

  - Submitted data to the statistical procedure called **factor analysis**, which involves assessing the relationship/correlation between each possible pair of measurements taken from a group of subjects to determine common factors

Cattell's Theory

- Some personality test items are correlated.

- Cattell reasoned that these items measure a similar factor or construct.

  E.g., #219 and #240 both measure warmth (factor A)

  E.g., #159 and #273 both measure dominance (factor E)

TABLE 3

Package symbol	No. in Ext. Ques.			Factor affiliation and loading	
Aa	192	Would you like a job which required you to sit at a desk all day?			
	206	Whom do you dislike more? a. Dishonest people. b. People who put on an affected "superior" attitude.			
	288	When you are introduced to someone would you rather? a. Have a friendly argument on basic social issues. b. Have him tell you a few jokes.	(a)	Q_1	.25
Ab	100	Which would you rather be? a. A teacher. b. A policeman.			
	123	Do you believe that divorce should generally be made easier?			
	219	Would you like a job where you listen all day to complaints from employees or customers?	Yes	A	.33
Ac	257	Do you give yourself so much to do that you often have to drop one job to start another, and never quite catch up?			
	240	Are you attentive in keeping appointments, and keeping them on time?	Yes	A	.39
	108	Do you think that society ought to pay more attention to scientific thinking about its problems?			
Ca	151	Do you complain about bad service even sometimes when it is really satisfactory?			
	163	Have you ever come near fainting at a sudden pain or at the sight of blood?	Yes	G	.33
	285	Do you sometimes get so angry you are speechless?	No	H	.38
Cb	54	When you see "sloppy," untidy people do you a. Accept it? b. Feel disgusted and annoyed?	(a)	C	.30
	99	Have you ever walked or talked in your sleep?			
	179	Do you feel critical of most other people's work?	No	C	.49
Cc	14	Do you have more trouble than most people in changing your habits?			
	43	As a child, did you feel reluctant to leave home and go to school each day?	No	M	.26
	221	Do you think that the shortcomings in your present position in life are due mainly to your own mistakes?			
Ea	159	Can you deliberately lie to a friend and keep a straight face?	Yes	E	.46
	273	Are you annoyed by people who put on airs of superiority?	No	E	.40

Cattell's Theory

- Referred to these factors as **traits**, the relatively permanent reaction tendencies that are the basic structural units of the personality

- Identified 16 source traits as the basic factors of personality

  - Used in his Sixteen Personality Factor (16PF) questionnaire

  - Can score high, low, or somewhere in between on these basic factors

Cattell's Traits

Common traits	Everyone shares common traits to some degree; for example, everyone has some measure of intelligence or of extraversion.
Unique traits	Each of us has unique traits that distinguish us as individuals; for example, a liking for politics or an interest in baseball.
Ability traits	Our skills and abilities determine how well we can work toward our goals.
Temperament traits	Our emotions and feelings (whether we are assertive, fretful, or easygoing, for example) help determine how we react to the people and situations in our environment.
Dynamic traits	The forces that underlie our motivations and drive our behavior.
Surface traits	Characteristics composed of any number of source traits, or behavioral elements; they may be unstable and impermanent, weakening or strengthening in response to different situations.
Source traits	Single, stable, permanent elements of our behavior.
Constitutional traits	Source traits that have biological origins, such as the behaviors that result from drinking too much alcohol.
Environmental-mold traits	Source traits that have environmental origins, such as the behaviors that result from the influence of our friends, work environment, or neighborhood.

