

Chapter 4

Human Values Research Prior to the Parasite-Stress Theory

4.1 Introduction

Prior to the recent research on human values in relation to parasite stress (briefly introduced in Chap. 3), political scientists, sociologists, and psychologists produced a huge and important descriptive literature about variation in people's values across countries and the USA states, as well as across individuals in certain regions. Largely, this literature was not generated using hypotheses inspired by evolutionary theory. All of the literature, however, is scientific; thus, the scholars producing it were pursuing an understanding of cause and effect, specifically the causes of values and associated behavior.

Oftentimes in this research tradition, wealth and economic development are assumed to be the most encompassing or fundamental causes of variation in values (e.g., Lipset 1959; Triandis 1995; Hofstede 2001). Temperature, rainfall, and related climatic variables also are seen as important causes of cross-cultural value systems (Van de Vliert 2009). This research indicates that economic and climatic factors do covary systematically with values. The limitation of the traditional scientific literature on values is that it does not consider ultimate causation through evolutionary processes and its product of evolved values-adopter psychological adaptation. As a result, this research was limited to identifying some proximate causes of ideology that lack a coherent and unifying theoretical foundation. The parasite-stress theory of values is not an alternative to this traditional scientific approach; instead, it is complementary and more causally synthetic and encompassing.

The parasite-stress theory can explain why ecological factors such as temperature and rainfall, as well as economic factors, affect values. Parasites thrive in hot and moist ecological settings, but are reduced in cold or dry regions (Low 1990; Cashdan 2001; Guernier et al. 2004; Dunn et al. 2010). Consequently, these climatic factors are proximate causes of the optimal values in a region by way of their influence on parasite stress in the region (Fincher and Thornhill 2008a, b). That is, climatic conditions in a region are part of the causal chain leading to the region's

value system. We treat in more detail the interrelationship between climatic variables, values, and parasite stress in Chap. 14.

We have proposed that human parasitic diseases and the values they evoke are causes of cross-national economic variables such as Gross Domestic Product through three general mechanisms (Chap. 11, Fincher et al. 2008; Thornhill et al. 2009). First, parasites cause lethargy and morbidity that limit people's ability to work and produce (e.g., Landes 1998; Price-Smith 2002; McGuire and Coelho 2011; Bonds et al. 2012). Compared to a healthy person, a person with schistosomiasis, hookworm, malaria, amoebic dysentery, flu, or any other kind of the roughly 1,400 human infectious diseases will more often lack the energy and stamina to be on the job. (On the number of kinds of human parasites, see Taylor et al. 2001.) Also, many parasites lower the work capability of hosts by reducing visual, auditory, and other sensory competence. Moreover, they damage additional physiological systems, tissues, and organs and thereby cause permanent negative effects on personal productivity throughout the life of hosts.

Second, parasites cause people to adopt conservative values that cause low economic productivity. Conservative values are preferences for the local community and thus foster in-group production, even only by family or at most by close ethnic group, rather than production by larger realms and markets. As importantly, conservative values are preferences for traditional and conformist ideas and ways with a concomitant dislike and avoidance of new ideas, technologies, and means. As shown later in the book (Chap. 11), the neophobia of conservatism reduces the flow and adoption of new ideas, including innovations that promote health, scientific progress, technological advance, and economic productivity. Liberalism, however, promotes those innovations and their diffusion. The parasite-stress theory of sociality is a general theory of human culture and affairs, because parasite levels in the environment of humans proximately cause people's core values, and values impact so many, if not all, realms of human activity.

The third way in which parasites affect economics is through the lowering of cognitive ability, which limits innovation and understanding of new ideas required for economic, scientific, and technological advances. Recent research reveals that parasite stress is correlated negatively with cognitive ability, measured as IQ, across nations and states of the USA. This may result from an adaptive ontogenetic trade-off in increased allocation to classical immunity at the expense of the brain as parasite stress increases (Eppig et al. 2010, 2011; Chap. 11).

Thus, according to the parasite-stress theory of values, parasite adversity and associated values are important causes of the economic conditions in a region. In addition, the causation in the parasite-stress theory's application to economic productivity is bidirectional—the values evoked by a region's level of parasite adversity feedback and affect parasite stress. Chapter 11 deals in detail with economics in relation to the parasite-stress theory of values. In that chapter, we argue that the huge variation in the wealth of nations can be illuminated importantly by the parasite-stress theory.

The earlier scientific literature on values provided much of the data that has been used for testing the parasite-stress theory of sociality as it applies to diversity

across regions: data on cultural diversity in collectivism, personality, religiosity, democratization, gender equality, civil conflicts, property rights, and so on. Other data sources that have been used include public data archived at websites made by scholars of economics, religion, linguistics, political science, and related disciplines. As we document in subsequent chapters, the application of the parasite-stress theory of values to these two types of data sources has shown their consistency with that theory. The parasite-stress theory of sociality has successfully predicted numerous new patterns in values and their interrelationships that were not known to exist prior to the emergence of the theory.

Below, we review various traditional scientific findings on values. Subsequent chapters reveal what these findings mean—that is, how they all can be put together into a unified intellectual framework based on the parasite-stress theory of values. Thereby, the parasite-stress theory provides a general scientific theory comprised of (a) a fact-based set of conceptual research principles that unifies previously unconnected findings about values discovered by political scientists, historians, psychologists, anthropologists, sociologists, and other scholars, and (b) a framework for future research in ideology. It is from the synthetic understanding of values allowed by the parasite-stress theory that we can say something new and meaningful about cultures across the world.

4.2 Collectivism–Individualism Is Conservatism–Liberalism

Traditional research effort in the investigation of values, especially cross-nationally, has focused on collectivism–individualism. Many cross-cultural psychologists feel collectivism–individualism is the best way to characterize the general value system of a country. Collectivism–individualism is typically considered a unidimensional variable (Gelfand et al. 2004), as is conservatism–liberalism (Carney et al. 2008; Jost et al. 2009). Below, we show that these two value dimensions are very similar. Hence, high collectivism is high conservatism, and high individualism is high liberalism. Correspondingly, low collectivism equates with low conservatism, and low individualism with low liberalism. Before discussing the correspondence of collectivism–individualism with conservatism–liberalism, we briefly discuss traditional research on conservatism–liberalism.

The labels “conservatives” and “liberals” are used widely across cultures and identify distinctly different clumps of values (see meta-analysis by Jost et al. 2003 for 12 countries, 88 samples, and 23,000 people; also see Feather 1979; Laponce 1981; Knight 1993, 1999; Forabosco and Ruch 1994; Carney et al. 2008; Graham et al. 2009; Jost et al. 2009). The labels “rightist” for conservative and “leftist” for liberal are similarly common across cultures (Laponce 1981; Jost et al. 2009). The labels “right” and “left” arose during the French Revolution (1789–1799), which was a time period of increased democratization in France. The monarchy that had ruled France for centuries collapsed quickly, and French society underwent a rapid transformation from conservative values of traditionalism, authoritarianism, and

religiosity to liberal values based on the Enlightenment principles of citizenship and inalienable rights for all. The left-minded were seated on the left side of the French General Assembly and the right-minded on the right side. These two ideologies of the Assembly were divided on the grounds of conservation in maintaining tradition/status quo, rule by and respect for authorities (religious, masculine, and elites) and inequality of people versus liberation from tradition/status quo with priority on social change, freedom from rule by authorities, and all people as equal and deserving of opportunity, dignity, respect, and participation in societal matters (see Laponce 1981; Jost et al. 2009). Today, these remain core ideological differences between liberals and conservatives. We return to the French Revolution in Chap. 10, where we discuss the relationship between infectious-disease reduction and democratization.

