

Summary and Evaluation

Key Terms

The Dispositional Domain

Think back to your days in high school. Can you remember what you were like then? Try to recall what you were most interested in, how you spent your time, what things were most important to you at that time of your life. If you are like most people, you probably feel that, in many ways, you are a different person now than you were in high school. Your interests have probably changed somewhat. Different things may be important to you. Your attitudes about school, family, and relationships have probably all changed at least a bit. Perhaps now you are more mature and have a more experienced view of the world.

As you think about what you were like then and what you are like now, you probably also feel that there is a core of “you” that is essentially the same over the years. If you are like most people, you have a sense of an enduring part of you, a feeling that you are “really” the same person now as then. Certain inner qualities seem the same over these several years.

In this chapter, we explore the psychological continuities and changes over time that define the topic of personality development. When it comes to personality, “Some things change; some things stay the same.” In this chapter, we discuss how psychologists think about personality development, with a primary focus on personality traits or dispositions.



Even though people change and develop as they age, each person still has a sense of self as the same person from year to year. As we see in this chapter on development, when it comes to personality, some things change and some things stay the same.

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Conceptual Issues: Personality Development, Stability, Coherence, and Change

This section defines personality development, examines the major ways of thinking about personality stability over time, and explores what it means to say that personality has changed. The study of personality development has attracted increasing research attention, with an entire issue of the *Journal of Personality* devoted to the topic (Graziano, 2003).

What Is Personality Development?

Personality development can be defined as the continuities, consistencies, and stabilities in people over time *and* the ways in which people change over time. Each of these two facets—stability and change—requires definitions and qualifications. There are many forms of personality stability and, correspondingly, many forms of personality change. The three most important forms of stability are rank order stability, mean level stability, and personality coherence. We discuss each of these in turn. Then we examine personality change.

Rank Order Stability

Rank order stability is the maintenance of individual position within a group. Between ages 14 and 20, most people become taller, but the rank order of heights tends to remain fairly stable because this form of development affects all people pretty much the same, adding a few inches to everyone. The tall people at 14 fall generally toward the tall end of the distribution at age 20. The same can apply to personality traits. If people tend to maintain their positions on dominance or extraversion relative to the others over time, then there is high rank order stability to those personality characteristics. Conversely, if people fail to maintain their rank order—if the submissive people rise up and put down the dominants, for example—then the group is displaying rank order instability, or **rank order change**.

Exercise

To illustrate the phrase “Some things change; some things stay the same,” consider your first years of high school and compare that with the period just after high school—typically, your college or university years. Identify three characteristics that have changed noticeably during that period. These characteristics might be your interests, your attitudes, your values, and what you like to do with your time. Then list three characteristics about you that have not changed. Again, these characteristics could reflect certain traits of your personality, your interests, your values, or even your attitudes about various topics. Write them down in the following format:

	What I was like when I started high school:	What I was like after high school:
Characteristics that have changed	1. _____	1. _____
	2. _____	2. _____
	3. _____	3. _____
Characteristics that have not changed	1. _____	
	2. _____	
	3. _____	

Mean Level Stability

Another kind of personality stability is constancy of level, or **mean level stability**. Consider political orientation. If the average level of liberalism or conservatism in a group remains the same over time, the group exhibits high mean level stability. If the average degree of political orientation changes—for example, if people tend to get increasingly conservative as they get older—then that population is displaying **mean level change**.

Personality Coherence

A more complex form of personality development involves changes in the *manifestations* of a trait. Consider the trait of dominance. Suppose that the people who are dominant at age 8 are the same people who are dominant at age 20. The 8-year-old boys, however, manifest their dominance by showing toughness in rough-and-tumble play, calling their rivals names, and insisting on monopolizing the computer games. At the age of 20, they manifest their dominance by persuading others to accept their views in political discussions, boldly asking someone out on a date, and insisting on the restaurant at which the group will eat.



The manifestation of disagreeableness may differ across the life span, ranging from temper tantrums in infancy to being argumentative and having a short temper in adulthood. Even though the behaviours are different at the different ages, they nevertheless express the same underlying trait. This kind of consistency is called personality coherence.

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This form of personality development—maintaining rank order in relation to other individuals but changing the manifestations of the trait—is called **personality coherence**. Notice that this form of personality coherence does not require that the precise behavioural manifestations of a trait remain the same. Indeed, the manifestations may be so different that there is literally no overlap between age 8 and age 20. The act manifestations have all changed, but something critical has remained the same—the overall level of dominant acts. Thus, personality coherence includes both elements of continuity and elements of change—continuity in the underlying trait but change in the outward manifestation of that trait.



A Closer Look

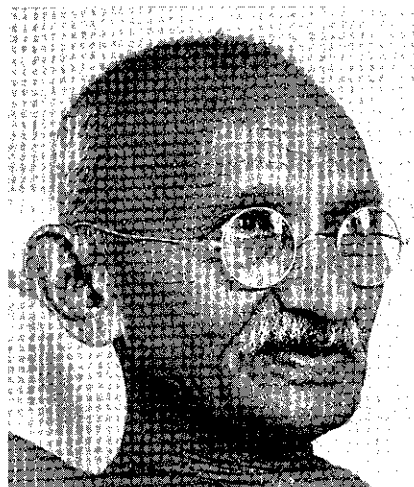
A Case of Personal Stability

Mohandas Karamchand Gandhi was born in 1869 into a family of modest means in India. His mother was devoutly religious, and she impressed young Mohandas with her beliefs and practices. The Gandhi family not only practised traditional Hinduism but also practised Buddhist chants, read from the Koran, and even sang traditional Christian hymns. Mohandas developed a personal philosophy of life that led him to renounce all personal desires and to devote himself to the service of his fellow human beings.

After studying law in England, and practising for a few years in South Africa, Gandhi returned to India. At that time, India was under British rule, and most Indians resented the oppression of their colonial rulers. Gandhi devoted himself to the ideal of Indian self-rule and to freedom from British oppression. When the British decided to fingerprint all Indians, for example, Gandhi came up with an idea he called passive resistance—he encouraged all Indians to simply refuse to go in for fingerprinting. During the period of 1919–1922, Gandhi led widespread but nonviolent strikes and boycotts throughout India. He coordinated campaigns of peaceful noncooperation with anything British—he urged Indians not to send their children to the British-run schools, not to participate in the courts, even not to adopt the English language. In their frustration, British soldiers sometimes attacked crowds of boycotting or striking Indians, and many Indians were killed. The people of India loved Gandhi. They followed him in droves, recording everything he did and said. He became a living legend, and the people referred to him as Maha Atma, or the Great Soul. We know him today as Mahatma Gandhi.

In 1930, Gandhi led the Indian people in nonviolent defiance of the British law forbidding Indian people from making their own salt. He started out with a few of his followers on a march to the coast of India, intending to make salt from seawater. By the time Gandhi had reached the sea, several thousand people had joined him in this act of civil disobedience. By this time, the British had jailed more than 60,000 Indians for disobedience to British law. The jails of India were bursting with native people put there by foreign rulers for breaking foreign laws. The British rulers were finally coming to some sense of embarrassment and shame for this situation. In the eyes of the world, this frail man Gandhi and his nonviolent followers were shaking the foundation of the British Empire in India.

Gandhi was not an official of the Indian government. Nevertheless, the British began negotiations with him to free India from British rule. During negotiations, the British played tough and put Gandhi in jail. The Indian



Mahatma Gandhi lived in a tumultuous period and led one of the largest social revolutions in human history. Despite the changing conditions of his life, his personality remained remarkably stable. For example, he practised self-denial and self-sufficiency throughout his adult life, preferring a simple loincloth and shawl to the suit and tie worn by most leaders of the world's great nations.

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people demonstrated and nearly a thousand of them were killed by the British, bringing shame on the colonial rulers in the eyes of the world. Gandhi was finally freed and a few years later, in 1947, Britain handed India its independence.

Gandhi negotiated a mostly peaceful transition from British rule to self-rule for the people of India. In his lifetime, he was one of the most influential leaders in the world. His ideas have influenced the struggles of many oppressed groups since.

In 1948, an assassin fired three bullets into Gandhi at point-blank range. The assassin was a Hindu fanatic who believed that Gandhi should have used his position to preach hatred of the Muslims of India. Gandhi instead preached tolerance and trust, urging Muslims and Hindus to participate together in the new nation of India. This most nonviolent and tolerant man became a victim of violence.

Even though Gandhi became the "Father of India," he remained essentially the same person throughout his adult life. Each day of his life, he washed himself in ashes instead of expensive soap, and he shaved with an old, dull straight razor rather than with more expensive blades. He cleaned his own house and swept his yard almost every day. Each afternoon he spun thread on a hand-wheel for an hour or two. The thread was then made into cloth for his own clothes and for the clothes of his followers. He practised the self-denial and self-sufficiency he learned early in his life. In most ways, his personality was remarkably stable over his life, even though he was at the centre of one of the most tumultuous social revolutions in history.

Personality Change

The notion of personality development in the sense of change over time also requires elaboration. To start with, not all change qualifies as development. For instance, if you walk from one classroom to another, your relationship to your surroundings has changed. But we do not speak of your "development" in this case because the change is external to you and not enduring.

And not all internal changes can properly be considered development. When you get sick, for example, your body undergoes important changes: your temperature may rise, your nose may run, and your head may ache. But these changes do not constitute development because the changes do not last—you soon get healthy, your nose stops running, and you spring back into action. In the same way, temporary changes in personality—due to taking alcohol or drugs, for example—do not constitute personality development unless they produce more enduring changes in personality.

If you were to become consistently more conscientious or responsible as you aged, however, this would be a form of personality development. If you were to become gradually less energetic as you aged, this also would be a form of personality development.

In sum, personality change has two defining qualities. First, the changes are typically *internal* to the person, not merely changes in the external surroundings, such as walking into another room. Second, the changes are relatively *enduring* over time, rather than being merely temporary.

Three Levels of Analysis

We can examine personality over time at three levels of analysis: the population as a whole, group differences within the population, and individual differences within groups. As we examine the empirical research on personality development, it is useful to keep these three levels in mind.

Population Level

Several personality psychologists have theorized about the changes that we all go through in navigating from infancy to adulthood. Freud's theory of psychosexual development, for example, contained a conception of personality development that was presumed to apply to *everyone* on the planet. All people, according to Freud, go through an invariant stage sequence, starting with the oral stage and ending with the mature genital stage of psychosexual development (see Chapter 9).