Factor		Low Scorers	High Scorers
A	Warmth	Reserved, aloof, detached	Outgoing, warmhearted, easygoing
B	Reasoning	Low in intelligence	High in intelligence
C	Emotional stability	Low ego strength, easily upset, less emotionally stable	High ego strength, calm, emotionally stable
E	Dominance	Submissive, obedient, docile, unsure, meek	Dominant, assertive, forceful
F	Liveliness	Serious, sober, depressed, worrying	Happy-go-lucky, enthusiastic, cheerful
G	Rule consciousness	Expedient, low in superego	Conscientious, high in superego
H	Social boldness	Timid, shy, aloof, restrained	Bold, adventurous
I	Sensitivity	Tough-minded, self-reliant, demanding	Tender-minded, sensitive, dependent
L	Vigilance	Trusting, understanding, accepting	Suspicious, jealous, withdrawn
M	Abstractedness	Practical, down-to-earth, concerned with detail	Imaginative, absentminded
N	Privateness	Forthright, naïve, unpretentious	Shrewd, worldly, insightful
O	Apprehension	Self-assured, secure, complacent	Apprehensive, insecure, self-reproaching
Q1	Openness to change	Conservative, holds traditional values, dislikes change	Radical, liberal, experimenting, embraces change
Q2	Self-reliance	Group-dependent, prefers to join and follow others	Self-sufficient, resourceful, independent
Q3	Perfectionism	Uncontrolled, lax, impulsive	Controlled, compulsive, exacting
Q4	Tension	Relaxed, tranquil, composed	Tense, driven, fretful

Cattell's Stages of Personality Development

Stage	Age	Development
Infancy	Birth–6	Weaning; toilet training; formation of ego, superego, and social attitudes
Childhood	6–14	Independence from parents and identification with peers
Adolescence	14–23	Conflicts about independence, self-assertion, and sex
Maturity	23–50	Productive time; satisfaction with career, marriage, and family
Late Maturity	50–65	Personality changes in response to physical and social circumstances
Old Age	65+	Adjustment to loss of friends, career, and status; loneliness; insecurity

Influences of Heredity and Environment

- Investigated the influence of both nature (heredity) and nurture (environment) in personality development
  - Statistically compared twins and siblings in different rearing situations
    - Influence of nature evident when identical twins (99%) more similar than fraternal twins (50%)
  - Concluded:
    - 1/3 determined by genetic influences
    - 2/3 determined by social and environmental influences

Cattell's Methods

- To collect data, used three (3) primary assessment techniques:

Life Records L-data	Questionnaires Q-data	Personality Tests T-data
· Involved observers' ratings of overt behaviors exhibited by people in real-life, naturalistic settings	· Called for observers to rate themselves · Warned of inaccuracies	· Involved "objective" tests in which people respond without knowing what aspect is being evaluated

Cattell's Methods

- To analyze data, used **multivariate approaches**, like factor analysis

  - **R technique** - Collecting large amounts of data from a group of people

  - **P technique** - Collecting large amounts of data from a single subject over a long period of time

  - Correlations determine personality factors or traits

Cattell's Assessment

- Developed the Sixteen Personality Factor (16PF) Questionnaire

- Based on the 16 major source traits

- Used for research, clinical diagnosis, and predicting [occupational success](#)

- Translated into some 40 languages

- Different forms for different purposes and age groups

Take an adapted version of the 16PF questionnaire: https://openpsychometrics.org/tests/16PF.php

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This is a free online meaure of Cattell's 16 personality factors.

Introduction
In his explorations of personality, British psychologist Raymond Cattell found that variations in human personality could be best explained by a model that has sixteen variables (personality traits), using a statisical procedure known as factor analysis. Following this discovery he went on to create and promote the 16PF Questionnaire. This test uses a public domain scales from the Internation Personality Item Pool to measure the same traits.

Procedure
This personality test consists of 164 statements about yourself, for each indicate how accurate it is on the scale of (1) disagree (2) slightly disagree (3) niether agree nor disagree (4) slightly agree (5) agree. It will take most people around ten minutes to complete.

Informed consent
This test should be taken for educational purposes only. It is not a substitute for any type of professional service, medical or otherwise. You answers on this test will be stored and used for research, and possibly shared in a way that preserves your anonymity.

Start

More personality tests here.