4.2.1 *Psychometric Studies*

Western political scientists typically measure individual differences in conservatism–liberalism in questionnaire-based research. Numerous questionnaires have been developed to measure these values (Knight 1993, 1999). Many of these questionnaires have validity as seen in both the intercorrelation of the questions within a questionnaire—i.e., the items or questions of a questionnaire measure the same psychological dimension—and in people’s behavior—e.g., scores predict people’s political involvement, voting activity, and other behavioral differences across the right–left ideological continuum (Feather 1979; Knight 1993, 1999; Altemeyer 1996; Carney et al. 2008). As examples, we mention two similar questionnaires based on Wilson and Patterson’s (1968) earlier questionnaire on conservatism. One of these, the 28-item C-scale, assesses numerous conservative (C)–liberal (L) values: attitude about the death penalty (C for, L against), abortion (C against, L for), minorities (C against, L for), immigration (C against, L for), racial segregation (C for, L against), censorship (C for, L against), gay’s and women’s rights (C against, L for), X-rated movies (C against, L for), military draft (C for, L against), modern art (C against, L for), pacifism (C against, L for), and so on across 28 value domains that separate the two ideological poles according to prior research. The measure of a person’s values is calculated such that a high score is high conservatism and thus low liberalism, and a low score the reverse (see Thornhill and Fincher 2007). A second scale is a reduced version (18 items) of the 28-item scale with wording modifications to make it more relevant to contemporary Western people (Oxley et al. 2008).

As we mentioned, although some researchers disagree, the bulk of the evidence indicates that there is a single right–left dimension. Jost et al. (2009) review evidence for this single dimension, as well as evidence identifying many of the inter-related components of the ideology of each of the two wings (see also Jost et al. 2003; Carney et al. 2008). Conservatives and liberals differ reliably in the following ways. Conservatives place salience on salvation and religious participation, social

stability or maintenance of status quo, inequality of people and out-group inferiority, out-group prejudice, traditional hierarchy and status, norm conformity and obedience, management of threat and uncertainty, need for closure and intolerance of ambiguity, conventional wisdom, simplicity and internal consistency, and need for social order and order in general. Liberals place salience on social change; openness to other groups, ideas, and new experiences; analytical and rational ways of knowing (as opposed to contra-evidence, traditional and conformist opinion); cognitive complexity; and tolerance of ambiguity and uncertainty. Liberals also are low in authoritarianism, whereas conservatives are high in authoritarianism.

Right-wing Authoritarianism (RWA) and Social Dominance Orientation (SDO) are two dimensions of values related to conservatism–liberalism. Extensive prior research has established that RWA, typically measured by a 30-item validated scale, and conservatism, measured by the C-scale or similar conservatism scales, are strongly and positively correlated, but that RWA and conservatism are not completely identical measures (e.g., Altemeyer 1996; Thornhill and Fincher 2007). RWA measures the conservative values of high regard for and obedience to authority and its associated traditional hierarchy, rules, and norms. People who score high on RWA are highly authoritarian: they hold authority figures in high esteem and want (perhaps need) to be dominated by them. Those high in authoritarianism additionally overlap with conservatives in being conventional, rigid with regard to moral absolutes, and distrusting and dehumanizing of out-groups (Jost et al. 2003; Hodson and Costello 2007; Carney et al. 2008; Napier and Jost 2008). In contrast, people low on RWA are norm and rule violators and are disrespectful of traditional hierarchies. They are more independent and free—liberated from traditional values and authority figures. The liberals who comprised the Western hippie movement of the 1960s and 1970s are an example of low RWA people. They were insurrectionists who opposed many major traditional values and power asymmetries and thus were against war, imperialism, sexual restrictions, racism, male domination, female subordination, religious authority, authority of parents and other elders, and legalized control of behavior by a conservative government.

SDO scores across individuals, measured on the 14-item SDO questionnaire, correlate positively, but moderately, with scores on RWA and conservatism. People high on SDO want to become the dominating authorities themselves (Pratto et al. 1994; Altemeyer 1996; Thornhill and Fincher 2007). High SDO scorers support traditional power asymmetries and hence are racist, ethnically intolerant, sexist, and nonequalitarian (Pratto and Hegarty 2000; Hodson and Costello 2007).

Some researchers have suggested that conservatism, at least in principle, is divisible into two components, economic conservatism and social conservatism. If this were true, there would exist multiple dimensions of conservatism–liberalism rather than a single dimension. For instance, in principle, one could be economically conservative, but socially liberal. We have noticed that people commonly express this distinction in describing their personal values. However, the body of evidence reviewed by Jost et al. (2009) indicates that economic conservatism and social conservatism are positively correlated overall, not negatively correlated, as they would be if the two types were opposed. The positive relationship between the two types

of conservatism certainly seems accurate because the value of human inequality characterizes conservatism. Social conservatism is a prejudice against out-groups and low-status people. Economic conservatism places importance on maintaining unequal resource distribution across a society. Both of these aspects of conservatism arise from viewing some humans as better or more human than others. It has been found, however, that SDO scores correlate more strongly with economic conservatism than with social conservatism, but vice versa for RWA scores (see Jost et al. 2009 for a review of relevant studies.)

In sum, on the basis of evidence from research, it is reasonable to treat conservatism–liberalism, RWA, and SDO as closely related ways to characterize human values. Of course, more research is needed to explore the differences and similarities of these value types.

4.2.2 Correlates of Collectivism–Individualism

Table 4.1 summarizes the published findings about collectivism–individualism from numerous cross-national studies (Table 4.1a) and studies across the USA states (Table 4.1b). A number of the findings reported in Table 4.1a are overlapping, which is because we have described in Table 4.1 each study’s findings to reflect the study’s own conclusions. Redundancies across entries in Table 4.1 are equivalent to replications of findings. For clarity, the studies’ results are presented in Table 4.1 as the value poles of the unidimension of collectivism–individualism. The methods used by scholars to measure collectivism–individualism are described in the next chapter. According to the parasite-stress theory of sociality, all the differences between the two ideological poles listed in Table 4.1 are caused proximately by the greater parasite prevalence in collectivist regions than in individualist locales. Although the majority of findings in Table 4.1 are derived from research conducted independently of the parasite-stress theory of values, to be more comprehensive, we include in the table several findings that were discovered from the application of the parasite-stress theory of values.