This level of personality development deals with the changes and constancies that apply more or less to everyone. For example, almost everyone in the population tends to increase in sexual motivation at puberty. Similarly, there is a general decrease in impulsive and risk-taking behaviours as people get older. This is why car insurance rates go down as people age, because a typical 30-year-old is much less likely than a typical 16-year-old to drive in a risky manner. This change in impulsivity is part of the population level of personality change, describing a general trend that might be part of what it means to be human and go through life.

Group Differences Level

Some changes over time affect different groups of people differently. Sex differences are one type of group differences. In the realm of physical development, for example, females go through puberty, on average, two years earlier than males. At the other end of life, men in Canada tend to die four years earlier than women. These are sex differences in development.

Analogous sex differences can occur in the realm of personality development. As a group, men and women suddenly develop differently from one another during adolescence in their average levels of risk taking (men become more risk taking). Men and women also develop differently in the degree to which they show empathy toward others (women develop a stronger awareness and understanding of others' feelings). These forms of personality development are properly located at the group differences level of personality analysis.

Other group differences include cultural or ethnic group differences. For example, in Canada there is a large difference in levels of extraversion and antagonism between European Canadian children and Asian Canadian children. European Canadian children tend to be, as a group, much higher in both of these personality dimensions than are Asian Canadian children. Consequently, European Canadian children are higher in externalizing behaviours and at greater risk for developing externalizing disorders such as attention-deficit/hyperactivity disorder (ADHD) or conduct disorder, whereas Asian Canadian children are higher in internalizing behaviours and at greater risk for developing internalizing disorders such as depression or anxiety (Kotelnikova & Tackett, 2009).



Some changes affect different groups of people differently. For example, European Canadian children tend to be, as a group, much higher in their levels of extraversion and antagonism than are Asian Canadian children. Consequently, European Canadian children have a higher risk for developing externalizing disorders, such as attention-deficit/hyperactivity disorder.

(left): © Hero/Corbis/Glow Images RF; (right): © Paul Bradbury/agefotostock RF

Individual Differences Level

Personality psychologists also focus on individual differences in personality development. For example, can we predict, based on their personalities, which individuals will go through a midlife crisis? Can we predict who will be at risk for a psychological disturbance later in life based on earlier measures of personality? Can we predict which individuals will change over time and which ones will remain the same? These issues are located at the individual differences level of personality analysis.

Personality Stability over Time

This section examines the research on the stability of personality over the lifetime. We first examine stability in infancy, then explore stability during childhood, and finally look at stability during the decades of adulthood.

Stability of Temperament During Infancy

Many parents of two or more children will tell you that their children had distinctly different personalities starting from the day they were born. For example, Albert Einstein, the Nobel Prize-winning father of modern physics, had two sons with his first wife. These two boys were quite different from each other. The older boy, Hans, was fascinated with puzzles as a child and had a gift for mathematics. He went on to become a distinguished professor of hydraulics. The younger son, Eduard, enjoyed music

and literature as a child. As a young adult, however, he ended up in a Swiss psychiatric hospital, where he died. Although this is an extreme example, many parents notice differences among their children, even as infants. Do the intuitions of parents square with the scientific evidence?

By far the most commonly studied personality characteristics in infancy and childhood fall under the category of temperament. Although there is some disagreement about what the term means, most researchers define **temperament** as the individual differences that emerge very early in life, are likely to have a heritable basis (see Chapter 6), and are often involved with emotionality or arousability.

Mary Rothbart (1981, 1986; Rothbart & Hwang, 2005) studied infants at different ages, starting at 3 months of age. She examined six factors of temperament, using ratings completed by the caregivers:

1. *Activity level*: the infant's overall motor activity, including arm and leg movements.
2. *Smiling and laughter*: how much the infant smiles or laughs.
3. *Fear*: the infant's distress and reluctance to approach novel stimuli.
4. *Distress to limitations*: the child's distress at being refused food, being dressed, being confined, or being prevented access to a desired object.
5. *Soothability*: the degree to which the child reduces stress, or calms down, as a result of being soothed.
6. *Duration of orienting*: the degree to which the child sustains attention to objects in the absence of sudden changes.

The caregivers, mostly mothers, completed observer-based scales designed to measure these six aspects of temperament. Table 5.1 shows the cross-time correlations over different time intervals. If you scan the correlations in the table, you will notice first that they are all positive. This means that infants who tend to score high at one time period on activity level, smiling and laughter, and the other personality traits also tend to score high on these traits at later time periods.

Table 5.1 Stability Correlations for Temperament Scales

Scale	Months					
	3-6	3-9	3-12	6-9	6-12	9-12
AL—activity level	0.58	0.48	0.48	0.56	0.60	0.68
SL—smiling and laughter	0.55	0.55	0.57	0.67	0.72	0.72
FR—fear	0.27	0.15	0.06	0.43	0.37	0.61
DL—distress to limitations	0.23	0.18	0.25	0.57	0.61	0.65
SO—soothability	0.30*	0.37*	0.41	0.50	0.39	0.29
DO—duration of orienting	0.36*	0.35*	0.11	0.62	0.34	0.64

*Correlations based on only one cohort.

Source: Adapted from M. K. Rothbart, "Measurement of temperament in infancy." *Child Development*, 52(2): 569-578. Table 4, data for Cohort 1, p. 575 © 1981 by John Wiley & Sons, Inc. Reprinted by permission of the publisher.

Next, notice that the correlations in the top two rows of Table 5.1 tend to be higher than those in the bottom four rows. This means that activity level and smiling and laughter tend to show higher levels of stability over time than the other personality traits.

Now notice that the correlations in the right-most two columns are generally higher than those in the left-most columns. This suggests that personality traits tend to become more stable toward the end of infancy (from 9 to 12 months) compared with the earlier stages of infancy (from 3 to 6 months).

Like all studies, this one has limitations. Perhaps most important, the infants' caregivers may have developed certain conceptions of their infants, and it may be their conceptions rather than the infants' behaviours that show stability over time. Nonetheless, these findings reveal four important points. First, stable individual differences appear to emerge very early in life, when they can be assessed by observers. Second, for most temperament variables, there are moderate levels of stability over time during the first year of life. Third, the stability of temperament tends to be higher over short intervals of time than over long intervals of time—a finding that occurs in adulthood as well. And, fourth, the level of stability of temperament tends to increase as infants mature (Goldsmith & Rothbart, 1991; Rothbart & Hwang, 2005).

Stability During Childhood

Longitudinal studies, examinations of the same groups of individuals over time, are costly and difficult to conduct. As a result, there are few studies to draw on. A major exception is the Block and Block Longitudinal Study, which initiated the

testing of a sample of more than 100 American children from the Berkeley-Oakland area of California when the children were 3 years old (see, e.g., Block & Robbins, 1993). Since that time, the sample has been followed and repeatedly tested at ages 4, 5, 7, 11, and into adulthood.

One of the first publications from this project focused on individual differences in activity level (Buss, Block, & Block, 1980). When the children were 3 years old, and then again at 4, their activity levels were assessed in two ways. The first was through the use of an **actometer**, a recording device attached to the wrists of the children during several play periods. Motoric movement activated the recording device—essentially a self-winding wristwatch. Independently, the children's teachers completed ratings of their behaviour and personalities. The behavioural measure of activity level contained three items that were directly relevant: "is physically active," "is vital, energetic, active," and "has a rapid personal tempo." These items were summed to form a total measure of teacher-observed activity level. This observer-based measure was obtained when the children were 3 and 4 and then again when they reached age 7.

Table 5.2 shows the correlations among the activity level measures, both at the same ages and across time to assess the stability of activity level during childhood. The correlations between the same measures obtained at two different points in time are called **stability coefficients** (these are also sometimes called test-retest reliability coefficients). The correlations between different measures of the same trait obtained at the same time are called **validity coefficients**.

Table 5.2 Intercorrelations Among Activity Measures

	ACTOMETER		JUDGE-BASED		
	Age 3	Age 4	Age 3	Age 4	Age 7
Actometer:					
Age 3 . . . . .	. . .	.44*	.61***	.56***	.19
Age 4 . . . . .	.43**	. . .	.66***	.53***	.38**
Judge-based:					
Age 3 . . . . .	.50***	.36**	. . .	.75***	.48***
Age 4 . . . . .	.34*	.48***	.51***	. . .	.38**
Age 7 . . . . .	.35*	.28*	.33*	.50***	. . .

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed). Correlations above the ellipses (. . .) are based on boys' data, those below the ellipses (. . .) are based on girls' data.

Source: D. M. Buss et al., "Preschool activity level: Personality correlates and developmental implications," *Child Development*, 51: 401-408, Table 1, p. 403 © 1980 by the Society for Research in Child Development, Inc. Reprinted by permission of John Wiley & Sons, Inc.

Several key conclusions about validity and stability can be drawn from these findings. First, the actometer-based measurements of activity level have significant positive validity coefficients with the judge-based measurements of activity level. Activity level in childhood can be validly assessed through both observational judgments and activity recordings from the actometers. The two measures are moderately correlated at each age, providing cross-validation of each type of measure.

Second, notice that the correlations of the activity level measurements are all positively correlated with measurements of activity level taken at later ages. We can conclude that activity level shows moderate stability during childhood. Children who are highly active at age 3 are also likely to be active at ages 4 and 7. Their less active peers at age 3 are likely to remain less active at ages 4 and 7.

Finally, the size of the correlations tends to decrease as the time interval between the different testings increases. As a general rule, the longer the time between testings, the lower the stability coefficients. In other words, measures taken early in life can predict personality later in life, but the predictability decreases over time.

These general conclusions apply to other personality characteristics as well. Aggression and violence have long been a key concern of our society from school shootings to suicide bombers. What causes some children to act so aggressively?

As it turns out, numerous studies of childhood aggression have been conducted by personality psychologists. Dan Olweus (1979) reviewed 16 longitudinal studies of aggression during childhood. The studies varied widely on many aspects, such as the age at which the children were first tested (2-18), the length of interval between first testing and final testing (half a year to 18 years), and the specific measures of aggression used (e.g., teacher ratings, direct observation, and peer ratings).

Figure 5.1 shows a summary graph of the results of all these studies. The graph depicts the stability coefficients for aggression as a function of the interval between first and final testing. Marked individual differences in aggression emerge very early in life, certainly by the age of 3 (Olweus, 1979). Individuals retain their rank order stability on aggression to a substantial degree

over the years. Moderate levels of rank order stability have also been documented for major personality traits from early childhood to adolescence (Hampson et al., 2007), from middle childhood to adolescence (Tackett et al., 2008), and from adolescence to early adulthood (Blonigen et al., 2008). And, as we have seen with infant temperament and childhood activity level, the stability coefficients tend to decline as the interval between the two times of measurement increases.