Sources:
- "The Items in the 16 Preliminary IPIP Scales Measuring Constructs Similar to Those in Cattell's 16 Personality Factor Questionnaire (16PF)". <http://ipip.ori.org/new16PFKey.htm>

Research on the 16PF

Studies have shown that the 16 PF Test:

- Can predict marital stability
- Can be faked if you want to present yourself in a more favorable light
- Can be used in many cultures, but for some languages a literal translation of the test items is not possible
- Yielded results indicating that some source traits are primarily inherited while others are determined primarily by environmental influences
- Can identify 16 source traits of personality
- Can be used for research, clinical diagnosis, and predicting success on the job

Hans Eysenck

Life of Eysenck

- 1916–1997

- Born in Berlin

  - Immigrated to England in 1934 when Hitler came to power

- Studied psychology at the University of London

  - Chose it because he was not academically qualified for physics
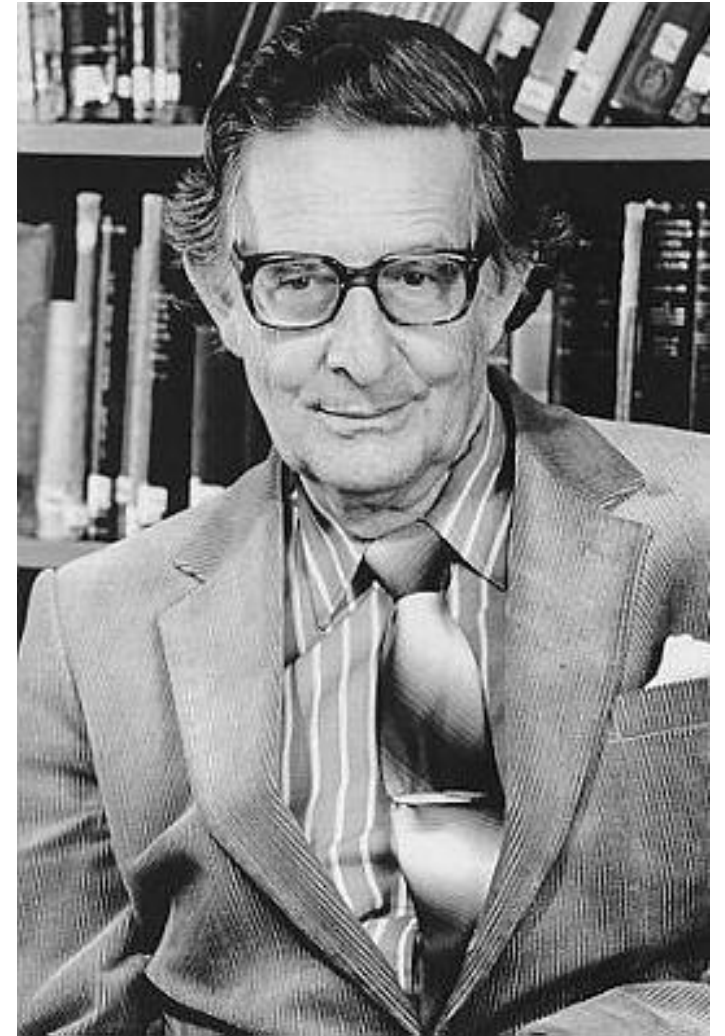
Life of Eysenck

- Was productive throughout his life

  - Spent most of his career at the University of London's Maudsley Hospital and Institute of Psychiatry, conducting research on the measurement of personality

  - Published 79 books and 1,097 journal articles

  - Most frequently cited psychologist at time of death (1997)