4.2.3 Cross-National Findings

4.2.3.1 Conservatism–Liberalism

As seen in the first entry in the cross-national portion of Table 4.1, collectivist countries have conservative values and individualist countries have liberal values. For example, this is apparent in the differences between collectivist countries and individualist countries in people’s preferences about individuals’ rights, freedom, and equality. Also, it is seen in the differences between the two types of countries in people’s willingness to socialize with in-group and out-group members. Collectivists

Table 4.1 Comparison of values and parasite stress of collectivist versus individualist cultures, based on cross-national (part a) and interstate USA (part b) published studies

Collectivists	Individualists	Reference(s)
<i>(a) Cross-national findings</i>		
Conservatism; restriction of individuals' rights and freedoms	Liberalism; individuals' rights and freedoms paramount	Gelfand et al. (2004), Thornhill et al. (2009, 2010)
Property rights limited to elites	Property rights widespread across citizenry	Thornhill et al. (2009)
Low interest in wealth redistribution and welfare outside of the dominant in-group	High interest in well-being of entire populace	Thornhill et al (2009)
Inequality of people	Equality of people	Hofstede (1980)
Trust and social-capital network restricted to in-group	Trust and social-capital network extensive outside in-group	Allik and Realo (2004)
Strangers distrusted; in- and out-group members are fixed	Strangers may become friends or allies	Oyserman and Uskul (2008), Gheorghiu et al. (2009)
Less helpful toward strangers	More helpful toward strangers	Knafo et al. (2009)
More wary of contact with foreigners and other out-group members	Less wary of contact with foreigners and other out-group members	Schwartz and Sagiv (1995)
Harsh and unsympathetic treatment of out-groups	Seek out-group contact and alliance	Triandis (1995)
Tight social network	Loose social network	Triandis (1995), Gelfand et al. (2011)
In-group goals paramount	Personal autonomy and self-fulfillment paramount	Gelfand et al. (2004)
Relationships and group memberships are ascribed and fixed, to which people must accommodate	Relationships and group membership are impermanent and nonintensive	Oyserman and Uskul (2008)
Group-identity and in- and out-group distinctions	Self-identity and dynamic group affiliation	Gelfand et al. (2004)
Prefer to engage in group activities	Often engage in activities alone	Gelfand et al. (2004)
More cohesive friendship groups	Less cohesive friendship groups	Gelfand et al. (2004)
Fewer, but more durable and intimate social interactions	More, but briefer and less intimate social interactions	Gelfand et al. (2004)
Greater distinctions between in- and out-groups	Fewer distinctions between in- and out-groups	Gelfand et al. (2004)
High cooperation within in-group	Less cooperation within in-group	Gelfand et al. (2004)
Motivation: fulfill duties and obligations that contribute to the group welfare	Motivation: fulfill personal interests, needs, and success	Gelfand et al. (2004)
High in-group embeddedness	Low in-group embeddedness	Gelfand et al. (2004)

(continued)

Table 4.1 (continued)

Collectivists	Individualists	Reference(s)
Low self-expression	High self-expression	Inglehart and Carballo (1997)
Self is malleable, based on context	Permanent self, separate from context, trait-like	Oyserman and Uskul (2008)
Interdependent agency and self	Independent agency and self	Markus and Kitayama (1991), Kashima et al. (2004), Kitayama and Uchida (2005)
Self-esteem a weak predictor of life satisfaction	Self-esteem a strong predictor of life satisfaction	Diener and Diener (1995)
Cultural norms and emotions similarly important for making life satisfaction judgments	Emotions most important for making life satisfaction judgments	Suh et al. (1998)
Duty and obligations to in-group	Individuality	Inglehart and Carballo (1997), Hofstede (1980), Gelfand et al. (2004)
High respect for family and other in-group members	Less respect for family and other in-group members	Gelfand et al. (2004)
Extended family embeddedness	Self and nuclear family investment	Hofstede (1980)
Extended family focus	Nuclear family focus	Triandis (1989)
Strong family ties	Weak family ties	Gelfand et al. (2004), Fincher and Thornhill (2012)
More parental influence in marriage decisions of children	Less parental influence in marriages	Buunk et al. (2010)
High family harmony, respect and loyalty	Low family harmony, respect, and loyalty	Gelfand et al. (2004)
Live closer to extended family relatives	Live farther from family	Georgas et al. (2001)
Philopatry	Dispersal, emigration, the frontier spirit	Kitayama et al. (2006), Alesina and Giuliano (2010)
Visit and telephone extended family relatives more frequently	Visit and telephone family relatives less frequently	Georgas et al. (2001)
Honor and modesty paramount	Honor and modesty less important	Oyserman and Uskul (2008), Vandello et al. (2009)
Reasoning: a tool to make sense of whole rather than its parts (holistic cognition)	Reasoning: a tool for separating out main causes from background (analytical cognition)	Oyserman and Uskul (2008)
Low divorce rate	High divorce rate	Vandello and Cohen (1999), Gelfand et al. (2004)

(continued)

Table 4.1 (continued)

Collectivists	Individualists	Reference(s)
High rate of male-against-female aggression in mateships	Lower rate of male-against-female aggression in mateships	Archer (2006)
Tolerance of male-against-female aggression in mateships	Intolerance of domestic abuse	Vandello et al. (2009)
Highly value female mateship fidelity	Female mateship fidelity valued less	Vandello et al. (2009)
Restricted/conservative female sexuality	Unrestricted/liberated female sexuality	Schaller and Murray (2008), Thornhill et al. (2009, 2010), Fong and Goetz (2010)
Gender inequality	Gender equality	Hofstede (1980), Gelfand et al. (2004), Archer (2006), Thornhill et al. (2009, 2010)
High elder respect	Low elder respect	Gelfand et al. (2004)
Autocratic governance	Democratic governance	Gelfand et al. (2004), Thornhill et al. (2009, 2010)
Traditionalist political culture emphasizing hierarchy and elite rule	Moralistic political culture emphasizing participatory egalitarianism	Hofstede (1980)
More legal restrictions of people’s behavior	Less legal restrictions on people’s behavior	Conway et al. (2006), study 3
Slow pace of life	Fast pace of life	Levine and Norenzayan (1990)
Rural	Urban	Gelfand et al. (2004)
Low socioeconomic status	High socioeconomic status	Gelfand et al. (2004)
Developing countries	Developed countries	Hofstede (1980), Gelfand et al. (2004)
Indirect in communication	Direct, forthright, and literal in communication	Holtgraves (1997)
Attend more to the status of people	Attend less to the status of people	Gelfand et al. (2004)
High respect for high status (high authoritarianism)	Low respect for high status (low authoritarianism)	Gelfand et al. (2004)
Personal pronoun drop	No pronoun drop	Kashima and Kashima (1998)
Verbal abuse of in-group	Verbal abuse of the individual	Semin and Rubini (1990)
Emotional content of language paramount	Words themselves paramount	Ishii et al. (2003)
High conformity to tradition and norms	Low conformity to tradition and norms	Hofstede (1980), Bond and Smith (1996), Gelfand et al. (2004), Murray et al. (2011)
Knowledge transmitted from elders	Knowledge sought by the individual	Hofstede (1980), Gelfand et al. (2004)