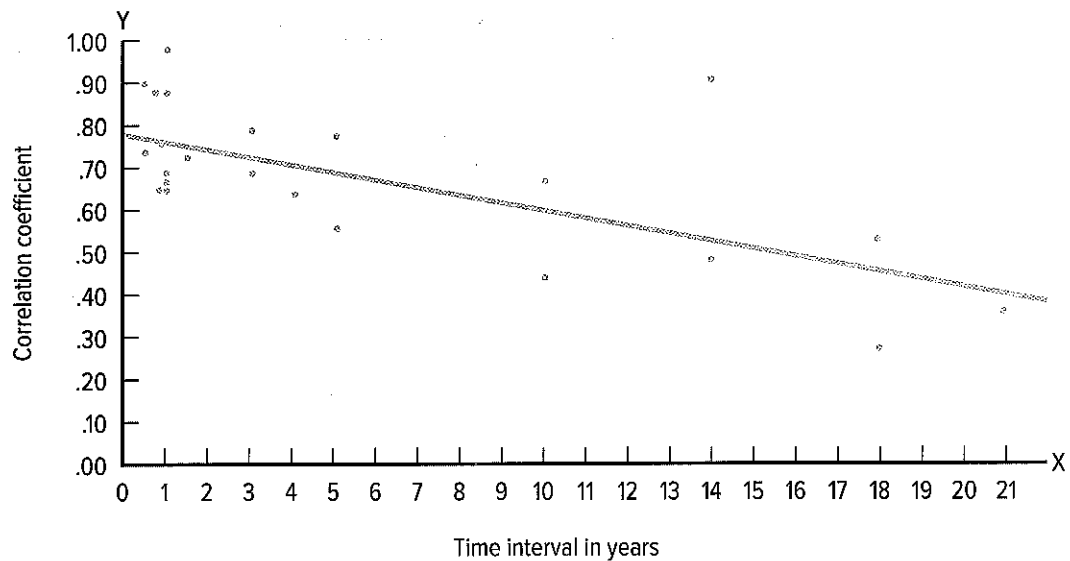


Figure 5.1 The figure shows the stability of aggression in males over different time intervals. Aggression shows the highest levels of stability over short time intervals such as from one year to the next. As the time interval between testings increases, however, the correlation coefficients decline, suggesting that aggressiveness changes more over long time intervals than over short time intervals.

Source: D. Olweus, "Stability of aggressive reaction patterns in males: A review," *Psychological Bulletin*, 86: 852–875, Fig. 2, p. 867 © 1979 by the American Psychological Association.

In sum, we can conclude that individual differences in personality emerge very early in life—most likely in infancy for some traits and by early childhood for other traits, such as aggression. These individual differences tend to be moderately stable over time, so that people who are high on a particular trait tend to remain high. Indeed, childhood personality at age 3 turns out to be a good predictor of adult personality at age 26 (Caspi, Harrington, et al., 2003). Finally, the stability coefficients gradually decline over time as the distance between testings increases.



A Closer Look

Bullies and Whipping Boys from Childhood to Adulthood

The individual differences that emerge early in life sometimes have profound consequences, both for the life outcomes of individuals and for the impact on the social world. Norwegian psychologist Dan Olweus has conducted longitudinal studies of "bullies" and "whipping boys" (Olweus, 1978, 1979, 2001). The meanings of these terms are precisely what they sound like. Bullies pick on and victimize other children. They trip victims in the hallway, push them into lockers, elbow them in the stomach, demand their lunch money, and call them names.

Although the victims, or "whipping boys," do not have any external characteristics that appear to set them apart, they do have certain psychological characteristics. Most commonly, victims tend to be anxious, fearful, insecure, and lacking in social skills. They are emotionally vulnerable and may be physically weak as well, making them easy targets who don't fight back. The victims suffer from low self-esteem, lose interest in

school, and often show difficulties establishing or maintaining friendships. They seem to lack social support that might buffer them against bullies. It has been estimated that 10 percent of all schoolchildren are afraid of bullies during the school day, and most children have been victimized by bullies at least once (Brody, 1996).

In one longitudinal study, bullies and victims were identified through teacher nominations in Grade 6. A year later, the children attended different schools in different settings, having made the transition from elementary school to junior high school. At this different setting during Grade 7, a different set of teachers categorized the boys on whether they were bullies, victims, or neither. The results are shown in Table 5.3. As you can see from looking at the circled numbers in the diagonal in Table 5.3, the vast majority of the boys received similar classifications a year later, despite the different school, different setting, and different teachers doing the categorizing.

Table 5.3 Longitudinal Classification of Boys in Aggressive Behaviours

Grade 6	Grade 7		
	Bully	Neither	Victim
Bully	24	9	2
Neither	9	200	15
Victim	1	10	16

The bullying, however, does not appear to stop in childhood. When Olweus followed thousands of boys from grade school to adulthood, he found marked continuities. The bullies in childhood were more likely to become juvenile delinquents in adolescence and criminals in adulthood. An astonishing 65 percent of the boys who were classified by their Grade 6 teachers as bullies ended up having felony convictions by the time they were 24 years old (Brody, 1996). Many of the bullies apparently remained bullies throughout their lives. Unfortunately, we don't know the fate of the victims in this study, although research generally indicates increased anxiety, depression, and relationship problems, in addition to physical health problems, for those victimized by bullying (McDougall & Vaillancourt, 2015).

A study of 228 children, ranging in age from 6 to 16, found several fascinating personality and family relationship correlates of bullying (Connolly & O'Moore, 2003). A total of 115 children were classified as "bullies" based on both their own self-ratings and on the basis of at least two of their classmates categorizing them as bullies. These were then compared with 113 control children, who both did not nominate themselves as bullies and were not categorized as bullies by any of their classmates. The bullies scored higher on the Eysenck scales of extraversion, neuroticism, and psychoticism (see Chapter 3). Bullies, in short, tended to be more outgoing and gregarious (extraversion); emotionally volatile and anxious (neuroticism); and impulsive and lacking in empathy (psychoticism). In addition, the bullies, relative to the controls, expressed more ambivalence and conflict with their family members, including their brothers, sisters, and parents. Conflicts in the home, in short, appear to be linked to conflicts these children get into during school, pointing to a degree of consistency across situations.

Rank Order Stability in Adulthood

Many studies have been conducted on the stability of adult personality. Longitudinal studies span as many as four decades of life. Furthermore, many age brackets have been examined, from age 18 through older cohorts ranging up to age 84.

A summary of these data is shown in Table 5.4, assembled by Costa and McCrae (1994; see also McCrae & Costa, 2008). This table categorizes the measures of personality into the five-factor model of traits, described in Chapter 3. The time intervals between the first and last personality assessments for each sample range from a low of 3 years to a high of 30 years. The results yield a strong general conclusion: across self-report measures of personality, conducted by different investigators and over differing time intervals of adulthood, the traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness all show moderate to high levels of stability. The average correlation across these traits, scales, and time intervals is roughly +.65.

These studies all rely on self-report. What are the stability coefficients when other data sources are used? In one six-year longitudinal study of adults using spouse ratings, stability coefficients were +.83 for neuroticism, +.77 for extraversion, and +.80 for openness (Costa & McCrae, 1988). Another study used peer ratings of personality to study stability over a seven-year

interval. Stability coefficients ranged from +.63 to +.81 for the five-factor taxonomy of personality (Costa & McCrae, 1992). In sum, moderate to high levels of personality stability, in the individual differences sense, are found whether the data source is self-report, spouse-report, or peer-report.

Table 5.4 Stability Coefficients for Selected Personality Scales in Adult Samples

Factor/Scale	Interval	<i>r</i>
Neuroticism		
NEO-PI-N	6	.83
16 PF Q4: Tense	10	.67
ACL Adapted Child	16	.66
Neuroticism	18	.46
GZTS Emotional	24	.62
Stability (low)		
MMPI Factor	30	.56
	<i>Median:</i>	.64
Extraversion		
NEO-PI-E	6	.82
16 PF H:	10	.74
Adventurous		
ACL	16	.60
Self-Confidence		
Social Extraversion	18	.57
GZTS Sociability	24	.68
MMPI Factor	30	.56
	<i>Median:</i>	.64
Openness		
NEO-PI-O	6	.83
16 PF I:	10	.54
Tender-Minded		
GZTS	24	.66
Thoughtfulness		
MMPI Intellectual	30	.62
Interests		
	<i>Median:</i>	.64
Agreeableness		
NEO-PI-A	3	.63
Agreeableness	18	.46
GZTS Friendliness	24	.65
MMPI Cynicism (low)	30	.65
	<i>Median:</i>	.64
Conscientiousness		
NEO-PI-C	3	.79
16 PF G:	10	.48
Conscientious		
ACL Endurance	16	.67
Impulse Control	18	.46
GZTS Restraint	24	.64
	<i>Median:</i>	.67

Note: Interval is given in years; all retest correlations are significant at $p < .01$. NEO-PI = NEO Personality Inventory, ACL = Adjective Check List, GZTS = Guilford Zimmerman Temperament Survey, MMPI = Minnesota Multiphasic Personality Inventory.

Source: P. T. Costa, Jr., R. R. McCrae, "Set like plaster? Evidence for the stability of adult personality." In T. F. Heatherton and J. L. Weinberger (Eds.), *Can personality change?* Washington, DC: American Psychological Association, Fig. 1, p. 32 © 1994 by the American Psychological Association.

Studies continue to confirm the rank order stability of personality during the adult years. In one study, Richard Robins and his colleagues (Robins et al., 2001) examined 275 university students during their first year, and then again in their fourth year. Across the four years of university, the rank order stability obtained was .63 for extraversion, .60 for agreeableness, .59 for conscientiousness, .53 for neuroticism, and .70 for openness. A study of 2,141 German students tested over a two-year period from university to employment found stabilities of .70 for extraversion, .65 for agreeableness, .69 for conscientiousness, .65 for neuroticism, and .75 for openness (Ludtke, Trautwein, & Husemann, 2009). In sum, the moderate levels of rank order stability of the Big Five are highly replicable across different populations and investigators.

