Social Class as Culture

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Abstract

Social scientists have studied social class for centuries, but cultural psychologists have only recently joined this undertaking. In this chapter, we define social class and differentiate from relevant rank-related constructs as well as review the most recent theoretical and empirical trends in the psychological study of social class. Specifically, we touch on four emerging theoretical perspectives in the study of social class: the social cognitive perspective, the scarcity perspective, the culture perspective, and the life-history strategies perspective. We leverage each of these theoretical traditions as a tool to help explain how social class influences social perception, relationship strategies, health, and cognitive functioning. Finally, we discuss several future directions in the study of social class and the promise that this construct has for understanding big societal questions related to the causes of health, educational, and economic inequalities.

Social Class as Culture

Scholars across the social sciences have examined how external social environments powerfully influence who we are and how we behave (Lewin, 1951). This orientation is on full display in any study of culture, and in particular, in the social psychological study of social classes (Adler et al., 1994; Kraus, Piff, Rheinschmidt, Mendoza-Denton, & Keltner, 2012; Stephens, Markus, & Fryberg, 2012). Few other social context variables exert the kind of systematic influences on human experience and well-being across the life course as does social class—which shapes political participation, health, mortality, well-being, and behavior across countries and cohorts (e.g., Kraus et al., 2012). In this chapter we take an extensive look at the cultural psychology of social class, focusing in particular on the ways in which scholars and researchers from throughout the social sciences conceptualize its influence on our everyday lives. We have chosen to focus on the last decade of research on the topic of social class, though we also ground this recent work in past theoretical and empirical traditions. As well, we focus specifically on recent research in the fields of social-personality psychology on the topic of social class.

The chapter itself begins with the challenging task of operationalizing a construct as multi-faceted and multi-determined as social class. From there, we move to review the recent theoretical traditions in the study of social class in psychological science. Importantly, throughout the review of these traditions we take steps to directly point out the ways in which the theories lead to important points of convergence and divergence in the study of social class as it relates to psychological processes and mechanisms. Through an integrated discussion of social class theory, this chapter seeks to uncover novel insights and predictions about the ways in which

social class shapes emotion, conceptions of the self, group processes, and relationships with others. Finally, the chapter closes with a consideration of social class within the unique cultural context of the countries and regions in which the individual is socialized (e.g., Grossman & Huynh, 2013). This final section will highlight similarities in the ways in which social class influences psychological processes across cultures, as well as some initial findings that predict the way cultures shape social class.

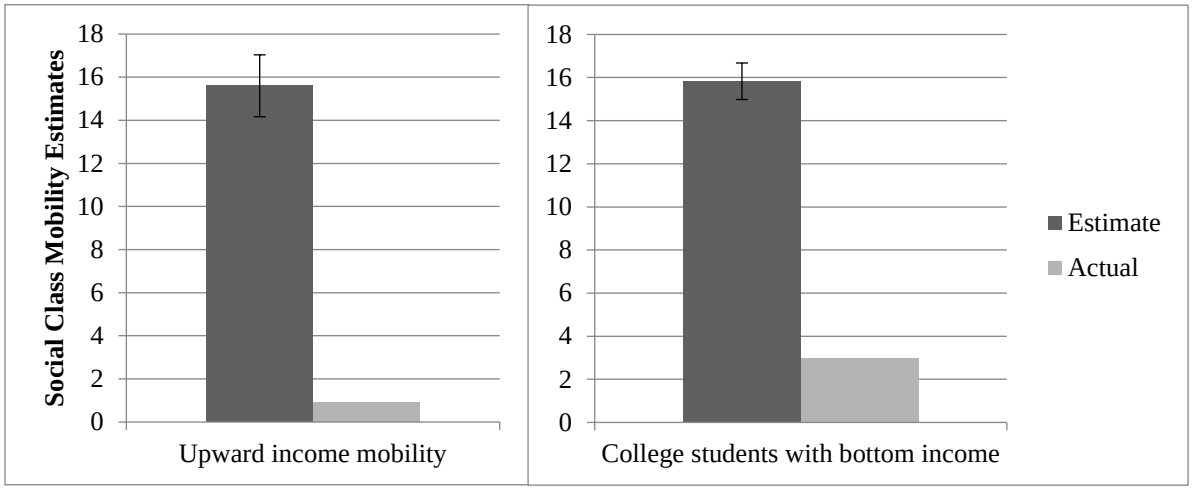
The Economic Conditions of Our Lives: Defining Social Class

Fundamental to any study of social class is a working definition of the construct. Though social scientists have studied social class for centuries, the psychological study of social class lags far behind its sister disciplines—much of the psychology research on social class has occurred during the last decade, and scholars still seek consensus on the definition of the construct (Kraus & Stephens, 2012; Liu et al., 2004). Here, we start with a broad working definition of social class and then we will move to describe the (many) ways in which researchers measure the construct.

Some suggest that social classes are superficial categories with negligible impact on everyday life and that these differences are only trotted out strategically to divide Americans in political discourse (Kingston, 2000). In fact, when American study participants are asked about the extent that social class categories are permeable, tend to widely exaggerating the ease with which people move fluidly up the economic hierarchy (Davidai & Gilovich, 2015; Kraus & Tan, 2015, see Figure 1). In reality, individuals' daily lives are sorted largely in terms of social class: Actual class mobility is low in most countries, and particularly so in the United States (Burkhauser et al., 2011). Consider, for example, that people tend to date and marry (Sweeney &

Cancian, 2004), live in neighborhoods and attend schools (Lareau, 2003), and work with other individuals who share comparable incomes and educational histories (Argyle, 1994).

Figure 1. Estimates of social class mobility, collected from a sample of online participants, as compared to actual mobility statistics from the Current Population Survey. The chart shows that participants significantly overestimate how much people in the bottom 20% of incomes will move to the top 20% (left panel) and attend four-year colleges and universities (right panel). Data are reprinted from Kraus and Tan (2015).



As social class has connections to many societal institutions, defining and measuring the construct with precision is a constant challenge for social and cultural psychologists. On one hand, some contemporary definitions of social class are concerned primarily with the level of economic resources that individuals possess (Mullainathan & Shafir, 2013). Social class, in resource terms, is the way in which levels of experienced resources change how individuals perceive their social environments and relationships (Kraus, Piff, Rheinschmidt, Mendoza-Denton, & Keltner, 2012). Material accounts of social class tend to measure the construct in terms of the amount of objective resources that individuals possess—including their levels of

income (or debt; Drentea, 2000), occupation status (Oakes & Rossi, 2003), or educational attainment (Snibbe & Markus, 2005). Empirical studies with large, representative samples (N = 10,308) find that these three indices of material resources tend to correlate highly, but not perfectly, suggesting that they are relatively distinct aspects of an individual's social class (r = .42 for income and education; r = .53 for education and occupational grade; r = .58 for income and occupational grade; Singh-Manoux, Adler, & Marmot, 2003).

Researchers have argued recently that accounts of social class that rely exclusively on objective resource disparities are incomplete for two reasons: First, relative standing is an important feature of social hierarchies (Anderson, Kraus, Galinsky, & Keltner, 2012; Norton, 2013) and social class in particular (Kraus, Tan, & Tannenbaum, 2013). That is, a core component of social class is the local comparisons that individuals make about their own class position to that of others (Adler, Epel, Castellazo, & Ickovics, 2000; Callan, Ellard, Shead, & Hodgins, 2008). Specifically, individuals experience their social class position within their small social groups, local community, and society at large by comparing their own material resources to that of others (for a review, see Kraus et al., 2013). This ranking process is facilitated by the accurate signaling of social class to others during brief social interactions (Kraus & Keltner, 2009), and by the tendency for individuals to share accurate information about the self in order to facilitate interactions (e.g., Ambady & Rosenthal, 1992). Thus, in addition to levels of material resources, the experience of social class involves the assessment of one's position in the class hierarchy relative to others.

Local rank comparisons are a fundamental process in mammalian social life. In nonhuman primates, local position is well defined in display behavior, is negotiated in status contests, and has important interpersonal outcomes (de Waal, 1986). For example, even in stable

hierarchies of non-human species, low ranking individuals tend to show higher chronic levels of glucocorticoids, a hormone released in response to increasing metabolic demands (Sapolsky et al., 2000; 2004). In contrast, high-ranking non-humans typically experience greater social affiliation from others (e.g., Watts, 2000), along with increases in reproductive opportunities (Abbott, 1984; Wickings & Dixon, 1992).

Local position in the hierarchy is crucial for shaping life outcomes in the human social class hierarchy: Local differences in income influence happiness and well-being, with those high in income relative to their neighbors experiencing heightened well-being than their lower ranking counterparts (Boyce, Brown, & Moore, 2010; Boyce et al., 2015). When examining perceptions of local social class position a similar pattern emerges: Awareness of one's high-status position is associated with higher levels of self-rated and physiological health relative to those perceiving themselves at the bottom of the class hierarchy, and these associations persist even after accounting for objective resource measures of social class (Adler et al., 2000; Cohen et al., 2008).