  - Developed personality assessments with his wife: Eysenck Personality Profiler, the Maudsley Medical Questionnaire, and the Maudsley Personality Inventory
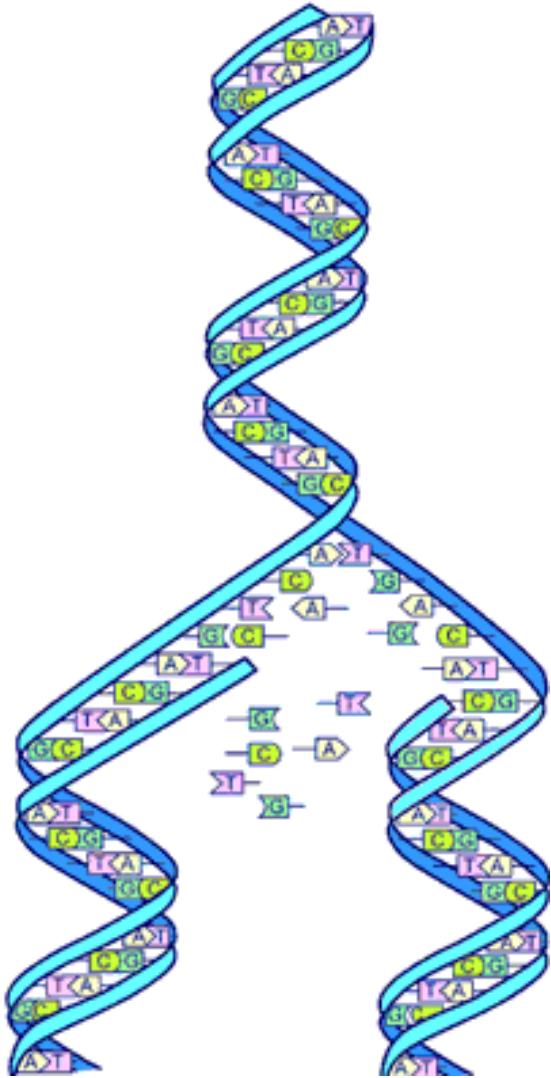
Primary Role of Heredity

- Suggested heredity more influential in the development of personality traits and intelligence

  - Compared identical twins (monozygotic; share 99.9% of DNA) to fraternal twins (dizygotic; share 50% of DNA)

    - Identical twins' personalities more similar

    - Adopted children's personalities more similar to biological parents' personalities

Eysenck's Theory

- Agreed with Cattell that personality is composed of traits, or factors, derived by the factor-analytic method

- Was a critic of factor analysis because of its potential subjectivity
  - Supplemented factor analysis with personality tests and experimental studies that considered a wide range of variables

- Was a critic of Cattell's research because of the difficulty in replicating his findings

Eysenck's Theory

- **Dimensions or superfactors**: Combinations of traits or factors
  - Remain stable throughout the life span despite one's different social and environmental experiences

E	N	P
Extraversion versus introversion	Neuroticism versus emotional stability	Psychoticism versus impulse control (or superego functioning)
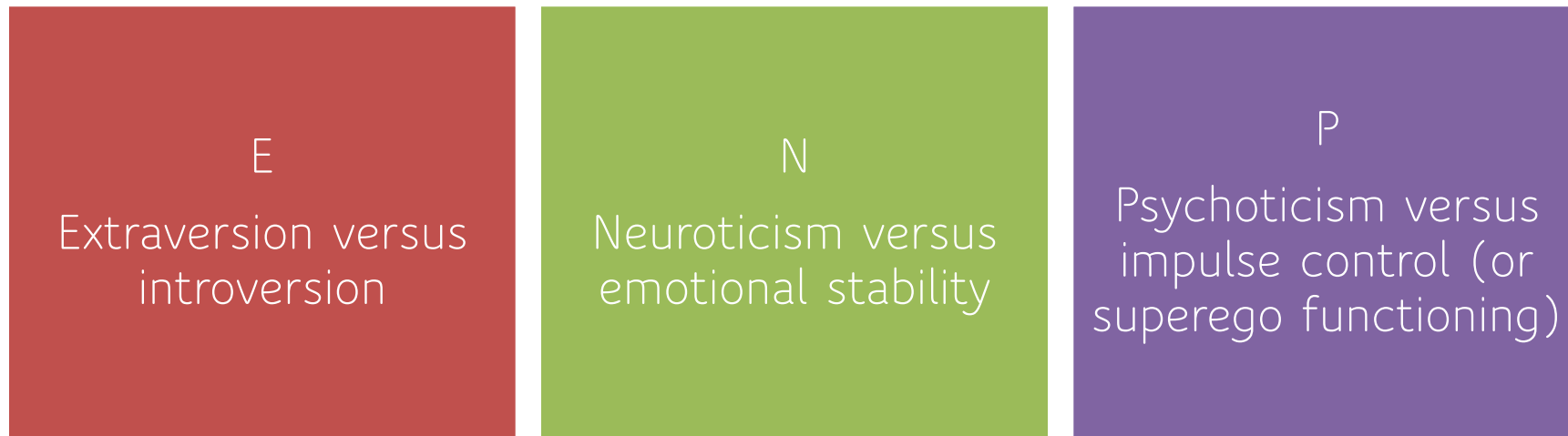
Extraversion vs. Introversion