Similar findings emerge for personality dispositions that are not strictly subsumed by the Big Five. In a massive meta-analytic study of the stability of self-esteem—how good people feel about themselves—Trzesniewski, Donnellan, and Robins (2003) found high levels of continuity over time. Summarizing 50 published studies involving 29,839 individuals and four large national studies involving 74,381 individuals, they found stability correlations ranging from the .50s to the .70s. How people feel about themselves—their level of self-confidence—appears very consistent over time. Similar findings have been obtained with measures of prosocial orientation and interpersonal empathy (Eisenberg et al., 2002). In sum, personality dispositions, whether the standard Big Five or other dispositions, show moderate to considerable rank order stability over time in adulthood.

Researchers have posed an intriguing question about rank order personality stability in the individual differences sense: When does personality consistency peak? That is, is there a point in life when people's personality traits become so firm that they don't change much relative to those of other people? To address this question, Roberts and DelVecchio (2000) conducted a meta-analysis of 152 longitudinal studies of personality. The key variable Roberts and DelVecchio (2000) examined was "personality consistency," which was defined as the correlation between Time 1 and Time 2 measures of personality (e.g., the correlation between a personality trait at age 15 and the same trait at age 18).

Roberts and DelVecchio (2000) found two key results. First, personality consistency tends to increase with increasing age. For example, the average personality consistency during the teenage years was +.47. This jumped to +.57 during the decade of the twenties and +.62 during the thirties (see Vaidya et al., 2008, for similar results). Personality consistency peaked during the decade of the fifties at +.75. As the authors conclude, "trait consistency increases in a linear fashion from infancy to middle age where it then reaches its peak after age 50" (p. 3). As people age, personality appears to become more and more "set."

Mean Level Stability in Adulthood

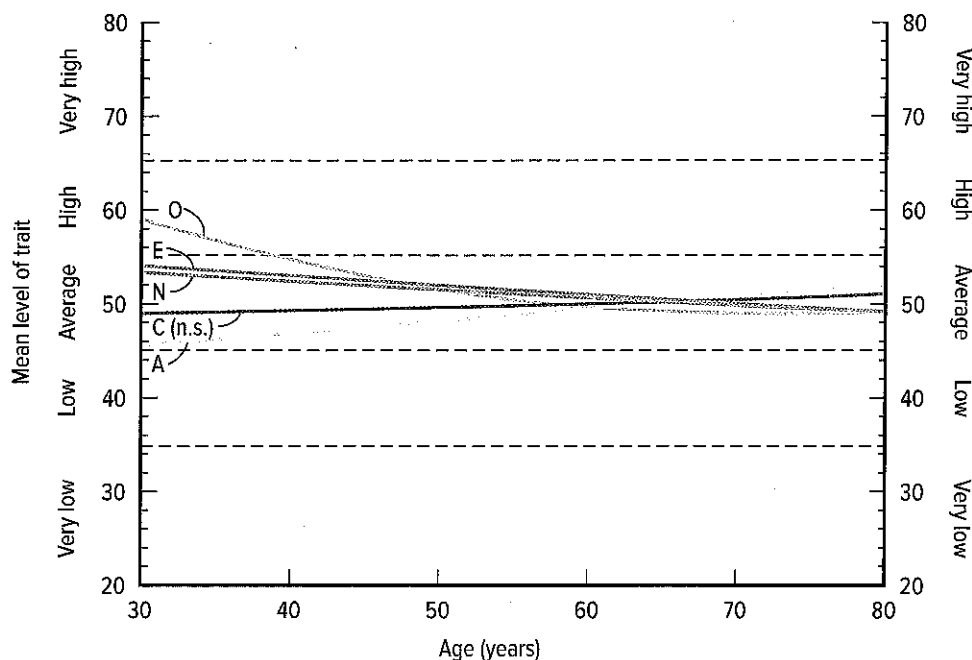
The five-factor model of personality also shows fairly consistent mean level stability over time, as shown in Figure 5.2. Especially after age 50, there is little change in the average level of stability in openness, extraversion, neuroticism, conscientiousness, and agreeableness.

Little change, however, does not mean no change. In fact, there are small but consistent changes in these personality traits, especially during the decade of the twenties. As you can see in Figure 5.2, there is a tendency for openness, extraversion, and neuroticism to gradually decline with increasing age until around age 50. At the same time, conscientiousness and agreeableness show a gradual increase over time—effects found in Switzerland, Germany, as well as in the United States (Anusic, Lucas, & Donnellan, 2012; Specht, Egloff, & Schmukle, 2011). The magnitude of these age effects is not large.

Studies confirm that mean level personality traits change in slight, but nonetheless important, ways during adulthood. By far the most consistent change is a good one—people score lower on neuroticism or negative affect as they grow older. From first to fourth years in university, for example, students show a decrease in neuroticism corresponding to roughly half a standard deviation ($d = -.49$) (Robins et al., 2001). Students reported experiencing less negative affect and more positive affect over time (Vaidya et al., 2002). A study from adolescence to midlife also found a decrease in the experience of negative affect—individuals feel less anxious, less distressed, and less irritable as they move into midlife (McCrae et al., 2002). Emotional stability even increases from middle adulthood (ages 42–46) to older age (ages 60–64) (Alleman, Zimprich, & Hertzog, 2007). Similar findings were obtained in a longitudinal study of 2,804 individuals over a 23-year time span—negative affect decreased consistently as the participants got older (Charles, Reynolds, & Gatz, 2001).

A massive meta-analysis of 92 different samples found that both women and men gradually become more emotionally stable as they grow older, with the largest changes occurring between the ages of 22 and 40 (Roberts, Walton, & Viechtbauer, 2006). A study of 1,600 men found that those who got married showed above-average increases in emotional stability compared to their bachelor peers (Mroczek & Spiro, 2003). In sum, most people become less emotionally volatile, less anxious, and generally less neurotic as they mature—a nice thing to look forward to for people whose current lives contain a lot of emotional turmoil.

Some people, however, change more than others (Johnson et al., 2007; Neyer, 2006; Vaidya et al., 2008). Do people know how their personality may have changed? Researchers assessed the Big Five personality traits in a sample of students right when they entered university (Robins et al., 2005). Four years later they assessed them on the Big Five and then asked them to evaluate whether they believed that they had changed on each of these personality dimensions. Interestingly, people actually show some awareness of the changes—*perceptions* of personality change show moderate correspondence with *actual* personality change.



N = Neuroticism, E = Extraversion, O = Openness, A = Agreeableness, C = Conscientiousness

Figure 5.2 The figure shows the mean level of five traits over the life span. Although the average scores on each trait are quite stable over time, Openness, Extraversion, and Neuroticism show a gradual decline from age 30 to 50. In contrast, Agreeableness shows a gradual increase over these ages.

Source: P. T. Costa, Jr., R. R. McCrae, "Set like plaster? Evidence for the stability of adult personality." In T. F. Heatherton and J. L. Weinberger (Eds.), *Can personality change?* Washington, DC: American Psychological Association, Fig. 1, p. 32 © 1994 by the American Psychological Association.

While neuroticism and negative affect decline with age, people score higher on agreeableness and conscientiousness as they grow older. One study found an increase in agreeableness of nearly half a standard deviation ($d = +.44$), and conscientiousness increased roughly one-quarter of a standard deviation ($d = +.27$) (Robins et al., 2001). The facets of conscientiousness that increase most with age are industriousness (working hard), impulse control, and reliability (Jackson et al., 2009). Similar findings have been discovered by other researchers: University students become more agreeable, extraverted, and conscientious from freshman year to two and a half years later (Vaidya et al., 2002); agreeableness and conscientiousness increase throughout early and middle adulthood (Srivastava et al., 2003); positive affect increases from the late teen years through the early fifties (Charles et al., 2001). Some studies find increases in the trait of openness with age, although these are less robust than changes in traits such as emotional stability. One study found an increase in openness from adolescence to young adulthood (Pullman, Raudsepp, & Allik, 2006), whereas another study found this openness increase in a similar age group only for women (Branje, van Lieshout, & Geris, 2006). Perhaps a good summary of the mean level personality changes comes directly from the longitudinal researchers: "The personality changes that did take place from adolescence to adulthood reflected growth in the direction of greater maturity; many adolescents became more controlled and socially more confident and less angry and alienated" (Roberts, Caspi, & Moffitt, 2001, p. 670). Indeed, these personality changes have been dubbed the *maturity principle* (Caspi, Roberts, & Shiner, 2005).

Finally, the Big Five personality dispositions may be changeable through therapy. Ralph Piedmont (2001) evaluated the effects of an outpatient drug rehabilitation program on personality dispositions, as indexed by the Big Five. The therapy, administered to 82 men and 50 women over a six-week period, revealed fascinating findings. Those who went through the program showed a decrease in neuroticism, and increases in agreeableness and conscientiousness ($d = .38$). These personality changes were largely maintained in a follow-up assessment 15 months later, although not quite as dramatically ($d = .28$).

In sum, although personality dispositions generally show high levels of mean stability over time, predictable changes occur with age and perhaps also with therapy—lower neuroticism and negative affect, higher agreeableness, higher conscientiousness.



Highlight On Canadian Research

Insights on Stability from the Victoria Longitudinal Study

One group of Canadian researchers has offered further insights into the degree of personality stability—and the potential for personality for change in later stages of adulthood. The Victoria Longitudinal Study is a multifaceted long-term study of human aging. Having commenced in the 1980s, the project is the ongoing collaboration of psychologists and researchers from the University of Victoria and the University of Alberta, as well as researchers from universities in the United States. The focus has not been on personality alone, but on the neurocognitive aspects of aging (including memory, sensory acuity, and executive function) and their influences on different facets of the aging process.

One of the studies that emerged from the Victoria Longitudinal Study involved a set of analyses on personality stability and change in old age. Remarkably, and in contrast to some previous suggestions in the research, Small and colleagues (2003) observed evidence for personality change in old age that could not be explained by measurement error or noise alone. The group of researchers analyzed personality traits and select sociodemographic variables in a sample of 223 adults between 55 and 85 years of age. Indeed, the findings suggested that personality change in this upper range of the life span may be possible after all.

In the study by Small and colleagues (2003), the Big Five personality traits and their facets were assessed using the NEO Personality Inventory by Costa and McCrae. The group of older adults responded to the NEO-PI at two points in time, with a response interval of approximately six years. Based on correlations between time points, mean level stability was high, with correlations ranging between approximately .70 for Agreeableness and Conscientiousness and approximately .80 for Extraversion, Neuroticism, and Openness. However, a multivariate analysis of variance indicated an overall effect of time. Statistically speaking, this suggested to the authors that a degree of change occurred over time and this change was significant.