Researchers have a number of tools at their disposal for measuring how individuals perceive their social class rank. The most widely-used index of perceived social class is the MacArthur scale of subjective socioeconomic status (SES). In this measure, participants place themselves on a ladder with 10 rungs representing society (Adler et al., 2000). The highest rung of the ladder refers to people at the top of the social class hierarchy—those with the most income, education, and most prestigious jobs. The bottom rung of the ladder refers to the bottom of the social class hierarchy—those with the least income, education, and the lowest prestige jobs or no job. Subjective SES can be assessed in terms of one's social class rank within society as a whole, or one's local community (Adler et al., 2000; Goodman et al., 2001). Other measures of

social class rank include self-reports of social class categories (e.g., upper middle class, lower class; Bernstein, 1971; Mahalingam, 2003), the objective comparison of one's own material resources to that of others in one's local community (Boyce, Brown, & Moore, 2010), direct comparisons to a real or imagined interaction partners (e.g., Kraus, Horberg, Goetz, & Keltner, 2011), or assessments of feelings of relative abundance or deprivation compared to local others (e.g., Callan et al., 2008).

Second, an exclusively resource-focused account of social class fails to highlight the ways in which social class leads to shared social contexts and group identities held by individuals. Specifically, low social class mobility creates social settings where individuals who share similar levels of objective resources can cultivate shared norms, values, and expectations for how to be a person (Kohn, 1969; Shweder, 1991). These shared cultural realities create specific repertoires of values and behavioral scripts that are a product of a person's social class (Bourdieu, 1979; Grossmann & Varnum, 2010; Kohn, 1969; Markus & Kitayama, 2003; Stephens, Markus, & Fryberg, 2012). For example, individuals from different class backgrounds are guided by different manners and rules of etiquette (Elias, 1978), honor different customs and habits (Bourdieu, 1979; 1985), express different aesthetic preferences for art and music (Snibbe & Markus, 2005), use language in different ways (Bernstein, 1971), employ different parenting strategies (Kusserow, 2004; Lareau, 2003; Pearlin & Kohn, 1966), and eat different foods (Monsivais & Drewnowski, 2009).

Researchers who take a cultural perspective to social class seek to understand how social class cultural norms can lead to mismatches between a person's particular definition of their social self (e.g., as a hard-working, collectively oriented, person looking to fit in) and the surrounding social context (i.e., individuals are expected to be independently oriented and to

stand out from others; Stephens, Markus, & Fryberg, 2012). In this work, educational attainment is often used a measure of social class—given that level of education provides access to many social institutions and settings that expose individuals to different cultural contexts (Kraus & Stephens, 2012).

In this definition of social class we are left with an understanding of the construct as defined by one's (1) level of available material resources, (2) subjective perception of position in the resource hierarchy relative to comparison others, and (3) the cultural norms and values individuals from a similar background share with one another. This definition makes specific suggestions for measurement of the construct—using both subjective and objective material indicators of social class—and for theoretical predictions about the ways in which social class influences basic psychology. To this latter point, we focus much of the chapter. Before we discuss theory, it is important to define social class independent of other social identity and hierarchical variables.

Class, Power, Gender, and Race: Empirical Distinctions

Social class is one source of social rank that individuals experience in their daily lives, and in some cases it converges with other rank-related constructs studied in social psychology, such as power, status, race, and gender. For example, elevated social class provides an individual with opportunities for increased power—defined as control and influence over others' rewards and punishments (Domhoff, 1998; Keltner, Gruenfeld, & Anderson, 2003) and status—defined as elevated prestige and respect in the eyes of others (Anderson, John, Keltner, & Kring, 2001). Social class also, not surprisingly, has some parallels with the social categories of gender and race, categories that shape one's resources and rank in society, as well as how others perceive one's social standing (e.g., Steele & Aronson, 1995).

Social class is likely to have similar interpersonal effects on psychological processes such as social power, because both power and social class lead individuals to experience elevated levels of personal control and autonomy in their everyday lives (Kraus & Mendes, 2014; Kraus, Piff, & Keltner, 2009; Lachman & Weaver, 1998). Aside from this similarity though, social class and power differ in terms of their specificity to a given relationship. For instance, a gas station manager may have very little power during the work day, but after work, he or she may have a great deal of control or influence over relationships at home. Perceptions of one's social class standing may vary from situation to situation (e.g., Johnson et al., 2011), but in general, given that class rank is the experience of one's position in society at large, the experiences associated with social class are relatively stable. Thus, unlike power, which ebbs and flows from situation to situation, social class is likely to have broader and situationally consistent influences on how individuals view society, politics, and social institutions (e.g., Kraus & Tan, 2015).

Social class also varies with sociometric status, or the respect individuals have within their face-to-face social groups (Anderson & Kilduff, 2009). Those of high social class may achieve elevated respect and admiration in their face-to-face groups more than their lower-class counterparts (Anderson et al., 2012; Kraus et al., 2012). Nevertheless, important empirical distinctions arise between these two rank-related constructs as well. For example, being wealthy or well-educated does not guarantee one's respect or admiration—wealthy individuals are often viewed as low in interpersonal warmth across a number of person-perception studies (e.g., Fiske, Cuddy, Glick, & Xu, 2002).

As well, unlike both power and status, social class has the characteristics of a group membership variable. People identify with a particular social class (Hout, 2008), and tend to share environments and relationships with those from a similar background. Thus, whereas

power and status involve individual positions within a hierarchy, social class links a person to a group of other individuals that share a similar standing in society (Kraus & Stephens, 2012) and should exert influences on group relations and inter-group interactions that are similar to that of cross-race and cross-gender exchanges (Cote, Kraus, Piff, Bermann, & Keltner, 2015).

Despite these group similarities, it would be overly simplistic to suggest that social class works the same on basic psychology as do race and gender. For example, social class distinctions are less institutionalized in American society. While the U.S. census categorizes individuals based on race and gender, it does not categorize people according to distinct social class categories (Dimaggio, 2011; Hout, 2008). Also unlike ethnicity and gender—social categories with relatively clear physical signals (e.g., Knowles & Peng, 2005)—people do not readily showcase their bank statements, degrees, or occupational titles. Though some studies suggest that behaviors and cultural aesthetics signal social class (Bourdieu, 1979), these signals tend to be far less diagnostic than those of race and gender. For instance, in studies of class signaling, correlations between observer estimates of social class and participant social class are far lower (*rs* = .20 to .30) than what is typically expected for judgments of race and gender using similar stimuli (Kraus & Keltner, 2009).

It is also possible for social class to change over time, with continued experiences in a different social class context. For example, it is possible (though unlikely based on large surveys of economic mobility) for a person born into a working-class family to, with increasing educational attainment, income, and occupation status, to become more used to an environment of high resources and elevated position relative to others (Burkhauser et al., 2007). In contrast, a person's racial or gender identity is likely—with few exceptions—to remain stable throughout

their lives. All told, social class appears to be distinct from other social categories that rank people in society relative to others.

Having outlined our working definition of social class and differentiating the construct from other social categories and states that rank people in society, we now turn to the dominant theoretical traditions in the study of social class. We review each of these traditions in the section that follows as well as highlight important implications and future directions suggested by each theory.

Empirical Traditions in the Study of Social Class

Four primary traditions seem to most clearly and completely describe recent research trends in the study of social class. Here, we describe each of these four perspectives—social cognition, cultures and selves, scarcity, and life-history strategies—and the future empirical directions suggested uniquely by a study of social class following from each perspective. See Table 1 for a summary of key methodological considerations and theoretical predictions for each perspective.

Table 1. Current theoretical traditions in the study of social class, their unique measurement strategies, and theoretical predictions for relatively lower-class individuals.

Theory	**Definition**	**Measure(s) of social class**	**Theoretical predictions for lower-class individuals**
Social Cognition	Resource- and rank- disparities create contexts that elicit persistent patterns in social perception and relationship strategies.	Material resources Perceived rank in society	↑ Threat vigilance ↓ Personal control ↓ Dispositional explanation
Culture	Socialization in non-overlapping social class environments creates norms, values, and expectations for how to be a person.	Neighborhood conditions Education attained	↑ Interdependent self ↓ Uniqueness

Scarcity	Having lower amounts of valued resource at any time point reduces rational economic decisions and executive functioning.	Current/past economic conditions	↓ Executive functioning ↓ Future focus
Life-History	Early-life resource scarcity creates strategies to help individuals best navigate life challenges and pass on their genes.	Early-life economic conditions	↑ Early reproductive strategies ↓ Health and longevity

A Social-Cognitive Theory of Social Class

In this theoretical perspective on social class, features of the social class environment—primarily an individual's level of material resources or their perceived position relative to others—elicits a persistent pattern of thought, feeling, and behavior in individuals. This perspective has roots in decades-old research finding that job complexity influenced people's style of social perception and degree of self-direction (Kohn & Schooler, 1973). In general, the social cognition perspective argues that exposure to high levels of resources or perceived rank—because these conditions are protective from threats and create individual opportunities—elicits a greater internal focus on one's own goals, rewards, and outcomes. In contrast, environments of scarce resources and subordinate position expose people to fewer opportunities and greater threats, and as such, elicit an external focus on environmental forces that interfere with or facilitate the attainment of one's own goals and rewards (Kraus et al., 2012).