(continued)

Table 4.1 (continued)

Collectivists	Individualists	Reference(s)
Low federal monetary investment in quality education	High federal investment in quality education	Cheung and Chan (2008)
Reward conformity and normative behavior	Reward deviation from status quo toward creative ends	Cukur et al. (2004), Murray et al. (2011)
Low rate of innovation	High rate of innovation	Thornhill et al. (2009), Gorodnichenko and Roland (2011), Taylor and Wilson (2012)
High frequency of civil war	Low frequency of civil war	Letendre et al. (2010)
High frequency of clan and tribal (nonstate) wars	Low frequency of clan and tribal (nonstate) wars	Letendre et al. (2012)
High frequency of coups and revolutions	Low frequency of coups and revolutions	Letendre et al. (2012)
Low openness to experiences	High openness to experiences	Schaller and Murray (2008)
High avoidance of uncertainty	Low avoidance of uncertainty	Gelfand et al. (2004)
Low intellectual autonomy	High intellectual autonomy	Gelfand et al. (2004)
Low economic productivity	High economic productivity	Triandis (1995), Ball (2001), Hofstede (2001), Gelfand et al. (2004)
Low success in science and technology	High success in science and technology	Gelfand et al. (2004), Taylor and Wilson (2012)
High religious participation and commitment	Low religious participation and commitment	Fincher and Thornhill (2012)
High religious devotion and dogmatism	Low religious devotion and dogmatism	Gelfand et al. (2004), Fincher and Thornhill (2012)
Low human condition index (societal health, life expectancy, Human Development Index)	High human condition index	Gelfand et al. (2004)
High rates of violent crime	Low rates of violent crime	Karstedt (2006)
More homicide	Less homicide	Thornhill and Fincher (2011)
High infectious-disease severity	Low infectious-disease severity	Fincher et al. (2008)
High nonzoonotic disease prevalence	Low nonzoonotic disease prevalence	Thornhill et al. (2010)
<i>(b) Interstate USA findings</i>		
Trust and social-capital network restricted to in-group	Trust and social-capital network extensive outside in-group	Allik and Realo (2004)
More legal restrictions on people's behavior	Less legal restrictions on people's behavior	Conway et al. (2006)
High religious participation and commitment	Low religious participation and commitment	Fincher and Thornhill (2012)

(continued)

Table 4.1 (continued)

Collectivists	Individualists	Reference(s)
Few elderly living alone	More elderly living alone	Vandello and Cohen (1999), Fincher and Thornhill (2012)
High percentage of homes with grandparents and grandchildren coresident	Low percentage of homes with grandparents and grandchildren coresident	Vandello and Cohen (1999), Fincher and Thornhill (2012)
More carpooling	Less carpooling	Vandello and Cohen (1999)
Stable, enduring marriage	High divorce rate	Vandello and Cohen (1999)
More homicide	Less homicide	Thornhill and Fincher (2011)
More domestic-partner violence	Less domestic-partner violence	Archer (2006), Thornhill and Fincher (2011)
More infectious disease	Less infectious disease	Fincher and Thornhill (2012)
High nonzoonotic disease prevalence	Low nonzoonotic disease prevalence	Chap. 5
More frequent naming of sons after male forebears	Less frequent use of patronyms	Brown et al. (2013)

are wary, untrusting, and avoiding of contact with foreigners and other out-group people, and support harsh and unsympathetic treatment of out-groups. This xenophobia of collectivists contrasts sharply with the xenophilic values of individualists. As a final example—one also stemming from the greater xenophobia of collectivists—people in collectivist countries (measured by what Knafo et al. 2009 label “embeddedness,” a part of the ethnocentrism of collectivism), compared to people in individualistic countries, exhibit less willingness to help strangers.

4.2.3.2 Self-concept

Collectivist and individualist countries differ in how the self is understood—the meaning of the individual person (Table 4.1a). Is a person inseparably and interdependently part of a collective (an in-group) or is one an independent/autonomous agent with personal rights and freedoms? Collectivists understand the person in terms of the former, while individualists comprehend the person according to the latter. In collectivist regions, a person is relatively indivisible within his/her in-group. The collectivist self is expressed in relation to in-group goals—the goals defined by one’s extended family and other like-minded in-group members. Collectivists virtually blend into a background of in-group social striving. Collectivist people are somewhat like worker ants that strive selflessly for the goals and harmony of their collective, the colony-family as a whole, and have no goals as independent agents. Individualists, in contrast, possess a self-concept that reflects

the individual's own aspirations, not the in-group's, but individualists support their nuclear family's goals and harmony to the extent that the goals overlap with the individualist's personal goals. Not surprisingly, then, collectivists have low intellectual autonomy. The in-group authorities think for their collectivist membership and set the normative path to follow and obey. The individualist thinks for him- or herself. The analogy with the ant worker applies here too: the worker ant obeys the colony's rules and goals in a seemingly mindless manner, an automaton.

Note that the comparison here between worker ants and collectivists is descriptive, not derogatory. Indeed, the authors' values are that ants are noble creatures that have fascinated us since early childhood. For those with knowledge of insects, we add that the appropriate comparison for individualist humans is the common burying beetle with a nuclear family life and biparental care and nothing more. In Chap. 5, we treat in detail comparative family life across animal species in relation to parasite stress.

The difference in the meaning of self between collectivists and individualists manifests in many aspects of human everyday behavior, including language (Table 4.1a). Verbally abusive language differs in content between the two value categories in a way consistent with the difference in the self-concept. The target of collectivist verbal abuse is both the person and his or her in-group. Individualists, however, restrict such abuse to the individual target. Also, collectivists tend to drop from their languages the pronouns "I" and "you"; individualists retain them. Collectivists replace "I" with "we," which expresses the in-group. The pronoun "ya'll" is an example of pronoun drop. Ya'll is a word that is commonly used in the southeastern US "Ya'll come" or "How are ya'll doing?" is sometimes spoken to a person, but refers to that person's collective, not the individual. Ya'll is not a contraction of you and all, but a new word that lacks recognition of you the person altogether. "You" as a person is inconsistent with collectivist values, specifically with the collectivist self-concept, just as is "I." The individualist is you—and I and me—focused because the individual understands self's and others' autonomy that way. The "I" focus of individualists is seen as well in their personal expression and desire to stand out as an individual and in the salience they give to personal self-esteem. Collectivists are less motivated to stand out personally, and their self-esteem emphasizes family and other in-group esteem, respect, and honor. The "we" focus of collectivists reflects their embeddedness in their in-group, and the extent that you and I hardly exist.