This led the team of researchers to conduct further longitudinal analyses to determine exactly where the effect of time occurred. Although the overall factor structure of the NEO-PI remained stable over time (supporting the model's reliability), significant individual differences in change from Time 1 to Time 2 were observed for all five factors. Most notably, personality change was related to age in some cases, in addition to other sociodemographic variables. For instance, older adults were more likely to show increases in Neuroticism over time. In analyses of gender, women specifically were more likely than men to show decreases in Neuroticism and increases in Agreeableness; they also reported higher levels of Openness. Older age was further correlated with lower scores on Extraversion, while Agreeableness was correlated with higher education and better health at baseline. Taken together, Small and colleagues interpreted these findings to indicate a significant degree of instability among all five factors of the NEO-PI in this sample of older adults.

According to these findings, it appears that significant personality changes in old age are indeed possible, even if other authors have made suggestions to the contrary. In their report, the researchers noted that such change in old age is not at all inconsistent with a life-span perspective on aging, which underscores the potential for unique life events (e.g., retirement, death of friends, death of spouse, increasing health challenges) to change various aspects of psychological functioning. The possibility of extending this to personality draws into question issues related to change, stability, and person-situation interaction; however, longitudinal analyses such as these offer a further degree of confidence in the potential for personality change in later life.

Critical life events have been known to affect personality in mid-life; given the ubiquity of change in even later stages of adulthood, a similar degree of change is in keeping with these observations. Further analyses from diverse samples of older adults are needed in order to determine the degree of change that is possible in later life. Nevertheless, ongoing research on aging continues to defy many of our preconceived notions (and previous findings) about the potential for change in old age.

Exercise

Each person's personality is, in some ways, stable over time; however, in other ways, it changes over time. In this exercise, you can evaluate yourself in terms of what describes you now and how you think you will be in the future (Markus & Nurius, 1986). Following is a list of items. For each one, simply rate it on a 1 to 7 scale, with 1 meaning "does not describe me at all" to 7 meaning "is a highly accurate description of me." Give a rating for each of two questions: (1) Does this describe me now? and (2) Will this describe me in the future?

Items	Describes Me Now	Will Describe Me in the Future
Happy		
Confident		
Depressed		
Lazy		
Travels widely		
Has lots of friends		
Destitute (poor)		
Sexy		
In good shape		
Speaks well in public		
Makes own decisions		
Manipulates people		
Powerful		
Unimportant		

Compare your answers to the two questions. Items you gave the same answers to indicate that you believe this attribute will remain stable over time. The items that change, however, may reflect the ways in which your personality will change over time.

You can view your possible self in a number of ways, but two are especially important. The first pertains to the *desired self*—the person you wish to become. Some people wish to become happier, more powerful, or in better physical shape. The second pertains to your *feared self*—the sort of person you do not wish to become, such as poor or rigid. Which aspects of your possible self do you desire? Which aspects do you fear?

Source: H. Markus and P. Nurius, "Possible selves," *American Psychologist*, 41: 954–969, Table 1, p. 959 © 1986 by the American Psychological Association.

Personality Change

Global measures of personality traits, such as those captured by the five-factor model, give us hints that personality can change over time. But it is also true that researchers who have focused most heavily on personality stability have generally not explicitly designed studies and measures to assess personality change. It is important to remember that knowledge about personality change is sparse.

One reason for the relative lack of knowledge about change is that there might be a bias among researchers against even looking for personality change (Helson & Stewart, 1994). As Block (1971) notes, even the terms used to describe stability and change are laden with evaluative meaning. Terms that refer to absence of change tend to be positive: *consistency*, *stability*, *continuity*, and *constancy* all seem like good things to have. On the other hand, *inconsistency*, *instability*, *discontinuity*, and *inconstancy* all seem undesirable or unpredictable.

Changes in Self-Esteem from Adolescence to Adulthood

In a unique longitudinal study, Block and Robbins (1993) examined self-esteem and the personality characteristics associated with those whose self-esteem had changed over time. **Self-esteem** was defined as "the extent to which one perceives oneself as relatively close to being the person one wants to be and/or as relatively distant from being the kind of person one does not want to be, with respect to person-qualities one positively and negatively values" (Block & Robbins, 1993, p. 911). Self-esteem was

measured by use of an overall difference between a *current* self-description and an *ideal* self-description: the researchers hypothesized that the smaller the discrepancy, the higher the self-esteem. Conversely, the larger the discrepancy between current and ideal selves, the lower the self-esteem.

The participants were first assessed on this measure of self-esteem at age 14, roughly the first year of high school. Then they were assessed again at age 23, roughly five years after high school.

For the sample as a whole, there was no change in self-esteem with increasing age. However, when males and females were examined separately, a startling trend emerged. Over time, the genders departed from each other, with men's self-esteem tending to increase and women's self-esteem tending to decrease. The males tended, on average, to increase in self-esteem by roughly a fifth of a standard deviation, whereas the females tended, on average, to decrease in self-esteem by roughly a standard deviation. This is an example of personality change at the group level—the two subgroups (women and men) changed in different directions over time.

In sum, the transition from early adolescence to early adulthood appears to be harder on women than on men, at least in terms of self-esteem. As a whole, females tend to decrease in self-esteem, showing an increasing gap between their current self-conceptions and their ideal selves. As a whole, males tend to show a smaller discrepancy between their real and ideal selves over the same time period.

Although changes in self-esteem from adolescence to adulthood are particularly robust, research by Sarah Liu and Carsten Wrosch of Concordia University in Montreal has shown that self-esteem continues to change in older adulthood. In a sample of men and women 60+ years of age, declines in self-esteem were associated with elevated levels of the stress hormone cortisol for those experiencing psychological distress. In addition to confirming self-esteem change into old age, the findings underscore the potential for increases in self-esteem to improve the physical health of seniors (Liu et al., 2014).

Autonomy, Dominance, Leadership, and Ambition

Another longitudinal study examined 266 male managerial candidates at the business AT&T (Howard & Bray, 1988). The researchers first tested these men when they were in their twenties (in the late 1950s) and then followed them up periodically over a 20-year time span when they were in their forties (in the late 1970s).

Several dramatic personality changes were observed for the sample as a whole. The most startling change was a steep drop in the *ambition* score. This drop was steepest during the first 8 years but continued to drop over the next 12 years. The drop was steepest for the university men, less so for the non-university men, although it should be noted that the university men started out higher on ambition than did the non-university men. Supplementary interview data suggested that the men had become more realistic about their limited possibilities for promotion in the company. It is not that these men lost interest in their jobs or became less effective. Indeed, their scores on *autonomy*, *leadership motivation*, *achievement*, and *dominance* all increased over time (see Figure 5.3).

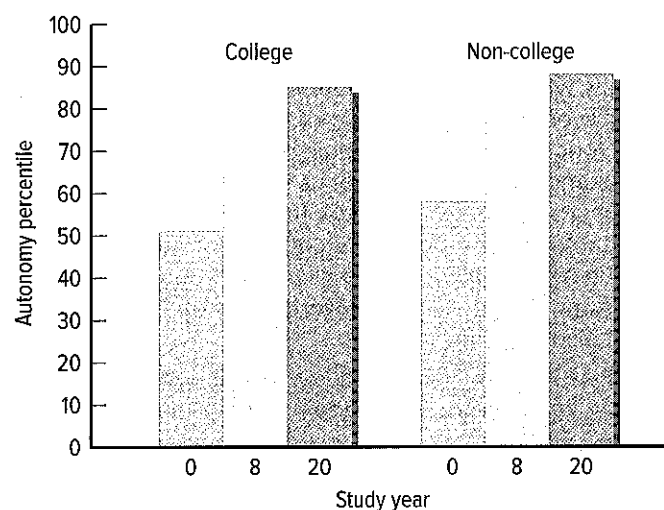


Figure 5.3 The figure shows change with age in autonomy scores of men in the AT&T study. Both university-educated and non-university-educated men tend to become more autonomous or independent as they grow older.

Source: A. Howard and D. Bray, *Managerial lives in transition: Advancing age and changing times* © 1988 by the American Psychological Association.

Sensation Seeking

Conventional wisdom has it that people become more cautious and conservative with age. Studies of sensation seeking confirm this view. The Sensation-Seeking Scale (SSS) contains four subscales, each containing items and phrases as a forced choice between two distinct options. First is *thrill and adventure seeking*, with items such as “I would like to try parachute jumping” versus “I would never want to try jumping out of a plane, with or without a parachute.” The other scales are *experience seeking* (e.g., “I am not interested in experience for its own sake” versus “I like to have new and exciting experiences and sensations even if they are a little frightening, unconventional, or illegal”); *disinhibition* (e.g., “I like wild, uninhibited parties” versus “I prefer quiet parties with good conversation”); and *boredom susceptibility* (e.g., “I get bored seeing the same old faces” versus “I like the comfortable familiarity of everyday friends”).

Sensation seeking increases with age from childhood to adolescence and peaks in late adolescence around ages 18–20; then it falls more or less continuously as people get older (Zuckerman, 1974). Parachute jumping and wild, uninhibited parties seem to be less appealing to older folks.

Femininity

In a longitudinal study of women from Mills College in the San Francisco bay area, Helson and Wink (1992) examined changes in personality between the early forties and early fifties. They used the California Psychological Inventory at both time periods. The most dramatic change occurred on the *femininity* scale (now called the femininity/masculinity scale). High scorers on femininity tend to be described by observers as dependent, emotional, feminine, gentle, high-strung, mild, nervous, sensitive, sentimental, submissive, sympathetic, and worrying (Gough, 1996). Low scorers (i.e., those who score in the masculine direction), in contrast, tend to be described as aggressive, assertive, boastful, confident, determined, forceful, independent, masculine, self-confident, strong, and tough. In terms of acts performed (recall the act frequency approach from Chapter 3), as reported by the spouses of these women, high scorers on the femininity scale tend to do such things as send cards to friends on holidays and remember an acquaintance’s birthday, even though no one else did. Low scorers, in contrast, tend to take charge of committee meetings and take the initiative in sexual encounters (Gough, 1996).

A fascinating change occurred in this sample of educated women—they showed a consistent drop in femininity as they moved from their early forties to their early fifties—a group level change in this personality variable.

In a study of Canadian Indigenous children, higher femininity was associated with increased smoking behaviour among boys, suggesting complex behavioural implications of this trait (Greaves et al., 2012). We will explore issues related to masculinity, femininity, and gender further in Chapter 16.