EXTRAVERTS

- Oriented toward the outside world

- Prefer the company of others

- Tend to be sociable, sensation-seeking, venturesome, carefree, assertive, dominant, and impulsive

- Lower base level of cortical arousal

INTROVERTS

- Shy away from excitement

- React strongly to stimulation

- Higher base level of cortical arousal

Neuroticism vs. Emotional Stability

- Traits of highly neurotic personalities:

  - Anxious, depressed, tense, irrational, shy, and moody

  - Low self-esteem and prone to feelings of guilt

  - Greater activity in the areas of the brain that control the sympathetic nervous system, which overreacts to mild stressors and results in chronic hypersensitivity

Psychoticism vs. Impulse Control

- Traits of highly psychotic personalities:

  - Aggressive, cold, cruel, hostile, egocentric, impersonal, impulsive, antisocial, creative, tough-minded, and insensitive to the needs and feelings of others

  - Low on emotional well-being

  - Greater problems with alcohol, drug abuse, and violent criminal behavior

  - Raised by authoritarian and controlling parents

Take an adapted version of the EPI:
https://bb.siue.edu/bbcswebdav/xid-36879640_1

Adaptation of Eysenck's Personality Inventory (EPI)

Instructions: "Here are some questions regarding the way you behave, feel and act. After each question is a space for answering YES or NO. Try to decide whether YES or NO represents your usual way of acting or feeling. Then put a tick in the box under the column headed YES or NO. Work quickly, and don't spend too much time over any question, we want your first reaction, not a long drawn-out thought process. The whole questionnaire shouldn't take more than a few minutes. Be sure not to omit any questions. Start now, work quickly and remember to answer every question. There are no right or wrong answers, and this isn't a test of intelligence or ability, but simply a measure of the way you behave."

Item No.	Items	No	Yes
1	Do you often long for excitement?	◉ No	○ Yes
2	Do you often need understanding friends to cheer you up?	◉ No	○ Yes
3	Are you usually carefree?	◉ No	○ Yes
4	Do you find it very hard to take no for an answer?	◉ No	○ Yes

Paul Costa and Robert McCrae

Lives of Costa and McCrae

- Paul T. Costa, Jr. (1942) was born in New Hampshire.

- He earned a PhD in human development from the University of Chicago in 1970.

- His research is focused on the relationship between age and both personality and cognition.

Lives of Costa and McCrae

- Robert Roger McCrae (1949) was born in Missouri.

- He earned a PhD in personality psychology from Boston University in 1976.

- His research is focused on the structure and assessment of personality.

- He is an avid supporter of the biologically-based trait approach.

McCrae and Costa's Theory

- Met at the Gerontology Research Center of the National Institutes of Health in Maryland in 1978

- Developed the [Five-Factor Model](#) and identified the popular Big Five factors
  - Confirmed factors through various assessment techniques, including self-ratings, objective tests, and observers' reports
  - Developed the NEO Personality Inventory (NEO-PI) to assess factors

McCrae and Costa's Theory

FACTOR	DESCRIPTION
Neuroticism	Worried, insecure, nervous, highly strung
Extraversion	Sociable, talkative, fun-loving, affectionate
Openness	Original, independent, creative, daring
Agreeableness	Good-natured, softhearted, trusting, courteous
Conscientiousness	Careful, reliable, hardworking, organized

Take an adapted version of the NEO PI-R:
http://www.personal.psu.edu/~j5j/IPIP/ipipneo120.htm

Instructions for Completing the IPIP-NEO Short Form

The following pages contain phrases describing people's behaviors. Please use the rating scale next to each phrase to describe how accurately each statement describes you. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then click the circle that corresponds to the accuracy of the statement.