Twenge et al. (2013) studied the presence of pronouns in the text of three-quarters of a million American English books published 1960–2008 and digitized as part of the Google ngram database. A range of evidence indicates that the USA has become increasingly individualistic over the last three generations and correspondingly less collectivistic. (A human generation equals about 20 years.) Twenge et al.'s (2013) study was inspired by their hypothesis that this pattern of increasing individualism would extend to frequencies of value-based pronouns used in books that reflected either a priority of autonomous self or of interdependence on and embeddedness in an in-group. The results strongly supported their hypothesis. Across the three generations, the second-person pronouns "you" and "your" quadrupled in use,

first-person singular pronouns “I” and “me” increased in use by 42%, and first-person plural pronouns (e.g., “us” and “we”) decreased 10%. In a separate study of the same database, Twenge et al. (2012) show that the pattern for pronoun use also holds for the frequency of use of individualistic words and phrases over the period 1960–2008. Examples of the analyzed individualistic linguistic items are: unique, self, all about me, I am special. As Twenge et al. point out in their papers we have cited, their linguistic findings likely stem from widespread linguistic changes and preferences since the 1960s that are associated with increasing individualism in the USA. In Chap. 10 we discuss the pattern of increased individualism in the USA (and the West generally) in recent generations in relation to reduced parasite stress.

Above, we compared collectivist people to worker ants. Other analogies are seen in military groups and athletic teams. Their success depends upon obedience to authority, self-sacrifice for the group’s prosperity, group unity, and avoidance of thinking of oneself as autonomous. Collectivists make cooperative soldiers and team players. Military and team-sports training promotes the importance of collectivist values and discourages individualist values. The independence of individualists makes their within-group dynamics more conflictual, with each group member engaged in self-promotion. These conflicts, however, are reconciled by compromise and diplomacy, which take time to achieve because of the many personal opinions aired and respected. Obviously, groups of liberals do get things done—advances in democratization and economic productivity are testament to that (see Chaps. 10 and 11). Conservatives settle in-group disagreement with an appeal to tradition, omniscient gods or authority figures’ opinions or rulings, or with aggression (on interpersonal violence, see Chap. 8). Obviously, this also works, but primarily benefits those in roles of authority (men, elders, elites), with the most extreme exclusive benefits going to the autocratic leadership of highly collectivist societies.

4.2.3.3 Reasoning Styles

The reasoning styles of the two ideologies differ in ways consistent with their differences in in-group versus autonomous-self-conceptions (Table 4.1a). The holistic reasoning style of collectivists interprets events and other things in terms of the whole system. This is why we suggested in Chap. 2 that researchers who feel that cultural behavior reflects human adaptation that functions to benefit the culture as a whole are using collectivist cognition.

The antireductionist cognition of collectivists can make science a strange and difficult topic to comprehend and endorse, given science’s focus on causes as partial determinants, which can be separated from a whole system, and then analyzed and understood independent of the whole. The whole-system cognition of the collectivist includes his or her in-group and can be extended as patriotism and support to the region or to society or nation, specifically the part of society or nation sharing collectivist values. To the collectivist, nothing has meaning independent of the in-group’s goals and harmony. The individualist, in contrast, sees the whole as comprised of separable parts that are important separately and can be understood by

dissecting them out from the whole. This analytical-reasoning style is an essence of scientific investigation. Science illuminates the whole through synthesis of the causal components of the whole into a single concept or a few basic concepts.

In later chapters, we do this type of synthesis repeatedly. For example, we provide evidence that geographically variable parasite stress causes geographically variable value systems, which, in turn, cause geographically variable political and economic systems, which, in turn, feedback and affect parasite stress, which, in turn, affects values, and so on. Other causes at work here include the developmental events that proximately cause people's values and include as well the ultimate cause of evolution by selection for the psychological adaptations that function during discriminative adoption of values. All these tiers of causation and their interactions are based fundamentally on how parasites build us proximately and have built us ultimately to develop, think, and behave. Hence, we call this synthetic way of analyzing human affairs the parasite-stress theory of values or of sociality. Parasite stress is the fundamental causal concept at both proximate and ultimate levels.

We hypothesize that the collectivist holistic style of reasoning explains why the naturalistic fallacy remains such a widespread way of thinking. (This fallacy was introduced in Chap. 1.) Despite the efforts of many scientists to emphasize that “is” does not equal “ought,” the naturalistic fallacy persists as a common criticism of the study of human behavior and psychology in evolutionary terms. To most scientists, “is” just is and the facts of nature's causes exist independently of societal moral goals and are precious in their own right. To the collectivist, these facts cannot be considered as independent of in-group goals and well-being. That rape by men is ultimately the product of evolution by sexual selection is simply a fact to the biologist—and a fact in itself without any moral implications (Thornhill and Palmer 2000). To the collectivist, however, nothing is independent of its impact on group well-being. Thus, for the collectivist, the statement that rape is evolved by selection simultaneously and necessarily makes a value judgment pertinent to the in-group.

Analytical reasoning is required for achievement of societal moral goals. As we discussed in Chap. 1, scientific knowledge cannot identify moral goals, but provides the basis for their achievement after their identification by moralizing humans. The more that is known about the causes of rape, the more effective could be policies to reduce it. Any problem facing humanity, social or otherwise, can be solved only through knowledge of its causation. Suggested solutions to humanity's problems that are not based on understood causation are impotent (see Thornhill and Palmer 2000 for further discussion). Thus, whatever a society's moral goals are—be they conservative or liberal—requires a scientific community of analytical thinkers to achieve the facts that are needed to attain the goals.

4.2.3.4 Social Network

Table 4.1a lists other documented differences between collectivist and individualist cultures. The social network of the collectivist is intensive, thick or viscous, exclusive, local and permanent, with restriction of membership to value-similar others.

That of the individualist is loose, nonintensive, nonlocal, impermanent, and diverse with regard to inclusion of other members. The collectivist distrusts and avoids strangers and hence in- and out-group memberships are fixed. Individualists' groups change membership and are open to outsiders. Collectivists accommodate to their expected role in the in-group network, while individualists are less role-bound and roles are impermanent. In addition, collectivists' social activities are predominantly with other in-group members, while individualists enjoy solitude and engaging in activities alone. This manifests in higher rates of contact (e.g., by telephone) with family by collectivists than by individualists, and in the greater geographic separation of family members in individualistic families than in collectivist families. Collectivists are more philopatric, compared to individualists.

4.2.3.5 Intersexual Relationships

The marriage relationships of the two ideologies differ (Table 4.1a). Collectivists have relatively permanent marriages (as well as other alliances), whereas individualists divorce more commonly. This is the case in spite of the greater importance of romantic love in marital decisions in individualist cultures than in collectivist cultures (Gelfand et al. 2004). In collectivist cultures, marriage is more in accordance with in-group membership and goals and less in terms of personal romantic feelings. Also, under collectivism, compared to individualism, parents have more influence on marriage partners of their children (Buunk et al. 2010). These patterns are consistent with the greater inbreeding (e.g., cousin marriage) in collectivist cultures than in individualist societies (Chap. 6).

There are other differences between collectivists and individualists in intersexual relationships (Table 4.1a). Individualists value gender equality, whereas collectivists value gender inequality. The collectivist value of traditional sex roles, with assumed male superiority over females, likely is a cause of the higher rate of male-perpetuated spousal abuse in collectivist cultures than in individualist cultures. Gender inequality of collectivist cultures contributes to the moral endorsement and justification of men's abusive treatment of women to whom they are pair-bonded. Women's acceptance of the ideology of gender inequality, which is manifested in norms of female honor, is part of that endorsement and justification (Chap. 8 treats in detail interpersonal violence).