Researchers studying social class through the social-cognitive perspective observe that social class contexts elicit these patterns of psychology across a number of domains including how people see the self, how they perceive the environment, and how they relate to others. The social cognitive perspective defines social class on a continuum, with rising resources and rank comes increases in internal focus—the social cognitive pattern associated with upper-class

individuals. Importantly, social-cognitive patterns can emerge based both on the chronic exposure to environments of high (or low) resources and perceived rank, or through temporary exposure to these features of the social environment—such as being asked to think about members of one's University that are higher than the self in social class during an experiment (Johnson, Richeson, & Finkel, 2010). This feature of the social cognition perspective is perhaps what makes it unique from the cultural perspective—the experience of social class can be temporarily induced in a laboratory interaction through manipulating the features of the social environment related to relative economic resources (e.g., Brown-Iannuzzi, Lundberg, Payne, & Kay, 2015; Callan et al., 2008) or perceived position in the class hierarchy (Emery & Le, 2014; Kraus & Mendes, 2014; Johnson et al., 2011).

The social-cognitive perspective suggests two ways in which social class shapes basic patterns of perceiving the social world and relating to others. In terms of social perception, the resource scarcity and lower perceived position of lower-class individuals lead to perceptions of the self as beset by more external environmental threats and fewer means of personal control to influence those threats. In contrast, individuals with higher levels of material resources and superior positions in society experience reduced exposure to threats and have more of the necessary personal control and agency to combat these threats effectively and achieve desired goals and outcomes (Kraus et al., 2012).

Several studies highlight the existence of these reliable patterns of social perception: A meta-analysis reveals that relatively lower-class individuals report feeling more hostility toward others—defined as negative attitudes and beliefs about others—relative to their upper-class counterparts (Gallo & Matthews, 2003). More recent evidence extends these threat perceptions to physiology—with lower-class children exhibiting heightened sympathetic nervous system

arousal relative to upper-class children, while viewing an ambiguous video showing a child of similar age being asked to stay after class (Chen & Matthews, 2003). As well, research on stereotype threat finds that relatively lower social class students perform more poorly on academic tests, relative to upper-class individuals, but only if those tests are framed as diagnostic of ability and, therefore, threatening in their potential to reinforce negative group stereotypes. By contrast, individuals of all class backgrounds perform equally well when tests are framed in non-threatening, non-diagnostic terms (Croziet & Clare, 1998; c.f., Spencer & Castano, 2007). In general, while lower-class individuals see their lives as more constrained by environmental threats and by the whims of others, upper-class individuals report experiencing higher levels of personal control and agency in their everyday lives (Johnson & Kruger, 2005; 2006; Kraus et al., 2009), and show greater preference for cultural practices that highlight personal choice and agency (Snibbe & Markus, 2005).

These enhanced beliefs in personal control and agency may elicit broad patterns of dispositional explanation among upper-class individuals. That is, believing in one's own agency elicits corresponding assertions that others experience the world in similarly agentic ways. In contrast, relatively lower-class individuals attend to the external environment and the potential threats and opportunities arising there, and as such, might be more likely to favor the social context when explaining the behavior of themselves and others (Kraus et al., 2012). Several studies reveal this pattern of responses: Relatively upper-class individuals explain economic inequality more in terms of internal dispositions related to hard work, money management skill, and talent in comparison to lower-class individuals who favored the social context in their explanations (e.g., educational opportunities, political policy; Kluegel & Smith, 1986; Kraus et al., 2009). Furthermore, the tendency for upper-class individuals to favor dispositional and

relatively lower-class individuals to favor contextual explanations has been observed in emotion explanations (Kraus et al., 2009), explanations of personal life events of the self and others (Grossman & Varnum, 2010), and in explanations of the genetic or social determinants of group membership (Kraus & Keltner, 2013; Mahalingam, 1998).

Applying these observations to the interpersonal realm, the social-cognitive perspective also makes specific predictions about relationship strategies: Awareness of external threats means that relatively lower-class individuals are likely to be more perceptive of and attentive to their social relations, more reliant on these relations for achieving desired outcomes, and more attentive to the hardships that others might experience. In contrast, relatively upper-class individuals are likely to seek relationships characterized by independence and freedom of expression, and are likely to be less aware of others' experiences, thereby reducing reliance on interpersonal interactions (see Stephens, Townsend, & Markus, 2007; Piff, Kraus, Cote, Cheng, & Keltner, 2010).

If social class shapes the ways that individuals attend to and rely upon others, one hypothesis asserts that lower-class individuals should exhibit higher rates of pro-social behavior relative to their upper-class counterparts. Data converges with this expectation: For example, lower income individuals give a higher proportion of their income to charity relative to their high income counterparts (Independent Sector, 2002; Internal Revenue Service 2007-2010; Current Population Survey, 2009). Although these patterns could be the result of unaccounted for third variables related to religious tithing or donation reporting, laboratory studies find a similar pattern: Specifically, lower-class individuals give slightly more ($\beta = -.22$) of their allotted 10 points to an anonymous partner in a dictator game than did higher-class participants, even after controlling for ethnic background, religiosity, and age (Piff et al., 2010).

These tendencies of heightened pro-social behavior may also be related to the heightened capacity of relatively lower-class individuals to attend to and show concern for the suffering of others. For instance, high school educated university employees scored higher on a measure of empathic accuracy—the ability to accurately read the emotions expressed by others—relative to their college educated counterparts (Kraus, Cote, & Keltner, 2010). As well, when viewing a video showing children contending with treatment for cancer, relatively lower-class individuals self-reported greater concern for the suffering child and reduced heart rate (indicative of social orientation responses to others' suffering) relative to their upper-class counterparts (Stellar et al., 2012).

Social Class as Culture

In many ways the cultural perspective on social class advances and clarifies the process by which social class impacts basic social cognition. Specifically, though both perspectives emphasize the experience of levels of resources and perceived rank in society, the cultural perspective in particular suggests that these economic conditions create socialization processes that lead to the persistent adoption of class-specific cultural practices that individuals engage in persistently across their lives—which we and others define as norms, values, expectations, and models for how to be a person (Bourdieu, 1979; Fiske & Markus, 2012; Markus & Kitayama, 2003). The social-class-as-culture perspective arises from the expectation that people from different class backgrounds grow up in vastly different and non-overlapping social environments with unique cultural practices and expectations that broadly shape who they are and how they behave (Kusserow, 2003; Snibbe & Markus, 2005; Stephens, Markus, & Fryberg, 2012; Weininger & Lareau, 2009). Given the importance of unique social environments for the socialization of class-specific cultural practices, researchers who study social class as culture

typically rely on measures of social class that best estimate the way in which social class environments are separated—that is, by levels of educational attainment (Kraus & Stephens, 2012; Stephens et al., 2012) or neighborhood wealth given that individuals live in neighborhoods sorted in terms of social class (Haidt, Koller, & Dias, 1993; Sweeney & Cancian, 2004). As well, because cultural environments require years of socialization and accumulated cultural knowledge, temporary and laboratory-induced manipulations of perceptions of social class are relied on less in this theoretical perspective.

A cultural approach to social class suggests that distinct cultural environments of relatively lower- and upper-class individuals engender different models of the social self. For relatively lower-class individuals—referred to as "working class" in the cultural approach—the self is defined as fundamentally connected with others. Thus, when working class individuals respond to their social environments, they do so while considering not only their own wishes and motives but also those of important others (e.g., friends, family members). In contrast, relatively upper-class individuals—referred to as "middle class"—tend to define the self as separate from others. Thus, when middle class individuals respond to their social environments, they do so by standing out and being unique (Stephens et al., 2012).

Several lines of evidence align with this theoretical perspective. Sociological research on early childhood environments supports the assertion that working and middle class contexts socialize children using distinct models of the self. For example, working class environments foster a "hard individualism" that stresses how important it is for children to follow the rules and maintain strong social bonds whereas middle class environments foster a "softer individualism" that allows individuals to explore their unique traits and abilities (Kusserow, 2003; Lareau, 2003). Structured interviews of working and middle class parents suggests that middle class

parents are more likely to encourage their children to speak up, stand out, and have an opinion in school relative to their working class counterparts (Weininger & Lareau, 2008). Other research indicates that middle class individuals are more likely to establish friends willingly and align themselves with social groups of their own choosing based on personal preferences or interests (Reay et al., 2001), are encouraged, even at a young age, to choose their own foods, books, and recreational activities (Miller, Cho, & Bracey, 2005), and are more likely to have extended social networks (Bowman, Kitayama, Nisbett, 2009) relative to their working class counterparts.

Research on choice nicely demonstrates the ways in which social class shapes cultural definitions of the self. When making choices, working class individuals tend to feel more positively making the same choice as a friend, whereas middle class individuals tend to feel that a friend is copying their choices (Stephens et al., 2012). In one study, middle class participants tended to show the spreading of alternatives effect—by valuing chosen over equally valuable items—whereas choices did not influence working class individuals' valuations (Snibbe & Markus, 2005). In another study, Stephens, Markus, and Townsend (2007) approached college students and asked them to choose their preference of available pens, ostensibly for a marketing study. Students were presented with five options, four of which were identical pens, and one of which was unique. Students from working class backgrounds were more likely to choose one of the four related pens, whereas those from middle class backgrounds were more likely to choose the unique pen. Together these studies provide evidence suggesting that individuals from middle class backgrounds are more likely to use unique choices as expressions of their own unique self-concept.