Answer every item. Failing to answer items will return an invalid narrative report. Note that the answer circles appear directly to the right of each question. Please make sure that the circle you are choosing corresponds to the question you are considering. If you make a mistake or change your mind, simply click the circle you wish to choose. After you have answered the first 60 of the 120 total items, press the send button. at the bottom of this page. This will send your responses to the scoring program and take you to a page with the next 60 questions. After you complete this second page of 60 questions, pressing the send button will return an interpretive report to you.

All responses to this inventory from all respondents are completely confidential and will **not** be associated with you as an individual. Responses are, however, automatically entered into a database in order to improve norms by age and sex and to assess the statistical properties of item responses for groups of respondents. To ensure confidentiality of your responses to the inventory, **DO NOT** enter your real name in the box below. Please use a nickname or made-up name. If you do not enter a nickname with at least one letter or numeral in it, a random nickname will be generated for you.

Your Nickname or Made-up Name [   ]

This inventory will not be scored unless valid values for sex, age, and country are entered.

Sex: Male   Female
         ○   ○

Age: [   ]

When selecting your country, please indicate the country to which you feel you belong the most, whether by virtue of citizenship, length of residence, or acculturation.

Country: [Select Your Country ▾]

1.	Worry about things.	Very Inaccurate ○	Moderately Inaccurate ○	Neither Accurate Nor Inaccurate ○	Moderately Accurate ○	Very Accurate ○
2.	Make friends easily.	Very Inaccurate ○	Moderately Inaccurate ○	Neither Accurate Nor Inaccurate ○	Moderately Accurate ○	Very Accurate ○
3.	Have a vivid imagination.	Very Inaccurate ○	Moderately Inaccurate ○	Neither Accurate Nor Inaccurate ○	Moderately Accurate ○	Very Accurate ○
4.	Trust others.	Very Inaccurate	Moderately Inaccurate	Neither Accurate Nor Inaccurate	Moderately Accurate	Very Accurate
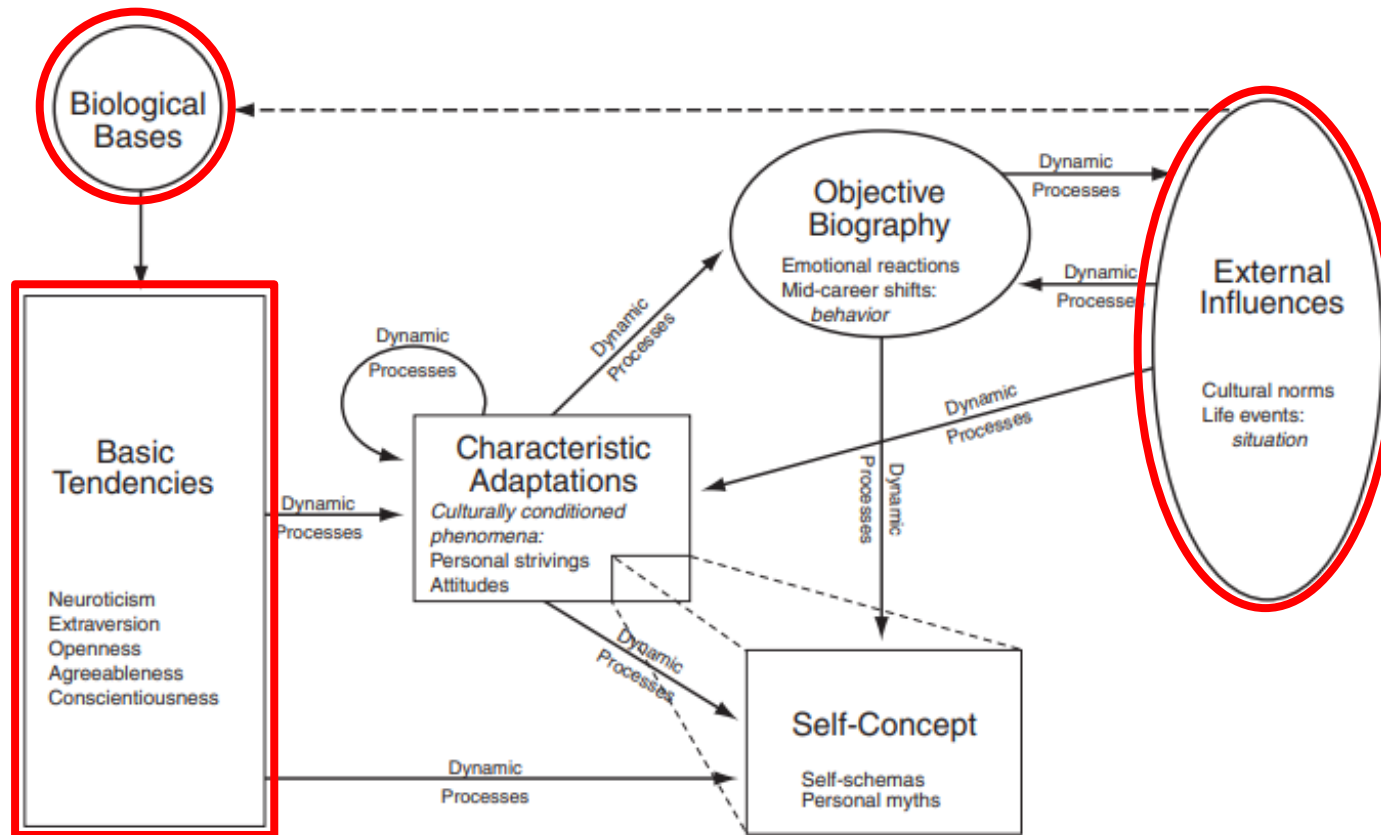
FIGURE 5.1. A representation of the five-factor theory personality system. Core components are in rectangles; interfacing components are in ellipses. From McCrae and Costa (1996).