Collectivist countries show more sexual restrictiveness in both sexes, but especially in women, than do individualist countries. This topic is treated in detail in later chapters.

4.2.3.6 Hierarchy, Honor, and Norms

Compared to individualist societies, collectivist societies more strongly respect all traditional hierarchies, not just that of the superiority of masculinity above femininity (Table 4.1a). The difference between collectivist and individualist in respect for

traditional hierarchy affects the cultural difference in knowledge acquisition. Tradition is the most important source of knowledge under collectivism, and knowledge is transmitted from elders and elites. In contrast, individualists seek their own knowledge and rely less on traditional wisdom. This cultural difference accounts, we propose, for the reduced value placed on modern education and educational support by collectivist cultures compared to individualist cultures (Table 4.1a). Collectivists show more elder respect than individualists. In the South, people of all ages commonly address elders by “sir” and “ma’am” as long as the person addressed is of the appropriate race and social class. Hierarchy under collectivism also involves rigid family roles, with men at the top, women next, and children at the bottom. Boys are taught to value and portray traditional masculine behavior of toughness, bravery, and willingness to protect the reputation of family and other in-group members by aggression and violence. This is an aspect of the “culture of honor,” as it is oftentimes called in reference to the culture of the South (Nisbett and Cohen 1996), and is actually a basic aspect of collectivist culture wherever it is found (Chap. 8).

As just mentioned, compared to individualists, collectivists have greater respect for the status hierarchy. Not surprisingly, then, collectivists are more attentive of the status of the individuals with whom they interact, which is a manifestation of the higher authoritarianism of collectivists (Table 4.1a). In Western academics, a generally liberal culture, now it is not unusual for undergraduate students to address their professors by their first name.

Under collectivism, females are trained in modesty and continence pertaining to sexual matters, as well as behavior in general, and deference to and obedience of the significant men in their lives (Table 4.1a). This is the female culture of honor in collectivist societies. Women are expected to control themselves sexually and otherwise, and accept the value that men are superior humans and only men have the wisdom to direct social affairs, including women’s and children’s lives.

The role of children in collectivist cultures is to learn and obey all the collectivist norms and strictly obey and honor parents and other elders within the in-group; this is the children’s culture of honor in collectivist societies. The fixity of family roles and acceptance of one’s family role in collectivist cultures promotes family harmony, respect, cooperativeness, and loyalty and thereby reduces aspects of within family conflict. In collectivist cultures, the concept of family honor cements a family together, and deviations from expectations of the family values, e.g., a daughter not following father’s preferences for her sexual behavior and marriage, may lead to her disownment or disinheritance, or even her death by suicide or homicide (Chap. 8).

The published literature strongly supports the finding that, in collectivist cultures, rules abound and traditional norms are taken very seriously; there is high surveillance for norm violations, and punitive consequences are culturally justified and expected. Even recently, across the USA, Republican-party states endorse corporal punishment of children, whereas Democratic-party states prefer time-outs as punishment (Hetherington and Weiler 2009). This same difference is seen when USA southern states are compared with the other states: in the South, relative to other regions, there is much less sparing of the rod in controlling children’s behavior at home by parents and at school (Nisbett and Cohen 1996).

In-group norms function as in-group markers that unify, stabilize, and simplify the actions of all participants in the in-group. If all behave according to established and understood norms, social life is highly predictable—the navigation of social life is relatively easy for the collectivist. In-group norms are fundamentally protective of in-group members. Violators of the norms create social uncertainty and generate social complexity for the nonviolators, but most importantly, violators may be from an out-group, or have been contaminated by out-group contact and ideas, and hence perhaps infected with a novel parasite. It is better to be safe than sorry regarding catching their parasite—watch for norm violators and punish or ostracize them when found.

This is true for collectivist norms in general (Murray et al. 2011), but hygienic norm violations are particularly transparent as parasite-avoidance values. Bullying in schools has been related to hostility, aggression, and ostracism toward hygiene violators (Turagabeci et al. 2008). For conservatives, malodorous body scent from the persistent absence of bathing is likely especially conducive to disgust reactions. Conservatives are more easily disgusted than liberals (Inbar et al. 2009, 2012; Terrizzi et al. 2010, 2012, 2013; Clay et al. 2012), as expected given conservatives' greater concern about contagion.

In general, collectivist countries show higher rates of violent crime, including homicide, than do individualist countries (Table 4.1a). This difference appears to stem importantly from the greater degree of culture-of-honor ideology and unequal resource distribution in collectivist cultures. We treat some major categories of violent crime in relation to collectivism–individualism in Chap. 8.

4.2.3.7 The Pace of Life

The pace of life differs between the two ideological poles (Table 4.1a). Individualists engage in a more fast-paced life than do collectivists. Collectivism involves striving after ascertaining that moving forward is consistent with in-group harmony and goals. Individualists act more impulsively and autonomously with less concern about violating norms or what other group members would want them to do. An essence of risk-taking is the willingness to accept uncertainty and proceed in thinking or acting. Individualists are more risk prone—that is, more accepting of uncertainty—than conservatives (Table 4.1a).

4.2.3.8 Language

Communication styles differ between individualistic and collectivistic cultures (Table 4.1a). We mentioned above the cultural variation in verbal abuse, use of personal pronouns, and word and phrase-use patterns. Cultures also differ in whether they express their meanings directly or indirectly, and whether they look for indirect meanings in spoken words. Collectivists engage in more indirect communication than do individualists. In collectivist talk, the wants or preferences of the speaker

are less often stated literally, but are understood by in-group members because the members are emotionally and ideologically connected/embedded. Collectivists assume there is unarticulated meaning in remarks made by others and look for and find it. Individualist speech is more forthright and literal; individualists say what they mean and listen to others based on what others literally say. In order to communicate, individualists must be literal because they address a variety of types of people in terms of backgrounds, values, and opinions. Collectivists communicate more with expressed feelings and with familiar others or at least people with familiar ideology.

Related to this aspect of linguistic style, collectivists prioritize the emotional content of language, whereas individualists prioritize the words themselves (Table 4.1a). For collectivists, meaning is reflected more in the emotions accompanying the words than in the words. Collectivists exhibit less emotional autonomy than individualists; that is, how collectivists emote in speech reflects the feelings and values of the in-group. In contrast, the feelings in individualist speech reflect more of the speaker's own personalized opinions.

We hypothesize that collectivist speech is a signal of emotional connectedness to, and embeddedness in, the in-group. It is an honest signal of in-group commitment because of the large amount of time associated with its acquisition. Localized emotional nuances in speech are reflected in dialects and even finer grained speech patterns or word use. The ability to use local language in the way that the locals understand to reflect true local feelings and values is obtained only through a long ontogeny of hearing and using the local language and its associated emotional nuances and assessing the effects of one's language on the locals. The language of fundamentalist Christian groups is an obvious example of this. An outsider cannot walk into a church that prescribes speaking in tongues as a mechanism for in-group identification and commitment and begin speaking the tongue in the normative manner. Without the local-in-group upbringing, the ability to use this language signal is impossible to display accurately. Similarly, the emotional expressions, including those accompanying language, needed to convincingly display commitment to any local ideology are difficult, if not impossible, to fake by an outsider of the in-group.