A cultural perspective on social class also asserts that distinct environments and unique cultural models of the self should, over time and with some amount of social experience (though

the precise amount is of some debate, cf., Dobbins, Schnyer, Verfaelie, & Schacter, 2004), engender distinct neuroanatomical and functional aspects of the brain (Han et al., 2013). Thus, any cultural differences between middle and working class individuals should be recognized in patterns of brain activity—and a growing body of research supports this assertion. For instance, when participants learned face and trait pairings and were subsequently presented an antonym, or a synonym, to the learned pairing, middle class, but not working class, individuals showed a heightened N400 response. Given that the N400 is used as an assessment of expectancy violation, these results indicate that the tendency for middle class participants to make spontaneous dispositional inferences based on the learned trait associations was higher than it was for working class participants—and measureable at the neuronal level (Varnum, Na, Murata, & Kitayama, 2011). We return to the burgeoning neuroscience of social class later in this chapter when considering future directions.

Social Class and Resource Scarcity

An emerging theoretical perspective in the study of social class is the idea that resource scarcities—such as low levels of income or material wealth—create consistent styles of social processing errors in individuals (Mullainathan & Shafir, 2014). The theory rests on the basic assumption that all human beings exhibit persistent deviations from rational economic forms of social cognition, and that under conditions of scarce resources, these deviations become predictable: Specifically, when individuals are faced with scarce resources (1) they make economic decisions that are driven more by present concerns and needs than by future ones, and (2) their efforts to plan, organize, and manage their behavior are disrupted (Mullainathan & Shafir, 2014). In essence, as resources become scarce, people cannot afford to pay attention to

future concerns or plan for future behavior because present concerns and threats loom sufficiently large (Mani, Mullainathan, Shafir, Zhao, 2013; Shah, Mullainathan, & Shafir, 2012).

In a series of studies, Shah, Mullainathan, and Shafir (2012) tested this proposition directly by manipulating scarcity within a laboratory environment. For example, participants played a game where they had a limited amount of time to respond to questions, or played one in which they had to shoot a projectile into a target. The experimenters manipulated scarcity by varying either the amount of time participants had to respond to each question or the number of shots they had, respectively. When not under conditions of scarcity, participants planned their game responses with the future in mind—for instance, by not using their turns allotted for future rounds in the game earlier, when given this opportunity. In contrast, those under scarcity were much more likely to withdraw turns from their future allotment to deal with current game demands (Shah et al, 2012).

In similar work, Mani, Mullainathan, Shafir and Zhao (2013) presented shoppers at a New Jersey mall with vignettes designed to evoke financial concerns, which were either trivial or substantial. For example, they were told that they would have to spend either $150 or $1500 on an emergency car repair. Following the experimental manipulation, participants filled out measures of cognitive performance (designed to measure problem-solving ability) and cognitive control (designed to measure the extent to which people can suppress automatic actions in favor of intentional ones). While scores for lower-class and upper-class participants were relatively similar in the trivial financial concern condition, higher-class participants outperformed lower-class participants in the substantial economic concern condition. Thus, the lower-income participants were not, in general, less cognitively apt than their upper-income counterparts, but

exhibited more errors when they were preoccupied with weighty financial concerns (Mani et al., 2013).

Natural fluctuations in resource scarcity reveal a similar pattern: Mani et al (2013) administered cognitive performance tasks to a sample of Indian farmers both immediately before the harvest (i.e., when scarcity was high) and after the harvest season (i.e., when resources were at their annual height). As predicted by the scarcity model, participants scored higher on cognitive tasks after the harvest than they did before the harvest. Importantly, this effect held no matter what time of year the participants reaped their harvest, as harvest cycles (and, by proxy, pretest and posttest timing) were staggered across participants (Mani et al, 2013).

While the more contemporary version of scarcity theory focuses on experimental designs that fluctuate current economic conditions, research in neuroscience finds a similar pattern when examining the conditions of economic development: Specifically, those with lower economic resources tend to show greater deficits in cognitive performance than their higher resources counterparts, particularly in the realm of executive functioning (Hackman & Farah, 2009; Lawson & Farah, 2015). Moreover these deficits in executive functioning emerge early on in cognitive development (i.e., in the pre-teenage years; Kishiyama et al., 2009). Together, these findings highlight the important role that social class plays in shaping the cognitive functioning of individuals.

Social Class and Life-History Strategies

While the prior theories suggest that both one's current and past economic conditions influence the psychological experience of social class, the life-history strategies perspective suggests that early-life represents a critical period for developing consistent patterns of social

responses—and it is particularly this time period where social class exerts the most influence on contemporary psychology (Griskevicius, Delton, Robertson, & Tybur, 2010). According to life-history strategies theory, early-life environments are likely to influence the strategies that individuals use to navigate their social surroundings across the life course (Belsky, 1997; Kenrick & Luce, 2003). A life-history strategies perspective on social class is meant to answer a fundamental biological question: How can an organism best allocate its relatively scarce or abundant resources to increase its chances of survival and reproduction? The relative urgency surrounding one's reproductive agenda can be thought of on a "fast" to "slow" continuum. Those on a slower course will emphasize a slower pace of reproduction, typically allocating more resources towards a fewer number of offspring. Those on a faster course will emphasize a faster pace of reproduction, typically allocating resources towards the production of a higher quantity of offspring (Belsky, 1997; Ellis et al., 2009).

Despite its broad origins in animal behavior, evolutionary biology, and ecology, a life-history strategies perspective also provides important insight into the study of social class. Specifically, resource availability might influence the particular strategy one adopts to combat their environment. That is, if resources are abundant, then long-term life investments are more justifiable and could be a more normatively employed tool in an individual's survival repertoire—taking greater care and planning in mate selection would ensure the selection of the most desirable mates who would provide the most optimal conditions for reproduction and survival. In contrast, if resources are scarce, then engaging in extra planning is less optimal, because scarcity suggests that too much plan might lead the individual to miss out on finite mating opportunities—do to death or other harm caused by resource scarcity. In this circumstance, more short-term mating strategies are likely to be the most optimal (Griskevicius,

Delton, Robertson, & Tybur, 2010). These strategies, the researchers contend, are likely to be elicited when individuals are reminded of environmental threats (Griskevicius et al., 2010).

Thus, a life-history strategies perspective suggests that individuals from lower childhood social class backgrounds will be more likely to focus on behaviors that favor present circumstances (e.g., having children early, taking immediate rewards) and discount the future, especially when reminded of environmental threats. Griskevicius and colleagues (2010) tested this hypothesis by increasing the perceived local mortality (environmental harshness) of participants' environments across several studies. Participants in this study read an article about the many potential life-threatening dangers associated with living in the 21st century, or a control article that was without any hints of personal mortality. Repeating this design across several studies, they found that in the mortality prime condition, participants with higher childhood social class environments reported more negative attitudes about having children soon than did lower-class participants. Similarly, when primed with mortality lower childhood social class individuals reported a desire to have children sooner (6.7 years), whereas higher childhood social class participants reported wanting to delay having children further (9.3 years; Griskevicious et al., 2010; cf., Griskevicius, Tybur, Delton, & Roberts, 2011).

Together, these experiments suggest that lower childhood social class environments elicit patterns of behavior that prioritize current circumstances over future outcomes. Importantly, across the studies, childhood social class environments predicted the kinds of life-history strategies participants followed, whereas current circumstances did not (Griskevicious et al., 2010; 2011). The relative predictive power of childhood over current social class suggests that these life-history strategies are put in place by early life conditions, and systematically alter the life course of individuals across time.

One implication of life-history strategies research is that early life social class environments might set people on health and well-being trajectories that influence their morbidity and mortality. Meta-analyses reveal that people with lower social class backgrounds tend to have higher rates of all-cause mortality in the United States (Adler et al., 1994) and the United Kingdom (Marmot & Shipley, 1996), and suggest a significant contribution of early-life social class environments. Several recent studies in health and epidemiology anticipate this pattern: In one of the first longitudinal studies testing this phenomenon, Chen, Cohen, and Miller (2010) brought children, ages 9 to 18, into the lab and measured their childhood social class and levels of salivary glucocorticoids (cortisol)—a stress hormone that indexes responses to threats that individuals contend with in their social environments (Kemeny & Dickerson, 2004)—over the course of two years in six month increments. Lower social class children showed larger increases in daily cortisol across time compared to those from higher social class environments. This longitudinal investigation shows the influence of early life social class on health outcomes two years downstream.

In a similar study, Miller and Chen (2010) suggest that the effects of early-life stressors persist until adulthood. Young adult women (ages 15-19) were identified as either growing up in non-harsh or harsh environments using questions like “How often did a parent or other adult in the household swear at you, insult you, put you down, or act in a way that made you feel threatened?” Participants were brought into the lab in another longitudinal study over four occasions, and measured for episodic stressors that had occurred over the past six months. Then, these contemporary stressors were compared to levels of inflammation assessed through tissue swabs. The young women coming from relatively harsh backgrounds showed higher rates of inflammation than those from less harsh environments (Miller & Chen, 2010). The results

indicate that those from harsher early-life backgrounds tend to experience a chronically exaggerated inflammatory response—which over time, can reduce the immune system's effectiveness in fighting disease or illness.