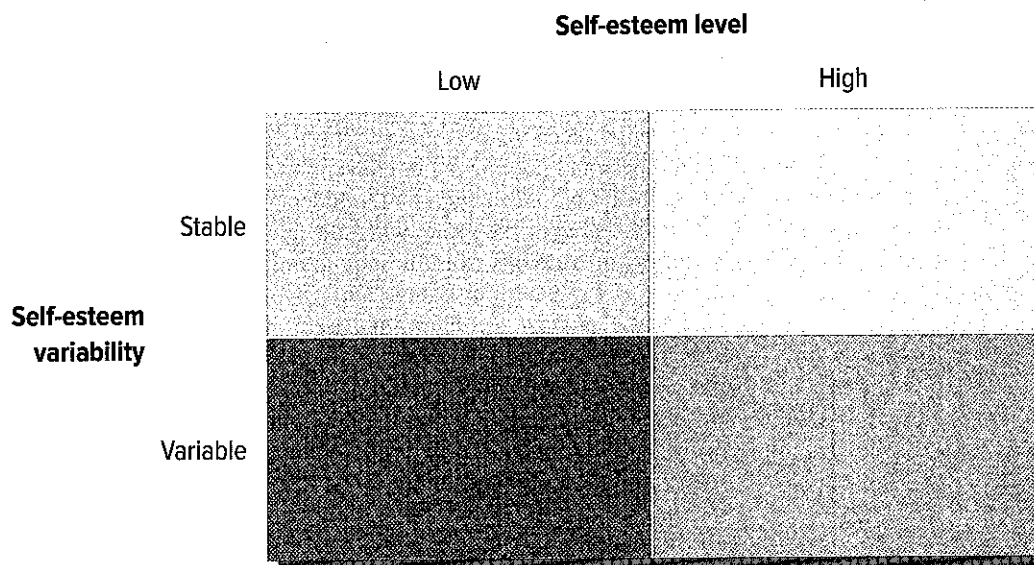
A Closer Look

Day-to-Day Changes in Self-Esteem

Most personality psychologists who study self-esteem focus on a person’s average level, whether the person is generally high, low, or average in terms of his or her self-esteem. A few studies have been done on changes in self-esteem over long time spans in people’s lives—for example, in the years from adolescence to adulthood. However, with some reflection, most of us would realize that we often change from day to day in how we feel about ourselves. Some days are better than other days when it comes to self-esteem. Some days we feel incompetent, that things are out of our control, and that we even feel a little worthless. Other days we feel satisfied with ourselves, that we are particularly strong or competent, and that we are satisfied with who we are and what we can become. In other words, it seems that feelings of self-esteem can change, not just from year to year but also from day to day.

Psychologist Michael Kernis has become interested in how changeable or variable people are in their self-esteem in terms of day-to-day fluctuations. *Self-esteem variability* is the magnitude of short-term changes in ongoing self-esteem (Kernis, Grannemann, & Mathis, 1991). Self-esteem variability is measured by having people keep records of how they feel about themselves for several consecutive days, sometimes for weeks or months. From these daily records, the researchers can determine just how much each person fluctuates, as well as his or her average level of self-esteem.

Researchers make a distinction between level and variability of self-esteem. These two aspects of self-esteem turn out to be unrelated to each other and are hypothesized to interact in predicting important life outcomes, such as depression (Kernis, Grannemann, & Barclay, 1992). For example, variability in self-esteem is an indicator that the person's self-esteem, even if high, is fragile, and the person is vulnerable to stress. Consequently, we can think of level and variability as defining two qualities of self-esteem as in the figure below.



Kernis et al. (1991, 1992) have suggested that self-esteem variability is related to the extent to which one's self-view can be influenced by events, particularly social events. Some people's self-esteem is pushed and pulled by the happenings of life more than is other people's self-esteem. For example, for some people, self-esteem might soar with a compliment and plummet with a social slight, whereas others, who can better roll with the punches of life, might be more stable in their self-esteem, weathering both the slights as well as the uplifts of life without much change in their self-view. This stability versus changeability of self-esteem is the psychological disposition referred to as *self-esteem variability*.

Several studies have been conducted to examine whether self-esteem variability predicts life outcomes, such as depressive reactions to stress, differently than does self-esteem level. In one study (Kernis et al., 1991), self-esteem level was related to depression, but this relation was much stronger for those higher in self-esteem variability than for those lower in self-esteem variability. In other words, at all levels of self-esteem, the participants who were low in variability showed less of a relation between self-esteem and depression than did the participants who were high in variability. Similar results were obtained by Butler, Hokanson, and Flynn (1994), who showed that self-esteem variability is a good predictor of who would become depressed six months later, especially when there was life stress in the intervening months. These authors also concluded that variability indicates that the person may have a fragile sense of self-value and that, with stress, he or she may become more chronically depressed than someone whose self-esteem is more stable.

Level of self-esteem (whether one is high or low) and variability in self-esteem (whether one is stable or variable from day to day) are unrelated to each other. This makes it possible to find people with different combinations, such as a person who has a high level of self-esteem but is also variable.

Based on findings from studies like these, researchers have come to view self-esteem variability as a vulnerability to stressful life events (Roberts & Monroe, 1992). That is, variability is thought to result from a particular sensitivity in one's sense of self-worth. Psychologists Ryan and Deci (2000) have suggested that variable persons are dependent for their self-worth on the approval of others. Variable persons are

very sensitive to social feedback, and they judge themselves primarily through the eyes of others. High-variability persons show (1) an enhanced sensitivity to evaluative events, (2) an increased concern about their self-concept, (3) an overreliance on social sources for self-evaluation, and (4) reactions of anger and hostility when things don't go their way.

Independence and Traditional Roles

The longitudinal study of Mills College women (Helson & Picano, 1990) yielded another fascinating finding. The women were divided into four distinct groups: (1) homemakers with intact marriages and children, (2) working mothers with children (neotraditionals), (3) divorced mothers, and (4) non-mothers (Helson & Picano, 1990). Figure 5.4 shows the results for the CPI Independence scale, which measures two related facets of personality. The first is self-assurance, resourcefulness, and competence. The second is distancing self from others and not bowing to conventional demands of society. The act frequency correlates of this scale reflect these themes (Gough, 1996). Those high on the Independence scale tend to set goals for groups they are in, talk to many people at parties, and take charge of the group when the situation calls for it. High scorers also tend to interrupt conversations and do not always follow instructions from those who are in a position to lead (hence, distancing themselves from others in these ways).

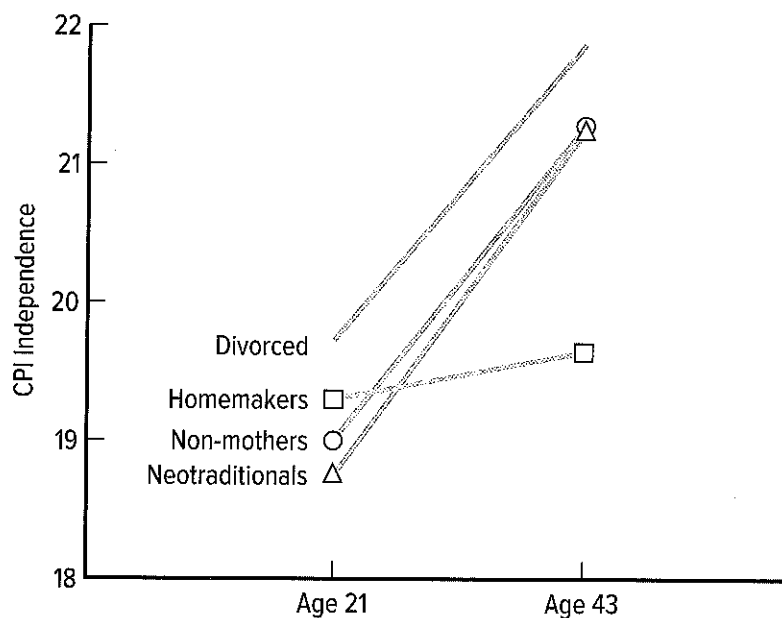


Figure 5.4 Means on the CPI Independence scale at ages 21 and 43 for homemakers ($n = 17$) and three groups of women with less traditional role paths: neotraditional, $n = 35$; divorced, $n = 26$; and non-mothers, $n = 26$.

Source: R. Helson and L. Picano, "Is the traditional role bad for women?" *Journal of Personality and Social Psychology*, 59: 311-320, created from data in Table 2, p. 316. © 1990 by the American Psychological Association.

For the divorced mothers, non-mothers, and working mothers, independence scores increased significantly over time. Only the traditional homemakers showed no increase in independence over time. These data, of course, are correlational, so we cannot infer causation. It is possible that something about the roles affected the degree to which the women became more independent. It is also possible that the women who were less likely to increase in independence were more content to remain in the traditional homemaking role. Regardless of the interpretation, this study illustrates the utility of examining subgroups within the population.

In sum, although the evidence is sparse, there are enough empirical clues to suggest that personality traits show some predictable changes with age. First, impulsivity and sensation seeking show predictable declines with age. Second, men tend to become somewhat less ambitious with age. There are indications that both men and women become somewhat more competent

and independent with increasing age. Finally, there are hints that changes in independence are linked with the role and lifestyle adopted, with traditional homemaking women changing less on independence than women who get divorced or lead less traditional work lives.

Personality Changes Across Cohorts: Assertiveness and Narcissism

One of the interesting issues in exploring personality change over time is determining whether the changes observed are due to true personal change that all people undergo as they age, as can be determined by longitudinal studies of the sort just presented, or, conversely, changes in the **cohort effects**—the social times in which they lived. Jean Twenge (2000, 2001a, 2001b) has been at the forefront in exploring personality change that is likely to be caused by cohort effects. She argues that North American society has changed dramatically over the past seven decades. One of the most dramatic changes centres on women's status and roles. During the depression era of the 1930s, for example, women were expected to be self-sufficient, but during the 1950s and 1960s, women assumed a more domestic role. Then from 1968 through 1993, women surged into the workforce and North American society increasingly adopted norms of sexual equality. For example, from 1950 to 1993, the number of women obtaining bachelor's degrees doubled roughly from 25 to 50 percent. And the number of women obtaining PhDs, medical degrees, and law degrees all more than tripled. Have these dramatic societal changes impacted women's personality?