McCrae and Costa's Theory

Research on McCrae and Costa's Theory

Research on the five factors of personality shows that:

- Neuroticism, extraversion, openness, and conscientiousness have a strong hereditary component
- The factor of agreeableness has a strong environmental component
- All five factors have been found in diverse cultures
- Most of the factors remain stable to some degree over the life span
- Women report higher levels of neuroticism, extraversion, agreeableness, and conscientiousness than men
- We tend to see others as being more conscientious and less neurotic than ourselves

Research: Emotional Correlates

High self-reported emotional well-being correlated with:

- High conscientiousness
- High extraversion
- High agreeableness
- Low neuroticism

High extraversion correlated with:

- High social support
- High likeability
- Positive emotions

High neuroticism correlated with:

- Negative outcomes

Research: Behavioral Correlates

High conscientiousness correlated with:	High agreeableness correlated with:	High openness correlated with:	High extraversion correlated with:
• Better grades in college • Set high goals and receive high performance ratings • Better health and less drug use	• Better grades in college • Fewer behavior problems	• Having a wide range of interests • Desire to seek out challenges	• More social relationships

Research: Personality Traits and the Internet

Score	Conscientiousness	Neurotic	Extraversion	Agreeableness	Openness
High	More Facebook friends	Post more pictures on Facebook	More Facebook friends and use of social media	-	Shops online for a new adventure
	Shop online for convenience	Addiction to video games	Using Facebook because of loneliness	-	-
	-	Shops online to avoid other people	-	-	-
Low	Using Facebook because of loneliness	-	Borderline compulsive use of Internet	Sexting by sending suggestive photos	Less time using computers and playing videogames

Delroy Paulhus and Kevin Williams

Lives of Paulhus and Williams

- Delroy L. Paulhus earned a PhD from Columbia University in 1980.
  - Currently with the University of British Columbia, Canada

- Kevin M. Williams earned a PhD.
  - Currently with the Educational Testing Service

Paulhus and Williams' Theory

- In 2002, they published a three-factor approach to understanding the darker side of personality and coined the phrase **Dark Triad**.