One recent advance in health psychology suggests a compelling mechanism for why early-life environments might be important for eliciting later life health outcomes. The research indicates a critical period in early life where genes related to inflammatory responses become more or less likely to be expressed (Cole, 2012). Theoretical accounts of epigenetics suggest that early life environments set up genes to express phenotypes that are best adapted to deal with these acute harsh circumstances (e.g., elicit a larger inflammatory response in individuals who experience early life physical trauma; Roberts & Jackson, 2008). If experienced over critical periods in development, such epigenetic changes in the expression of genes have the potential to "lock in" this particular phenotype across the life-course. Such epigenetic changes can lead early life environments to exert a larger influence on health trajectories—in that these early environments program the body to express certain health profiles or suppress others. Tests of the epigenetic hypotheses related to social class are relatively rare, but initial evidence is suggestive: In one study demonstrating this phenomenon, Chen and Miller (2012) found that lower early-life social class individuals had higher epigenetic indicators for genes related to pro-inflammatory processes (e.g., natural killer cells, interluken-6) than their higher early-life social class counterparts. This work represents a promising advance for understanding the precise mechanisms that allow early-life social class to predict later life health and behavior.

Social Class Theories: An Integration

Each of the four theoretical perspectives we have reviewed thus far offer important insights into conceptualizing and studying social class from a psychological perspective. As

research in cultural psychology matures, integrating these perspectives becomes an important undertaking. In this section, we attempt to integrate the social cognition, culture, scarcity, and life-histories perspectives in terms of their behavioral implications, cognitive functioning, and implications for health and well-being.

Social Interdependence as a Class-Based Behavioral and Survival Strategy

Research on social class seems to converge on the notion that relatively lower-class individuals are more interdependent with their social environments and those in their immediate social context (Kraus et al., 2012), but theories diverge about the origins of these differences in behavior: For the social cognition perspective, environments of scarce resources and subordinate rank create greater social interdependence out of necessity—people of lower social class turn to others in order to find a way to work through harsher and more threatening social environments, and this response pattern need not, though it could, require socialization processes. This is similar to the logic of the life-history strategies perspective, although in that perspective early life social class environments set in stone a pattern of relationship seeking specifically for early reproduction purposes (Griskevicius et al., 2010). In contrast, the cultural psychology perspective clarifies the process of eliciting greater social interdependence among lower-class individuals—by learning models for how to be a person that are passed on by parents and other adults (Stephens et al., 2012).

That three (social cognition, cultural, and life-history) of our four reviewed social class theories converge on these behavioral patterns is indicative of remarkable convergence in research on social class, and suggests some avenues for future inquiry. For instance, greater reliance on interdependence and social connection with others might mean that relatively lower-class individuals will prefer and excel in environments in which such norms of interdependence

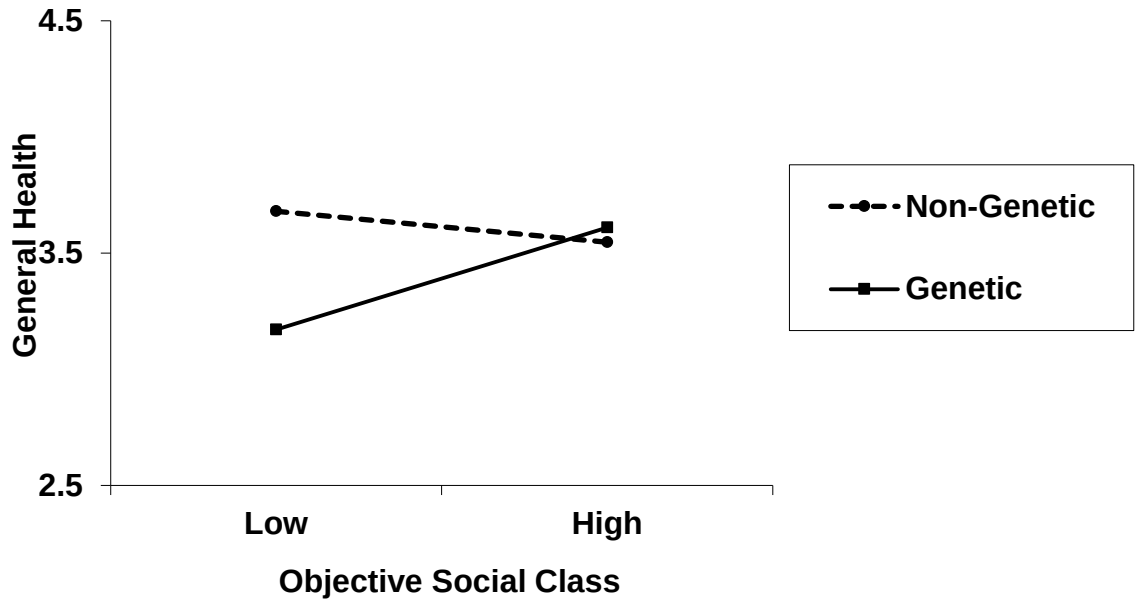
and social connection are shared, valued, and expressed. Recently, researchers applied this insight to investigate the impact of an inclusive college environment on the academic outcomes of first generation college students. The researchers recruited a sample of first year, first-generation students and exposed half to a panel of senior students that discussed the unique challenges that first-generation students experience based on their social interdependence at the University. These students were then followed for their entire first year at the University, and their GPAs were measured throughout. First-generation college students performed worse on academic measures than continuing generation students (i.e., students whose parents went to a four- year University as well), except when they were exposed to senior students discussing the challenges of being interdependent at a University (Stephens, Hamedani, & Destin, 2014).

Lower-class individuals face health and mortality deficits relative to their upper-class counterparts (Adler et al., 1994), but recent research suggests that beliefs that your outcomes are collaborative—that is, influenced by one's relationships with others—may improve the health and well-being of lower-class individuals, and reduce this health gradient. In essence, beliefs that social groups and individuals are characterized by heightened social connection, or formed based on external environmental influences might enhance the well-being of lower-class individuals, since these perceptions are consistent with the way in which lower-class individuals have experience solving problems. In contrast, individuals from upper-class backgrounds might prefer to contend with social threats that lie under individual control and influence.

There is preliminary support for this prediction: For instance, in a series of studies examining well-being among samples of friends and romantic partners, relatively lower-class individuals, assessed in terms of subjective and objective indicators of social class, felt higher rates of subjective well-being when they belong to highly committed close relationships. In

contrast, relatively upper-class individuals' relationship commitment did not predict the subjective well-being of these individuals in friendships or close relationships (Tan, Kraus, Oveis, Impett, & Keltner, 2015). In other research, perceptions of social groups as socially constructed—specifically, exposure to information suggesting that position in society is caused by external environmental forces rather than by genes—predicted elevated self-rated health for relatively lower-class individuals, but not upper-class individuals (Tan & Kraus, 2015, see Figure 2).

Figure 2. The relationship between social class and self-rated health "My health is generally good," as a function of exposure to a science article suggesting that a person's position in society is genetically based (Genetic) or not genetic (Non-Genetic). Data is reprinted from Tan & Kraus, (2015).

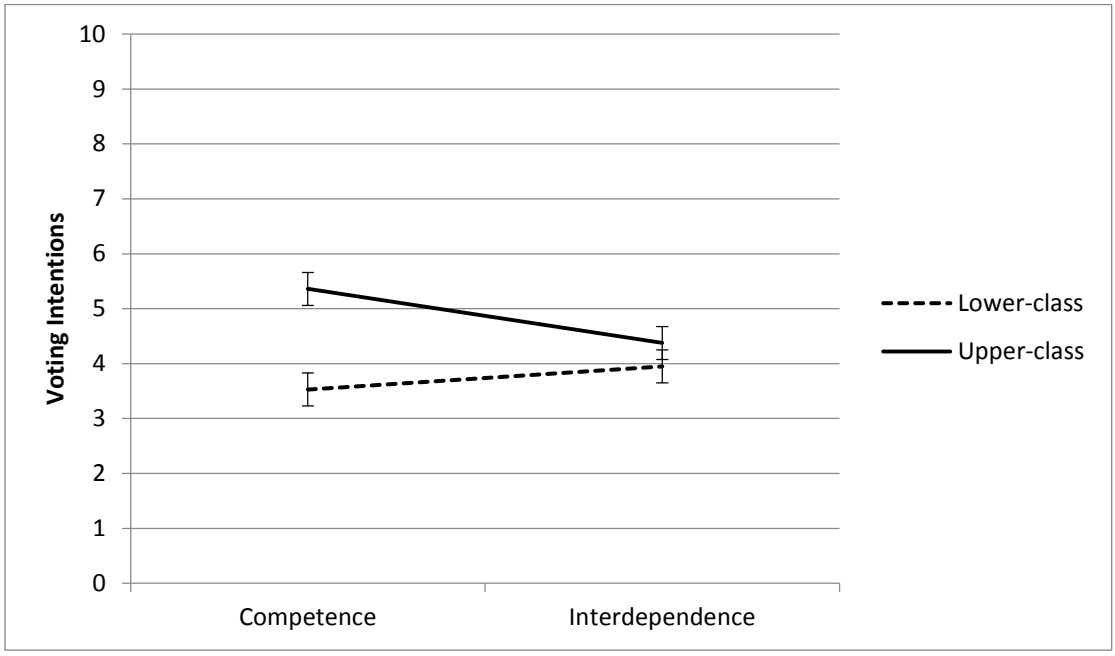


A focus on social interdependence might also influence the decision-making strategies of individuals from relatively lower-class environments. Specifically, persuasive messages that focus on the ways in which social connection and interdependence are valued, promoted, or fostered by a particular product or individual, may influence the decisions of relatively lower-class individuals—who favor these social values—more than their upper-class counterparts. Recent examination of this potential phenomenon has focused on politics. In some initial research, university students were told about the importance of voting in university elections—where average participation rates are roughly 12% for the entire student body.