We suggest that the parasite-stress theory of values has much to offer the scholarly study of linguistics. This is implied by our comments just above, as well as by the research on pronoun drop and recent linguistic changes in the USA and Reid et al.'s (2012) research on accent perception (discussed in Chap. 3). As well, in Chap. 13 we show that the number of languages across the world is predictable from the parasite-stress theory of values—specifically from the parasite-driven diversification aspect of the theory.

4.2.3.9 Governmental Systems, Resource Distribution, and Economics

Collectivist countries are more autocratic than individualist countries (Table 4.1a). We propose that the high respect for authority and associated low intellectual autonomy, as well as the high value placed on human inequality, yield collectivists' need

for and willingness to accept elite rule and autocracy in government. Such need and acceptance justifies the ruling class's disproportionate control of social power and other resources, leading to high wealth disparity, restriction of opportunity and property rights to elites, and widespread poverty and reduced health-related infrastructure and longevity among the general populace. The dehumanization of those low in societal rank justifies the differences across social strata in social and economic access and opportunity. In contrast, individualistic societies are antiauthoritarian, democratic/equalitarian, and value and provide widespread health infrastructure that increases longevity. Chapter 10 treats fully cross-national variation in political systems.

Collectivist societies show a disinterest in social welfare for the populace as a whole; specifically, there is less distribution of wealth and other goods and services and education outside the socially dominant and privileged in-group. In contrast, individualist cultures show an interest in welfare and other resources and opportunities being distributed across the populace (Table 4.1a).

As mentioned earlier, collectivists respect, conform to, and reward traditional norms in behavior; individualists instead reward deviations from the status quo including ones that enhance individual achievement (Table 4.1a). This difference stagnates collectivist cultures, but promotes intellectual, technical and scientific innovation, and advances in individualistic cultures. Given the egalitarian values of individualists, scientific and technological advances are transformed into public goods and services and humanitarian advances in individualistic societies (Chap. 11).

4.2.3.10 Civil Conflict

Collectivist societies exhibit more civil (within country) conflicts of all forms than do individualist societies (Table 4.1a). Collectivist countries have higher rates of civil wars (intrastate wars involving the federal government versus a group or allied groups within the same country), tribal and clan wars, and revolutions and coups. According to the parasite-stress theory, the difference in intranation conflict frequencies between the two ideological poles arises from the greater in-group embeddedness, in-group boundary recognition and defense, and xenophobia of collectivists compared to individualists. We examine fully the topic of the relationship between the collectivism–individualism value dimension and civil conflicts in Chap. 12.

4.2.3.11 Religiosity

The people of collectivist countries differ in religiosity from those of individualist countries (Table 4.1a). Collectivist countries show higher religious devotion, dogmatism, and participation than do individualist countries. The topic of religiosity in relation in collectivism–individualism is treated in detail in Chap. 9.

4.2.3.12 Infectious Diseases

Human infectious diseases are more prevalent in collectivist countries than in individualist countries. This pattern is seen, too, for infectious diseases that are transmitted among humans (i.e., nonzoonotic diseases) (Table 4.1a). These topics are treated fully in Chap. 5.

4.2.4 Interstate USA Findings

Research findings related to collectivism–individualism across the USA states are presented in Table 4.1b. Compared to individualist states, collectivist states have more infectious diseases; stable or enduring marriages (lower divorce rate); car-pooling, presumably, in part, reflective of in-group trust; multigeneration family residences, reflective of extended family embeddedness, loyalty, and philopatry; religious commitment and participation; and legal restrictions on personal behavior. Homicide, including domestic-partner slayings, is more frequent in collectivist states than in individualist states (Chap. 8 treats interpersonal violence). Collectivist states also have fewer elderly people living alone than individualist states, reflective of greater familial in-group support under collectivism, and more desire for solitude in individualists. The social networking and trust of collectivists is restricted to in-group others, whereas the social network and trust of individualists extend outside the in-group to encompass more variable others and groups.

The naming of children, in terms of their personal names (as opposed to their surnames), across the states of the USA was studied by Brown et al. (2013). They separated personal names into patronyms (names of male relatives in previous generations) and matronyms (names of female forebears). Across the 50 states, the use of patronyms in naming boys (but not matronyms) across recent generations correlated highly with collectivism scores of states. In their paper, Brown et al. (2013) emphasize the use of patronyms and male-lineage identity in general, as well as the greater value placed on male babies than on female babies, in states of high honor ideology, compared to low-honor-ideology states.

Hence, overall, where comparable differences between collectivists and individualists across USA states have been examined, there is similarity to the differences between countries in these two value systems.

4.3 Overview of Patterns in Table 4.1

There is variation in the strength of conclusions about, or said differently, the scientific confidence in, the patterns depicted in Table 4.1. They are all statistically robust patterns. There is, however, variation in sample size across the studies referenced. The international differences between collectivists and individualists listed in

Table 4.1a derive from studies of a few countries to studies of virtually all of the countries of the world. The value differences in Table 4.1a refer to contemporary countries around but preceding the time of the publication date of the studies listed as references. Many of the patterns listed in Table 4.1a are replicated across multiple research investigations, whereas some of the patterns have not been replicated yet. The USA interstate differences between collectivists and individualists listed in Table 4.1b are based on all or in some cases most of the USA states.

The extensive and intensive research background depicted in Table 4.1 indicates that collectivism equates with conservatism, and individualism with liberalism. Each of the value differences between collectivism and individualism depicted in the table has been shown to correspond to related or identical differences between conservatives and liberals. Hence, we will use interchangeably the terms conservative and collectivist and liberal and individualist.

4.4 Additional Differences Between Conservatives and Liberals

Table 4.2 lists some differences between conservatives and liberals reported by researchers. (A more exhaustive and detailed list of differences between conservatives and liberals can be found in Carney et al. 2008.) The patterns in Table 4.1 are for measured collectivism and individualism, whereas those in Table 4.2 address measured conservatism–liberalism. As we have shown just earlier, however, conservatism corresponds to collectivism, and liberalism with individualism. The contents of Table 4.2 bolster this claim and add some background studies of correlates of conservatism–liberalism. Most of the differences in Table 4.2, along with those in Table 4.1, will be empirically explored further in subsequent chapters and tied to the parasite-stress theory of values. We have discussed already the differences between conservatives and liberals in out-group attitudes, prejudice, and tolerance. The differences in sexual behavior of conservatives and liberals are discussed in Chap. 6; as mentioned, collectivists are more sexually restricted, especially among women. Several research studies using various valid metrics have measured the Intelligence Quotient (IQ) differences between conservatives and liberals, with similar results: conservatives have lower cognitive abilities than do liberals. In Chap. 11, we look in detail at the relationship between cognitive ability and collectivism–individualism across countries and USA states. Earlier in the book we mentioned the greater disgust sensitivity and past positiveness of conservatives compared to liberals. Prior research also has documented the greater openness to new experience of liberals compared to conservatives. The relationship between openness to new experience (a personality variable) and collectivism–liberalism is considered further in Chap. 7; not surprisingly, individualists are more open-minded, creative, and curious than collectivists. The value differences in openness to new experiences are manifested in choices of supermarket items—conservatives buy traditional brands, whereas