Narcissism: Extreme selfishness, an inflated sense of one's abilities and talents, and the constant need for admiration and attention	Machiavellianism: The need to manipulate others, characterized by cunning, deceit, and unscrupulous behaviors	Psychopathy: Callous, insensitive, egocentric, antisocial, takes advantage of other people, using great charm and often violence

Dark Triad Assessment

	Disagree		Neutral		Agree
It's not wise to tell your secrets.	○	○	○	○	○
People see me as a natural leader.	○	○	○	○	○
I like to get revenge on authorities.	○	○	○	○	○
I like to use clever manipulation to get my way.	○	○	○	○	○
I hate being the center of attention.	○	○	○	○	○
I avoid dangerous situations.	○	○	○	○	○
Whatever it takes, you must get the important people on your side.	○	○	○	○	○
Many group activities tend to be dull without me.	○	○	○	○	○
Payback needs to be quick and nasty.	○	○	○	○	○
Avoid direct conflict with others because they may be useful in the future.	○	○	○	○	○
I know that I am special because everyone keeps telling me so.	○	○	○	○	○
People often say I'm out of control.	○	○	○	○	○
It's wise to keep track of information that you can use against people later.	○	○	○	○	○
I like to get acquainted with important people.	○	○	○	○	○
It's true that I can be mean to others.	○	○	○	○	○
You should wait for the right time to get back at people.	○	○	○	○	○
I feel embarrassed if someone compliments me.	○	○	○	○	○
People who mess with me always regret it.	○	○	○	○	○

Take an adapted version of the Short Dark Triad:
https://openpsychometrics.org/tests/SD3/

- In 2011, Paulhus and Daniel Jones developed the Short Dark Triad, which includes 27 items aimed at measuring each of the three traits.

Dark Triad Assessment

- In 2012, Peter Jonason and Gregory Webster published the Dirty Dozen, a 12-item self-report test developed as a quick way of assessing the dark triad.

Table 8

Principal Components Analysis Using Oblique Rotation of and Item–Scale Correlations for the Dirty Dozen Dark Triad Items in Study 4

Item	Factor M	P	N	r
1. I tend to manipulate others to get my way.	**−.81**	.04	.02	.64
2. I have used deceit or lied to get my way.	**−.84**	.04	−.08	.57
3. I have use flattery to get my way.	**−.74**	−.16	.12	.51
4. I tend to exploit others towards my own end.	**−.64**	.28	−.02	.62
5. I tend to lack remorse.	−.04	**.83**	−.02	.50
6. I tend to be unconcerned with the morality of my actions.	.04	**.77**	.00	.42
7. I tend to be callous or insensitive.	.02	**.87**	−.03	.48
8. I tend to be cynical.	−.07	**.57**	.13	.46
9. I tend to want others to admire me.	.02	−.01	**.89**	.57
10. I tend to want others to pay attention to me.	.01	−.08	**.90**	.54
11. I tend to seek prestige or status.	.03	.08	**.83**	.57
12. I tend to expect special favors from others.	−.22	.14	**.55**	.61

Note. Factor loadings ≥ |.30| are boldfaced. M = Machiavellianism; P = Psychopathy; N = Narcissism; r = corrected item–scale correlation (in italics).

Research: Behavioral Correlates

High scores on all 3 traits is correlated with:	High psychopathy correlated with:
• Involvement in anti-social activities • Satisfaction from the misfortunes of others • High self-promotion	• High sex drive • Possession of sexual and sadomasochistic fantasies