These messages were either framed based on competence (i.e., voting ensures a more effective student government) or interdependence (i.e., voting ensures a warmer student government that connects with its constituents and shares its concerns). Afterwards, participants reported their intentions to vote in an upcoming student election. In the study, students from lower subjective social class backgrounds intended to vote less, a finding consistent with general election trends in the United States (Krosnick, 1991). However, the message also mattered: University students from relatively lower-class backgrounds indicated a lower likelihood of voting in upcoming student elections following the competence framing, but indicated intentions similar to relatively upper-class students following interdependence framing (see Figure 3, Callaghan, Tan, & Kraus, 2015).

Figure 3. The relationship between subjective social class and intentions to vote in student elections as a function of competence and interdependence framing at one standard deviation

above and below the mean. Error bars represent standard errors of the mean. Printed using data from Callaghan, Tan, & Kraus, (2015).



Social Class, Cognition, and Neuroscience

Many scholastic aptitude tests, college entrance exams, and job assessments rely on standardized testing that in part indexes general intelligence, and is moderately correlated with indices of social class (Gottfredson, 2004; Stephens et al., 2012). Several theoretical perspectives on the psychology of social class make important suggestions with respect to how to interpret correlations between intelligence assessments and social class. For instance, the cultural perspective indicates that class differences in intelligence assessments include differences in both mental ability and implicit cultural knowledge, the latter of which leads individuals from higher social class environments to score systematically higher—as a result of their shared cultural experiences with creators of the test content—relative to their lower-class counterparts (Stephens et al., 2012).

The life-history strategies perspective suggests that cognitive ability assessments covary with social class based on the content of early life-environments. These early environments may elicit genes that suppress or express cognitive ability in individuals—with these genetic patterns unfolding in differences in mental ability that emerge early in life and maintain throughout development. In particular, evidence from twin studies points towards this possibility: Twins reared from lower social class family environments show lower heritability of intelligence and mental ability than twins reared in higher social class family environments (Turkheimer et al., 2002), and these differences emerge in mental ability in the first few years of development (Tucker-Drob et al., 2012). This finding is consistent with the notion that genes related to cognitive ability and general intelligence are more likely to be expressed in environments of higher social class than those of lower social class—although the precise genes and mechanisms in the environment that elicit these patterns are not precisely known.

In contrast to these perspectives, the scarcity approach suggests that class differences in cognitive ability are also a function of *current* resource circumstances. That is, the same individual would score lower in intelligence or cognitive aptitude on a test when resources were scarce than when resources were abundant. Evidence for this pattern is observed in the aforementioned studies wherein farm workers score worse on mental ability assessments before the harvest, when resources are scarce, relative to after the harvest, when resources are abundant (Shah et al., 2012). Other work finds that *social* resource scarcity might also impede cognitive function. For instance, research on stereotype threat in the realm of social class indicates that the social threat of having the burden of debunking stereotypes about the intelligence of one's social class group impairs cognitive function (Croizet & Clare, 1998; Spencer & Castano, 2007; cf., Johnson, Richeson, & Finkel, 2011).

The field of neuroscience has provided a number of new tools (fMRI, EEG, and ERP) that have the potential to uncover the precise processes and mechanisms for relationships between cognitive ability and social class. Several theories in cultural neuroscience contend that different social contexts lead to different functional neural organization (e.g., Kitayama & Uskul, 2011) and this is certainly true of social class. In the realm of cognitive deficits, review articles conclude persistent deficits in cognitive abilities for lower class individuals relative to upper-class individuals in the realm of executive functioning (Hackman & Farah, 2009; Kishiyama et al., 2009). However, recent insights in neuroscience suggest that some of these differences might be attributed to class-based differences in processing style rather than in cognitive deficiencies. For instance, evidence suggests that lower social class individuals do not spontaneously infer that other individuals have traits, like their higher social class counterparts. Using an ERP paradigm, Varnum and colleagues (2012) examined the tendency to spontaneously infer traits of others through face-trait pairings. In the study trait words (e.g., “warm”) were presented along with a face and then the same face was presented later on with a semantically incongruent word (e.g., “cold”) or a pseudo-word (e.g., “borp). The ERP N400 response was examined for participants exposed to the incongruent versus pseudo-word—with higher N400 amplitude expected for the incongruent word, suggesting that the participant was shocked that the face was paired with an incongruent trait. Despite every participant showing equal levels of memory for the words, only the higher social class participants showed this N400 spontaneous trait inference effect in response to the incongruent words (Varnum, Na, Murata, & Kitayama, 2012). That social perception of traits occurred differentially for lower and upper-class individuals at the neuronal level is evidence for a fundamental difference in the way these individuals attend to and process social information.

Evidence for greater social interdependence among lower-class individuals relative to their upper-class counterparts has also received convergent evidence in the realm of neuroscience. In recent fMRI studies by Muscatell and colleagues (2012), the researchers examined brain activation while viewing social stimuli. In this work, researchers examined differences in mentalizing while viewing pictures of others by examining activation in the dorsal medial prefrontal cortex and the medial prefrontal cortex—regions associated with considering others' mental states. The researchers observed greater activation in these regions while viewing pictures of others for lower, in comparison to higher social class individuals (Muscatell et al., 2012). In a similar vein, a recent ERP study found greater activation in the front-central PS response—a response associated with empathic concern—to images of others in pain among lower-class individuals, relative to upper-class individuals (Varnum, Blais, Hampton, & Brewer, in press).

These initial insights from neuroscience are an encouraging avenue of future research on the cultural psychology of social class. Using neuroscience paradigms might clarify relationships between measures of cognitive functioning and social class by determining where in the cognitive process these differences emerge, and might provide insights into how differences in social perception develop at the neuronal level (e.g., Kitayama & Uskul, 2011). As well, research in neuroscience might uncover insights about the development of neuronal differences brain development and cognitive functioning. That is, are the neurological consequences of social class indelibly set early in life or do current circumstances amplify or attenuate such cognitive effects?

Social Class, Health, and Well-Being

Each theoretical perspective on social class has implications for the ways in which lower social class relates to patterns of health and well-being, and to ways in which negative health

trajectories can be reduced for lower-class individuals. Once again, the theoretical perspectives perhaps differ most in the proposed relative influence of current and past circumstances on health and well-being.

In both the social cognition and scarcity accounts, current lower levels of resources or reduced rank relative to others elicit patterns of social judgment and behavior that theoretically cause stress and reduce well-being (Adler et al., 2000; Adler et al., 1994). The social cognition perspective relates directly to theoretical work on social comparison (Tajfel & Turner, 1979) and economic inequality (Wilkinson & Pickett, 2006), which suggest that the constant comparison of one's subordinate social position relative to others creates competition, dissatisfaction with present circumstances, and belief in a lack of societal fairness (Kraus, Tan, & Tannenbaum, 2013). Over time, these sorts of beliefs elicit feelings of reduced personal control and influence over one's life, and potentially, reduced health and well-being (Johnson & Krueger, 2005; Lachman & Weaver, 1998).

According to the scarcity account, financial decisions conducted under conditions of scarcity have the unintended consequences of mortgaging future needs, such as seemingly far-off or unlikely health emergencies, in the service of solving immediate ones. These short-term strategies can, over time, create a self-perpetuating process that reduces an individual's ability to make sound long-term health decisions, such as investing in adequate health insurance or taking advantage of health-related initiatives (Mullainathan & Shafir, 2013). According to these perspectives, changing one's relative position or the course of one's financial and investment patterns may potentially improve health outcomes.

In contrast, both the culture and life-history strategies accounts of social class suggest that past circumstances set in motion norms, values, expectations, and behavioral strategies that

elicit persistent health disparities across the life course. The precise mechanisms for the influence of past circumstances on health and well-being are manifold and not yet empirically well-supported. The culture account might suggest that learned behaviors, such as eating less nutritious foods, would elicit poor health among lower-class individuals (Darmon & Drenowski, 2008). However, it is difficult to disentangle the learned behavior of eating unhealthy foods from the low availability and prohibitive cost of healthier foods in lower-class neighborhoods (Darmon & Drenowski, 2008). Other work suggests that relatively lower-class individuals face social threats as a result of their cultural backgrounds—expressions of individuals' lower-class identity can lead others to perceive them as unsuited for a particular social context, such as at college or in middle class workplaces. Thus, relatively lower-class individual's expressions of the self are marginalized and devalued in social contexts where they are the minority—thereby eliciting poor long term health (e.g., Markus & Kitayama, 2003; Stephens et al, 2014).