Twenge (2001a) discovered that women's trait scores on *assertiveness* rose and fell dramatically, depending on the cohort in which the woman was raised. Women's assertiveness scores generally rose half a standard deviation from 1931 to 1945; fell by roughly that amount from 1951 to 1967; and then rose again from 1968 to 1993. On measures such as the California Psychological Inventory Dominance scale, for example, women increased +.31 of a standard deviation from 1968 to 1993. Men, in contrast, did not show significant cohort differences in their levels of assertiveness or dominance. Twenge (2001a) concludes that "social change truly becomes internalized with the individual . . . girls absorb the cultural messages they received from the world around them, and their personalities are molded by these messages" (p. 142).

Older people sometimes complain that the younger generation is too self-centred ("The kids these days!"). Is there any truth to these laments? Twenge and her colleagues (2008) explored this issue by analyzing the personality syndrome labelled *narcissism*—those who tend to be self-centred, exhibitionistic, self-aggrandizing, interpersonally exploitative, grandiose, lacking empathy, and having an undue sense of entitlement (Buss & Chiodo, 1991). Twenge and colleagues (2008) found that scores on narcissism increased by about a third of standard deviation between 1982 and 2006. Based on a study of 30,073 individuals, critics of this analysis concluded that the evidence for major cohort changes in narcissism is actually weak (ranging from +.02 to +.04), and that there is little evidence for "an emerging epidemic of narcissism" (Donnellan, Trzesniewski, & Robins, 2009). Although the debate about narcissism continues, cautious readers may wish to wait for further evidence before concluding that today's youth are truly more self-centred than their elders.



Women's assertiveness scores rose from 1968 to 1993, pointing to a cohort effect.

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Personality Coherence over Time: Prediction of Socially Relevant Outcomes

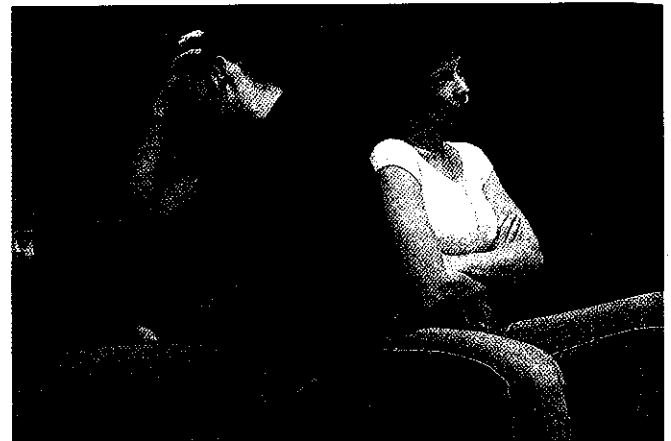
The final form of personality development we will examine is called personality coherence, defined as predictable changes in the *manifestations* or *outcomes* of personality factors over time, even if the underlying characteristics remain stable. In particular, we focus on the consequences of personality for socially relevant outcomes, such as marital stability and divorce; alcoholism, drug use, and emotional disturbance; and job outcomes later in life.

Marital Stability, Marital Satisfaction, and Divorce

In a longitudinal study of unprecedented length, Kelly and Conley (1987) studied a sample of 300 couples from their engagements in the 1930s all the way through their status later in life in the 1980s. At the final testing, the median age of the subjects was 68 years. Within the entire sample of 300 couples, 22 couples broke their engagements and did not get married. Of the 278 couples who did get married, 50 ended up getting divorced sometime between 1935 and 1980.

During the first testing session in the 1930s, acquaintances provided ratings of each participant's personality on a wide variety of dimensions. Three aspects of personality proved to be strong predictors of marital dissatisfaction and divorce—the neuroticism of the husband, the lack of impulse control of the husband, and the neuroticism of the wife. High levels of neuroticism proved to be the strongest predictors. Neuroticism was linked with marital dissatisfaction of both the men and the women in the 1930s, again in 1955, and yet again in 1980.

Furthermore, the neuroticism of both the husband and the wife, as well as the lack of impulse control of the husband, were strong predictors of divorce. These three dimensions of personality accounted for more than half of the predictable variance in whether the couples split up. The couples who had a stable and satisfying marriage had neuroticism scores that were roughly half a standard deviation lower than the couples who subsequently got divorced.



Psychologists have identified personality variables that predict whether a marriage will turn out to be happy and satisfying or whether it will end in divorce. Although personality is not destiny, it does relate to important life outcomes, such as marital unhappiness and divorce.

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The reasons for divorce themselves appear to be linked to the personality characteristics measured earlier in life. The husbands with low impulse control when first assessed, for example, tended later in life to have extramarital affairs—breaches of the marital vows that loomed large among the major reasons cited for the divorce. The men with higher impulse control appear to have been able to refrain from having sexual flings, which are so detrimental to marriages (Buss, 2003).

These results, spanning a 45-year period consisting of most of the adult lives of the participants, point to an important conclusion about personality coherence. Personality may not be destiny, but it leads to some predictable life outcomes, such as infidelity, marital unhappiness, and divorce.

Interestingly, neuroticism also plays a role in another important life outcome—resilience after losing a spouse. A fascinating longitudinal study showed that one of the best predictors of coping well with the death of a spouse was the personality disposition of emotional stability (Bonanno et al., 2002). A total of 205 individuals were assessed several years prior to the death of their spouse and again 18 months after their spouse's demise. Those high on emotional stability grieved less, showed less depression, and displayed the quickest psychological recovery. Individuals low on emotional stability (high on neuroticism) were still psychologically anguished a year and a half later. Personality, in short, affects many aspects of romantic life: who is likely to get involved in a successful romantic relationship (Shiner, Masten, & Tellegen, 2002); which marriages remain stable and highly satisfying (Kelly & Conley, 1987); which people are more likely to get divorced (Kelly & Conley, 1987); and how people cope following the loss of a spouse (Bonanno et al., 2002).

Alcoholism, Drug Use, and Emotional Disturbance

Personality also predicts the later development of alcoholism and emotional disturbance (Conley & Angelides, 1984). Of the 233 men in one longitudinal study, 40 were judged to develop a serious emotional problem or alcoholism. These 40 men had earlier been rated by their acquaintances as high on neuroticism. Specifically, they had neuroticism scores roughly three-fourths of a standard deviation higher than men who did not develop alcoholism or a serious emotional disturbance.

Furthermore, early personality characteristics were useful in distinguishing between the men who had become alcoholic and those who had developed an emotional disturbance. Impulse control was the key factor. The alcoholic men had impulse control scores a full standard deviation lower than those who had an emotional disturbance. Other studies also find that those high on sensation seeking and impulsivity, and low on traits such as agreeableness and conscientiousness, tend to use and abuse

alcohol more than their peers (Cooper et al., 2003; Hampson et al., 2001; Markey, Markey, & Tinsley, 2003; Ruchkin et al., 2002). Low levels of agreeableness and conscientiousness are also linked to substance abuse (prescription and illegal drugs) in mid-life (Turiano et al., 2012). In sum, neuroticism and impulsivity early in life are coherently linked with socially relevant outcomes later in life.

Religiousness and Spirituality

Another important life outcome pertains to spirituality—the degree to which individuals embrace religion or seek to lead a spiritual life. Personality traits in adolescence predict these outcomes in late adulthood. Adolescents who scored high on conscientiousness and agreeableness were more likely to score high on religiousness later in life (Wink et al., 2007). Openness to experience, in contrast, was the only personality trait in adolescence that predicted spirituality seeking in late life. Personality in youth, in short, appears to influence spirituality and religiousness later in life, regardless of the early socialization practices to which people are exposed.

Education, Academic Achievement, and Dropping Out

Impulsivity also plays a key role in education and academic achievement. Early work by Smith (1967) indicated a correlation of $-.47$ between peer ratings of impulsivity before entry into university and GPA subsequently. Similar associations between impulsivity and academic performance have been reported by Kipnis (1971), in regards to performance on American standardized testing specifically. Impulsivity (or lack of self-control) continues to affect performance in the workplace. One longitudinal study looked at personality dispositions at age 18 and work-related outcomes at age 26 (Roberts, Caspi, & Moffitt, 2003). They found that those who were high on self-control at age 18 had higher occupational attainment, greater involvement with their work, and more financial security at age 26. Conversely, the impulsive 18-year-olds were less likely to progress in their work, showed less psychological involvement, and experienced lower financial security.

The personality trait of conscientiousness turns out to be the single best predictor of successful achievement in school and work. High conscientiousness at age 3 predicts successful academic performance nine years later (Abe, 2005). Observer-based assessment of children's conscientiousness at ages 4 to 6 predicts school grades nine years later (Asendorpf & Van Aken, 2003). Conscientiousness of children assessed between the ages of 8 and 12 predicts academic attainment two decades later (Shiner, Masten, & Roberts, 2003). Although other personality traits also predict successful academic performance, such as emotional stability (Chamorro-Premuzic & Furnham, 2003a, 2003b), and agreeableness and openness (Hair & Graziano, 2003), conscientiousness is the most powerful longitudinal predictor of success in school and work.

Interestingly, work experiences also have an effect on personality change (Roberts et al., 2001). Those who attain high occupational status at age 26 have become happier, more self-confident, less anxious, and less self-defeating since they were 18 years old. Those who attain high work satisfaction also become less anxious and less prone to stress in their transition from adolescence to young adulthood.

Finally, what about people who attain financial success in the workplace? These individuals not only become less alienated and better able to handle stress, but they also increase their levels of social closeness—they like people more, turn to others for comfort, and like being around people. In sum, just as personality at age 18 predicts work outcomes at age 26 (e.g., self-control predicts income), work outcomes predict personality change over time. We see again that impulsivity is a critical personality factor that is linked in meaningful ways with later life outcomes.

Health and Longevity

How long people live and how healthy or sickly they become during their years of life are exceptionally important developmental outcomes. It may come as a surprise that your personality actually predicts how long you are likely to live. The most important traits conducive to living a long life are *high conscientiousness*, *positive emotionality (extraversion)*, *low levels of hostility*, and *low levels of neuroticism* (Danner, Snowdon, & Friesen, 2001; Friedman et al., 1995; Miller et al., 1996; Mroczek et al., 2009). There are several paths through which these personality traits affect longevity (Ozer & Benet-Martinez, 2006). First, conscientious individuals engage in more health-promoting practices, such as maintaining a good diet and getting regular exercise; they also avoid unhealthy practices such as smoking and becoming a “couch potato.” Conscientious children in elementary school, for example, end up smoking less and drinking less alcohol when they are adults fully 40 years later (Hampson et al., 2006). Conscientiousness at age 17 also predicts refraining from engaging in legal (nicotine, alcohol) and illegal drug use three years later (Elkins et al., 2006). Those low on conscientiousness in adolescence are more likely to get addicted in young adulthood to drugs of all sorts. Moreover, conscientious individuals are more likely to follow doctors' orders and adhere to the treatment plans they recommend. Being low on conscientiousness (being impulsive, or low on self-control) during the preschool years predicted high levels of risk-taking during adolescence (Honomichl & Donnellan, 2012). Being impulsive (undercontrolled) in childhood predicted an increased likelihood of high blood pressure and stroke 40 years later (Chapman & Goldberg, 2011). And being impulsive also predicted unhealthy weight gain and weight fluctuations in later adulthood (Sutin et al., 2011).