Table 4.2 Some differences between conservatives and liberals reported in the scientific literature. Conservatism corresponds to collectivism, and liberalism to individualism (see Table 4.1)

Conservatives	Liberals	Reference(s)
More out-group avoidance and racism (xenophobia)	Less out-group avoidance and racism	Sibley and Duckitt (2008), Hodson and Busseri (2012)
Sexually reserved	Sexually adventurous	Feather (1979)
Low cognitive ability (IQ)	High cognitive ability (IQ)	Deary et al. (2008a, b), Kanazawa (2010), Fraley et al. (2012), Hodson and Busseri (2012), also Woodley (2010) and Hodson and Busseri (2012) for references to other studies
High disgust sensitivity	Low disgust sensitivity	Inbar et al. (2009, 2012), Terrizzi et al. (2010, 2012, 2013)
Low openness to new experiences	High openness to new experiences	Jost et al. (2003), Carney et al. (2008), also see Woodley (2010)
Closed-minded and unimaginative	Creative and curious	Carney et al. (2008)
Buy traditional supermarket items	Buy new products at supermarkets	Khan et al. (2013)
Interpret past experiences positively	Interpret past events negatively	Thornhill and Fincher (2007)
Prefer simple paintings	Prefer complex paintings	Wilson et al. (1973)
Prefer conventional music	Prefer complex and rebellious music	Rentfrow and Gosling (2003)
Greater volume of amygdala of the brain	Greater volume cingulated cortex of the brain	Kanal et al. (2011)
Perceptions of a threatening and dangerous world	Perceptions of a more secure world	Rokeach and Fruchter (1956), Jost (2006), Van Leeuwen and Park (2009)
Intolerant of ambiguity	Tolerant of ambiguity	Jost et al. (2003), Carney et al. (2008)
High contagion concern (PVD)	Low contagion concern	Park and Isherwood (2011), Terrizzi et al. (2013)
Highly authoritarian	Less authoritarian	Carney et al. (2008), Fraley et al. (2012)
Raised by authoritarian parents	Raised by egalitarian parents	Block and Block (2006), Fraley et al. (2012)
Less travel from homebase	More travel from homebase	Carney et al. (2008)
Binding moral intuitions	Individualizing moral intuitions	Haidt (2007), Graham et al. (2009), Park and Isherwood (2011), Kidwell et al. (2013)

liberals buy generics and new products on the market. Given the value differences of conservatives and liberals, it is not surprising that the two poles differ in art preferences. Conservatives value traditional styles of music and simplistic paintings more than liberals, whereas liberals value more complex music and paintings.

Given the difference between conservatives and liberals in thinking and behavior, there have to be brain differences between the two value systems. Recent research is finding some of the differences. There are volumetric differences between certain brain parts between the two ideological poles as listed in Table 4.2. Also, conservatives and liberals differ in the activity levels in certain brain parts (Amodio et al. 2007; Rule et al. 2010). These size and activity differences have been related to the consistent differences in cognitive styles of conservative versus liberals by the researchers cited.

Continuing on with differences between conservatives and liberals listed in Table 4.2, conservatives highly value a secure and stable world to live in and are fearful of and vigilant to threats to such a world. Liberals, on the other hand, view their world as a safer and more secure place, and welcome change. A threat of more concern to conservatives than to liberals is vulnerability to infectious disease. This is measured often as individual differences in scores on the psychometric scale referred to as the perceived-vulnerability-to-disease (PVD) scale. This scale is what Park and Isherwood (2011) and Terrizzi et al. (2013) used to show the greater worry of conservatives than of liberals about contagion. PVD and disgust sensitivity are highly, positively related variables (Terrizzi et al. 2013). Given the greater concern about contagion of conservatives, in comparison to liberals, it is not surprising that multiple studies indicate a relatively greater priority placed on cleanliness and hygiene by conservatives (Carney et al. 2008).

As we have emphasized, conservatives are more authoritarian than liberals. In part, this difference in authoritarianism reflects a difference in parental enculturation of children. Conservatives grow up in homes with parental authoritarianism, whereas liberals grow up in homes in which parents value input from their children in making decisions.

Conservatives are more philopatric than liberals. This is seen in research examining the residential contents of people across the values continuum. Compared to conservatives' homes, liberals' homes contain more travel paraphernalia (travel tickets, receipts, and memorabilia) and more travel books (Carney et al. 2008).

Conservatives and liberals have different moral intuitions. Certain recent research has cast this difference as one of "moral foundations" (Haidt 2007; Graham et al. 2009). This research showed that liberal values prioritize what is referred to as an "individualizing moral foundation" that emphasizes individual autonomy and well-being. In contrast, conservatives moralize more from a foundation that prioritizes collective or in-group integrity, honor, and well-being (Table 4.2). This research and the other research summarized in Table 4.2 is consistent with the general point we are making—that individualism corresponds with liberalism and collectivism with conservatism.

In Chap. 5 we turn to an empirical analysis of the parasite-stress theory of sociality in relation to collectivism–individualism and related variables.

4.5 Summary

The large scientific literature on human values produced prior to the recent publication of the parasite-stress theory of values is reviewed and discussed. This traditional literature on values has provided some of the data used to test the parasite-stress theory of values. The major causal frameworks in that literature, notably climate and wealth, are not alternatives to the parasite-stress of values—they are complementary proximate causes of values. The parasite-stress theory of values is a synthetic theory of values encompassing both proximate and ultimate causation of values.

Traditional research effort in the investigation of values, especially cross-nationally, has focused on the unidimensional value system referred to as collectivism–individualism because of its ability to capture differences in values across regions. The values that correlate with collectivism versus individualism are reviewed. The great similarity of the values dimension of collectivism–individualism to the values dimension of conservatism–liberalism is documented by examining cross-national studies as well as studies across the states of the USA. Additional studies are discussed that reported differences between conservatives and liberals, but did not measure collectivism–individualism per se. These additional studies also support the correspondence between collectivism–individualism and conservatism–liberalism.

Conservative/collectivist values and liberal/individualist values differ in many ways that correspond to differences in authoritarianism, social prejudices, equalitarianism, social hierarchy, self-concept, reasoning style, linguistic behavior, personality, religiosity, the structure of social networks, in-group and out-group transactions, economics, governmental systems, dispersal, family relationships, violence, warfare, adherence to tradition, norm adherence, honor ideology, sexual behavior, and marriage. According to the parasite-stress theory of values, the form that each of these features takes in a region is caused proximately by the region's level of parasite adversity and associated evoked values.

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