The life-history strategy perspective contends that individuals learn fast living strategies when exposed to harsh early-life environments. These strategies elicit behaviors, such as early sexual activity, lower delay of gratification, and reward-seeking, that expose individuals to greater health risks at earlier ages (Griskevicious et al., 2008). Such strategies may also be supported, as mentioned previously, by gene expression: Harsh early-life environments increase the expression of genes for inflammatory processes—suggesting that early life social class sets a pattern of immune responses that increases morbidity and mortality across one's life (Miller & Chen, 2010).

How behavioral or cultural strategies elicit long term health consequences for lower-class individuals and how these strategies relate to gene expression remain important and understudied aspects of social class research in psychological science. Clearly, however, lower social class is

reliably associated with poor health in the United States (Adler et al., 1994), and even in countries like the United Kingdom, where health care is provided to all citizens (Marmot et al., 1989). Longitudinal research in particular, which may help assess the mechanisms and trajectories of poor health as they relate to social class, might reveal new insights about intervention strategies. The relationships between past and current economic circumstances and health are particularly deserving of additional scrutiny, as the ability to improve health through improving economic conditions offers some clear directions for health intervention strategies—primarily involving the reduction of poverty in societies (Wilkinson & Pickett, 2006).

The Future of Social Class Research

In the final section of this chapter, we will attempt to highlight what we think are four important emerging research directions in the psychological study of social class: ascending the class hierarchy, crossing social class boundaries, reducing economic inequality, and understanding social class across and within cultures. Where relevant, we have also outlined preliminary attempts to empirically study these phenomena.

Ascending the Class Hierarchy

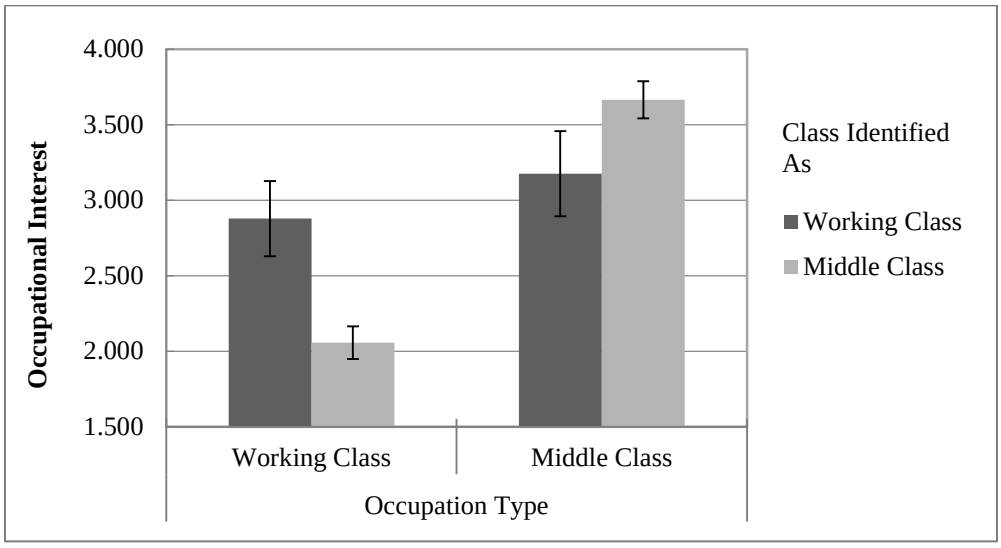
Because social class is a consistent predictor of health (Adler et al., 1994) and subjective well-being (Howell & Howell, 2008), many people from relatively lower social class backgrounds desire to move up the economic ladder. Such beliefs are also inherent to the "American Dream" of equality of opportunity and a frequent striving of people coming to the USA from other countries and cultures. In practice, though, ascending the social class hierarchy is fraught with important challenges and unforeseen obstacles. Researchers in the social sciences have begun the process of attempting to understand how individuals can navigate these obstacles and ascend the class hierarchy.

Research suggests several formidable barriers to ascending the class hierarchy. First and foremost, financial constraints place caps on the amount that individuals can invest in educational opportunities, future economic success, healthy food choices, and sound long-term financial decisions (Mullainathan & Shafir, 2013), all of which may combine to constrain the hierarchical advancement of individuals at the bottom of the class hierarchy and require additional talent, effort, and luck to advance.

On top of these financial constraints, relatively lower-class individuals can feel a lack of fit between their own cultural identity and the values of social institutions, like higher education, that are key to advancement. For instance, when asked to think of how high-achieving their university was, middle class Northwestern University students performed more poorly on executive functioning assessments—a cognitive ability that is essential to success in college—than did their more wealthy counterparts (Johnson et al., 2011).

In parallel evidence on belonging, university students from differing class backgrounds were asked about their preferences for a list of jobs varying from working class occupations (e.g., carpenter, fire fighter) to middle class occupations (e.g., research scientist, accountant). Despite the fact they were currently enrolled at a University, and, presumably, preparing for middle class jobs in the future, relatively lower-class university students, measured in terms of identified social class category, showed no preference for middle class jobs over the working class ones. In contrast, relatively upper-class students discriminated highly between the two, strongly preferring middle class occupations. These results indicate that working class students may identify more strongly with aspects of their working class background, and these positive aspects of identity may inadvertently serve as barriers to academic achievement and occupational success (Ondish & Kraus, 2015, see Figure 4).

Figure 4. Preferences for working class and middle class occupations as a function of self-reported social class category. Error bars represent standard errors around the mean. Data printed from Ondish & Kraus, 2015.



In follow up research to this study, only when these relatively lower-class individuals were threatened, by a manipulation that called their social group "lower class" versus "working class" did the students become more likely to prefer the middle class occupations (Ondish & Kraus, 2015). These preliminary results suggest that people attempting to ascend the class hierarchy must also manage issues of belonging and social threat on top of their own academic responsibilities.

Notwithstanding these social and resource challenges, some evidence provides promise for psychological interventions to improve class mobility. In terms of navigating financial uncertainty, a large scale six-country poverty intervention—aimed exclusively at assisting individuals to manage their own finances in preparation for the future (e.g., providing a savings account, advice on money management, home visits, health education, and technical skills

training)—was successful in significantly improving food security, savings, and mental and physical health across the six countries (Banerjee et al., 2015).

Another intervention strategy has been used recently to affirm the goals of relatively lower-class college students attempting to ascend the class hierarchy. Half of 700 biology students were exposed to an intervention aimed at affirming the values these students have—in essence making them believe that their biology-related goals could become a reality. This intervention reduced the achievement gap between first-generation students and ones whose parents attended college by 50%. The intervention also increased carry-over of first-generation students to the next biology class in the series and significantly improved overall grade point average (Harackiewicz et al., 2014; c.f., Stephens et al., 2015).

The above research suggests that psychological interventions can be effective in promoting class hierarchy ascendance for those attempting to move outside of poverty through higher education. Future research would benefit from a focus on optimizing interventions at various stages of the life-course. What types of early educational and psychological interventions (e.g., Head Start), for example, might have lasting effects on social class mobility for lower-class individuals? Given the influence of early life experiences on social class psychological processes, early interventions might prove particularly fruitful for improving class mobility.

Crossing Class Boundaries

Often scholars think of social class without considering the group-based processes involved in one's class identity. This is likely because social class is low in visibility in society relative to other social categories—people rarely display their occupation titles and bank statements to be viewed by others, and active discussions of the lack of social classes occur in some highly unequal countries like the USA (Kraus & Stephens, 2012). Moreover, much of

society is sorted in terms of social class—people engage in relationships, go to school, live in neighborhoods, and work with individuals from similar backgrounds—making cross-class contact unlikely (Sweeney & Cancian, 2004; Lareau, 2003). Thus, crossing class boundaries and identifying inter-class interactions is something people have less experience with. Despite the lack of salience of social class disparities in the social environment, social class is an important determinant of social groups in society. Understanding how social class shapes intergroup relations has important implications for how people relate across the class divide.

One important area of inquiry lies in research on class signaling. Though social class is not readily discussed in interpersonal encounters, signals of social class are visible in interactions (Bourdieu, 1979). In fact, research indicates that people accurately estimate the social class of others after watching only 60s of a social interaction between strangers (Kraus & Keltner, 2009), and the same is true of accurate signaling of social class on online social networks like Facebook (Kraus et al., 2013).

Moreover, in experimental research, signals of social class shape interactions in important ways. In some recent research, participants were assigned to wear their own clothing, sweat pants and a t-shirt purchased at Walgreens, or a business suit purchased at Macy's before engaging in a scripted interaction with another participant completely unaware of the clothing change (Kraus & Mendes, 2014). Participants interacting with a person assigned to higher social class clothing showed reduced subjective ratings of social power and physiological signs of threat vigilance (Kraus & Mendes, 2014). These initial results suggest that class signals change the ways in which individuals interact with and perceive others.

Given the power of social class signals to elicit changes in social interaction behavior and perception, it is reasonable to suggest that cross-class interactions are likely to lead to similar

inter-group challenges as those occurring across gender and racial divides. In a series of studies testing how cross-class interactions fare relative to their same-class counterparts, Cote and colleagues (2015) asked participants to engage in real or mock interactions with a person from either their same social class or a different one. Engagement within the interaction was measured using self-reports of liking and comfort, or with behavioral measures of genuine positivity (e.g., genuine smiles and laughs). Results across the studies indicate that people higher in social class are most engaged in interactions with upper-class interaction partners, whereas people lower in social class are most engaged in interactions with lower-class interaction partners (Cote et al., 2016). These results indicate that as people seek upward mobility in society, group processes related to belonging and identification influence, and possibly impede, how individuals from differing class background relate to each other.