Second, extraverts are more likely to have lots of friends, leading to a good social support network—factors linked with positive health outcomes. And third, low levels of hostility, a component of neuroticism, put less stress on the heart and cardiovascular system—a topic explored in greater detail in Chapter 18. High levels of neuroticism are also linked with poor health behaviours, such as smoking, although neuroticism predicts mortality even after statistically controlling for smoking (Mroczek et al., 2009). In sum, the personality traits of conscientiousness, positive emotionality (extraversion), and low hostility predict both positive health outcomes and longevity.



A Closer Look

Adult Outcomes of Children with Temper Tantrums

In a longitudinal study spanning 40 years, Caspi et al. (1987) explored the implications of childhood personality for adult occupational status and job outcomes. He identified a group of explosive, undercontrolled children, using interviews with their mothers as the data source. When the children were 8, 9, and 11, their mothers rated the frequency and severity of their temper tantrums. Severe tantrums were defined as behaviours involving biting, kicking, striking, throwing things, screaming, and shouting. From the sample, 38 percent of the boys and 29 percent of the girls were classified as having frequent and uncontrolled temper tantrums.

These children were followed throughout life, and the adult manifestations of childhood personality for men were especially striking. The men who as children had frequent and severe temper tantrums achieved lower levels of education in adulthood. The occupational status of their first job was also consistently lower than that of their calmer peers. The explosive children who had come from middle-class backgrounds tended to be downwardly mobile, and by midlife their occupational attainment was indistinguishable from that of their working-class counterparts. Furthermore, they tended to change jobs frequently, showed an erratic work pattern with more frequent breaks from employment, and averaged a higher number of months being unemployed.

Because 70 percent of the men in the sample served in the military, their military records could also be examined. The men who as children had been classified as having explosive temper tantrums attained a significantly lower military rank than their peers. Finally, nearly half (46 percent) of these men were divorced by the age of 40, compared with only 22 percent of the men without a childhood history of temper tantrums. In sum, early childhood personality shows coherent links with important adult social outcomes, such as job attainment, frequency of job switching, unemployment, military attainment, and divorce.

It is easy to imagine why explosive, undercontrolled individuals tend to achieve less and get divorced more. Life consists of many frustrations, and people deal with their frustrations in different ways. Explosive undercontrollers are probably more likely to blow up and yell at the boss, for example, or to quit their jobs during an impulsive moment. Similarly, explosive undercontrollers are probably more likely to vent their frustrations on their spouses or perhaps even to impulsively have an extramarital affair. All of these events are likely to lead to lower levels of job attainment and higher levels of divorce.

Predicting Personality Change

Can we predict who is likely to change in personality and who is likely to remain the same? In a fascinating longitudinal study, Caspi and Herbener (1990) studied middle-aged couples over an 11-year period. The couples were tested twice, once in 1970 and again in 1981. All the subjects had been born in either 1920–21 or 1928–29 and were part of a larger longitudinal project.

The question that intrigued Caspi and Herbener was this: Is the choice of a marriage partner a cause of personality stability or change? Specifically, if you marry someone who is similar to you, do you tend to remain more stable over time than if you marry someone who is different from you? They reasoned that similarity between spouses would support personality stability, because the couple would tend to reinforce one another on their attitudes, seek similar external sources of stimulation, and perhaps even participate together in the same social networks. Marrying someone who is unlike oneself, in contrast, may offer attitudinal clashes, exposure to social and environmental events that one might not otherwise seek alone, and generally create an environment uncomfortable to maintaining the status quo.

Using personality measures obtained on both husbands and wives, Caspi and Herbener divided the couples into three groups: those who were highly similar in personality, those who were moderately similar in personality, and those who were low in similarity. Then they examined the degree to which the individuals showed stability in personality over the 11-year period of midlife in which they were tested. The results are shown in Figure 5.5.

As you can see in Figure 5.5, the people married to spouses who were highly similar to themselves showed the most personality stability. Those married to spouses least similar to themselves showed the most personality change. The moderate group fell in between. This study is important in pointing to a potential source of personality stability and change—the selection of spouses. It will be interesting to see whether future research can document other sources of personality stability and change—perhaps by examining the selection of similar or dissimilar friends, or by selecting university or work environments that show a good “fit” with one’s personality traits upon entry into these environments (Roberts & Robins, 2004).

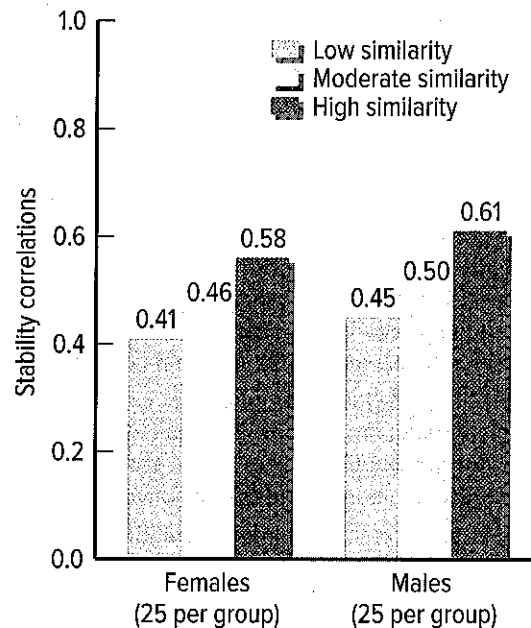


Figure 5.5 The figure shows the stability of personality over time as a function of the similarity (low, medium, or high) of the person to his or her spouse. Men and women who are married to someone similar to themselves in personality show the highest levels of personality stability over time.

Source: A. Caspi and E. S. Herbener, “Continuity and change: Assortative mating and the consistency of personality in adulthood,” *Journal of Personality and Social Psychology*, 58: 250–258, Fig. 1, p. 254 © 1990 by the American Psychological Association.

Summary and Evaluation

Personality development includes both the continuities and changes in personality over time. There are three forms of personality stability: (1) rank order stability is the maintenance of one’s relative position within a group over time; (2) mean level stability is the maintenance of the average level of a trait or characteristic over time; and (3) personality coherence is predictable changes in the manifestations of a trait. We can examine personality development at three levels of personality analysis: the population level, the group differences level, and the individual differences level.

There is strong evidence for personality rank order stability over time. Temperaments such as activity level and fearfulness show moderate to high levels of stability during infancy. Activity level and aggression show moderate to high levels of stability during childhood. Bullies in childhood tend to become juvenile delinquents in adolescence and criminals in adulthood. Personality traits, such as those captured by the five-factor model, show moderate to high levels of stability during adulthood. As a general rule, the stability coefficients decrease as the length of time between the two periods of testing increases.

Personality also changes in predictable ways over time. With respect to the Big Five, neuroticism generally decreases over time; people become a bit more emotionally stable as they age. Furthermore, agreeableness and conscientiousness tend to increase over time. All these changes suggest increased maturity, as the sometimes tumultuous times of adolescence settle out into the maturity of adulthood. From early adolescence to early adulthood, men's self-esteem tends to increase, whereas women's self-esteem tends to decrease. In adulthood, there is some evidence from a study of creative architects that flexibility and impulsivity decline with increasing age. Sensation seeking also declines predictably with age. And in women, femininity tends to decrease over time, notably from the early forties to the early fifties. On the other hand, several studies suggest that the personality characteristics of autonomy, independence, and competence tend to increase as people get older, especially among women.

In addition to personality change due to age, there is also evidence that mean personality levels can be affected by the social cohort in which one grows up. Jean Twenge has documented several such effects, most notably on women's levels of assertiveness or dominance. Women's assertiveness levels were high following the 1930s, in which women had to be extremely independent; they fell during the 1950s and 1960s, when women were largely homemakers and fewer became professionals. From 1967 to 1993, however, women's levels of assertiveness increased, corresponding to changes in their social roles and increasing participation in professional occupations.

Personality also shows evidence of coherence over time. Early measures of personality can be used to predict socially relevant outcomes later in life. High levels of neuroticism in both sexes and impulsivity in men, for example, predict marital dissatisfaction and divorce. Neuroticism early in adulthood is also a good predictor of later alcoholism and the development of emotional problems. Impulsivity plays a key role in the development of alcoholism and the failure to achieve one's academic potential. Highly impulsive individuals tend to get poorer grades and drop out of school more than their less impulsive peers. Children with explosive temper tantrums tend to manifest their personalities as adults through downward occupational mobility, more frequent job switching, lower attainment of rank in the military, and higher frequencies of divorce. People who are impulsive at age 18 tend to do more poorly in the workplace—they attain less occupational success and less financial security. Work experiences, in turn, appear to affect personality change. Those who attain occupational success tend to become happier, more self-confident, and less anxious over time.

Although little is known about what factors maintain these forms of personality stability and coherence over time, one possibility pertains to our choices of marriage partners. There is evidence that we tend to choose those who are similar to us in personality, and the more similar our partners, the more stable our personality traits remain over time.

How can we best reconcile the findings of considerable personality stability over time with evidence of important changes? First, longitudinal studies have shown conclusively that personality traits, such as those subsumed by the Big Five, show substantial rank order stability over time. These personality traits also show evidence of coherence over time. Bullies in middle school, for example, tend to become criminals in adulthood. Those with self-control and conscientiousness in adolescence tend to perform well academically and well in the workplace later in life. In the context of these broad brushstrokes of stability, it is also clear that people show mean level changes with age—as a group people become less neurotic, less anxious, less impulsive, lower in sensation seeking, more agreeable, and more conscientious. Some changes are more pronounced in women—they become less feminine and more competent and autonomous over time. And some personality change affects only some individuals, such as those who succeed in the workplace. In short, although personality dispositions tend to be stable over time, they are not “set in plaster” in the sense that some change occurs in some individuals some of the time.

Key Terms

personality development

rank order stability

rank order change

mean level stability

mean level change

personality coherence

temperament

longitudinal studies

actometer

stability coefficients

validity coefficients

self-esteem

cohort effects