Reducing Economic Inequality

Related to the psychological study of social class is the study of economic inequality, often conceptualized as the degree of disparity within a society between those at the top and bottom of the class hierarchy. How people perceive and respond to economic inequality has become an important topic in the psychological study of social class. Several lines of inquiry converge on the notion that as levels of economic inequality increase, indices of health and social problems also increase. In a meta-analytic review of the literature, this pattern was found in 70% of countries surveyed (Wilkinson & Pickett, 2006). Moreover psychological research suggests that people prefer less unequal societies, as participants across several surveys prefer countries with lower levels of pay inequality (Norton & Ariely, 2011), especially between CEOs and average workers (Kiatpongsan & Norton, 2015). Importantly, these preferences also do not owe

to utopian preferences for total equality, as people still prefer some level of inequality overall—thus, allowing the reward of exceptional work, talent, and effort (Norton & Ariely, 2011).

Despite the professed desires for a more equal society—and the manifest consequences of such inequality in the form of poor psychological health and functioning at the bottom of the hierarchy, research indicates several obstacles to reducing societal inequity. First, Americans seem to have widespread beliefs in high class mobility. Across several studies, actual estimates of real class mobility in society (e.g., the chances that a person would rise in income to the top 20% from the bottom 20% within their lifetime) were far lower than assessed beliefs about class mobility (Davidai & Gilovich, 2015; Kraus & Tan, 2015; Kraus, 2015). Motivation to reduce economic inequality is likely to stagnate if individuals believe that reaping the rewards of that inequality is possible for many Americans.

Second, beliefs in meritocracy and equality of opportunity appear to be strong in many societies (especially the United States) and appear to be strongest among those at the top of the class hierarchy. Compared to their lower-class counterparts, for instance, relatively higher social class individuals think of wealth and poverty as caused by personal effort and skill rather than the social context (Kluegel & Smith, 1986; Kraus et al., 2009) and are more likely to think that social class is determined by internal dispositions or genes (Kraus & Keltner, 2013; Mahalingam, 2003). Such beliefs are likely to reduce support for reducing economic inequality because they suggest that disparities in wealth between the haves and have nots are natural rewards for differing skill, talent, and effort.

Social Class Within and Across Cultures

Nations differ in terms of wealth, levels of economic inequality, citizens' attitudes toward inequality, and prevailing cultural norms in general. Thus, nations and cultures may differ in the

extent to which social class affects individuals within a society—and may even produce different relationships among the variables altogether. On the other hand, social class itself—in some form or another—is probably a universal phenomenon (Hofstede, 2001). At least some phenomena, therefore, should reliably appear across cultures, even if cultures moderate their expression. Though truly cross-cultural research on the psychology of social class is scant, research that has either measured social class or connected concepts across cultures show both similarity and divergence in the psychological consequences of social class.

One robust finding within the United States on the psychology of social class is that of greater independence on the part of relatively upper-class individuals. Though little research directly tests whether these findings apply cross-culturally, the literature suggests that the relationship between social class and individualism is functionally similar across cultures. Hua, Kwan, and Sedikides (2011), for example, administered large-scale surveys in China—a collectivist culture—and measured, among other things, social class and narcissistic personality. Narcissism—characterized by exaggerated self-importance, confidence, and attention seeking—is a construct that is conceptually similar to cultural independence and, arguably, at odds with collectivism. Across two studies, the authors found that self-rated social class was positively associated with narcissism. Studies that directly compare the US to more collectivistic cultures find similar patterns: Grossman and Varnum (2011) measured social class (using parental educational achievement) and conceptions of the self (using an implicit measure) in samples from the US and Russia. Russian participants, unsurprisingly, scored higher on a measure of interdependence than did those from the US, but participants from lower-class backgrounds in both the US and Russian samples showed evidence for more interdependent conceptions of the self, compared to upper-class participants.

Just as every nation will have some form of social class, every culture will have some degree of inequality, and even those at the bottom of the hierarchy need to somehow make sense of unequal distributions of resources (see, for example, Hofstede, 2001 on "power distance"). For example, all individuals within a society seem to agree that higher-status individuals are more competent (Durante, Fiske, Kervyn, & Cuddy, 2013), implying that even lower-class individuals implicitly accept the premise that those who are more successful enjoy their position for a reason. However, that all levels of society accept inequality does not imply that all within a society accept it the same way. As mentioned, upper class individuals in the US described inequality by appealing to dispositional explanations while lower-class Americans appealed to contextual ones (Kluegel & Smith, 1986; Kraus et al., 2009). Similarly, those of higher social class rank are more likely than those of lower rank to espouse *essentialist* theories of social class, referring to the belief that a group's success owes to some aspect of its biology.

Similar research from India (a more collectivist and holistic society) suggests that those at the top and the bottom of the hierarchy view social classes much like Americans do. For example, members of higher Indian castes believed that a child born into one caste and adopted into another would still behave consistently with his birth caste whereas lower-caste participants predicted the opposite (Mahalingam, 2007). Thus, individuals of high social rank endorsed more essentialist views regarding the child's behavior (implicitly reasoning that those born of a higher caste are inherently different than others) and those of a lower social rank endorsed more social-constructivist explanations (reasoning that the child would adopt the customs of the adoptive caste).

Notably, cross-cultural patterns of attributions likely extend beyond issues of social class and inequality. Within a French sample, for example, those higher in occupational status were

more likely to explain the behavior of a frustrated cashier's behavior in terms of the cashier's disposition and temperament, while lower class participants provided more contextual explanations (Beauvois & Dubois, 1988). Similarly, Grossman and Varnum (2011) asked participants in both the US and Russia to make causal attributions about a two fictional characters who committed socially desirable and undesirable actions. In both samples, lower-class participants were more likely than their upper-class counterparts to describe the protagonist's behavior in contextual terms.

On the other hand, the experience of social class also depends significantly upon the culture within which social class is experienced. One such difference may lie in the way individuals within societies express heightened social class. In one traditional village in Fiji, for example, cultural norms generally forbid the overt expression of pride, even in those who are higher status (Tracy, Shariff, Zhao, & Henrich, 2013). Instead, pride is expressed through positive affect. Because of this, Fijian villagers were more likely to indicate images with smiling and happy participants as being associated with high status. Furthermore, in developing nations, increased obesity is associated with high wealth whereas in more developed nations like the United States, obesity is associated with lower wealth (Sobal & Stunkard, 1989).

Secondly, how individuals see themselves fundamentally shapes how they interpret their own achievements and stressors. Recall that individuals from Western societies evaluate the self and reflect on wellness in ways that conjure personal efficacy, agency, and accomplishments. In countries like the United States, subjective social status (one's societal *rank*) is more important for self-evaluation than in Japan, where concepts of the self and, subsequently, how well-off someone is, are more grounded in one's social network (Park, et al., 2013). As such, social support predicts well-being more strongly in countries with typically Western cultures, such as

America, compared to Eastern ones like Japan (Curhan et al., 2014; Park, et al., 2013). This is in part because individualistic contexts, like those seen in Western cultures, necessitate that one's successes (and problems) are mostly their own, whereas those from Eastern cultures do not bear the weight of their stressors alone. Instead, negative life events are seen as resulting from contextual sources, the burden of which is inherently dispersed amongst one's close social others.

Culture also has the power to shape how our relative socioeconomic standing makes us happy (or does not). Within developing nations, the relationship between subjective well-being (SWB) and income (r = .20) is larger than the relationship in already-developed nations (r =.13). Furthermore, the associations continue to diverge when looking at low-income regions of developing nations (r = .28), and high-income regions of developing nations (r = .10), (Howell & Howell, 2008). Taken together, these results support the notion that one's specific environmental context shapes their well-being. In particular, it suggests that income and wealth become more important for defining well-being in contexts where basic needs, such as food, clothing, stability, and a general ability to buffer one's self and loved ones against the world's uncertainties are not guaranteed. Conversely, in environments where opportunities and advantages are abundant, education and financial security render income comparatively trivial. Applying this principle to other domains may be fruitful in the cultural psychology of social class: That is, would differences in class-based perceptual patterns be greater in countries where social class matters more for well-being and the fulfillment of basic needs? Future research on this question is warranted.

The psychological study of social class is emerging in cultural psychology. Within the confines of this burgeoning research tradition are potential answers to some of society's most

pressing questions about health and well-being, economic justice, equality of opportunity, and biological determinism. As cultural psychologists continue to take the lead in the study of social class, new knowledge about how our basic psychology is magnified or diminished by our position on the social ladder of society will become enriched by theoretical perspectives that account for cultural beliefs and knowledge systems. Though definitive answers to these big questions are still far beyond the horizon, they grow closer and closer as the study of social class matures and advances into the future.

References

Abbott, D.H., 1984. Behavioral and physiological suppression of fertility in subordinate marmoset monkeys. *American Journal of Primatology*. 6, 169–186.

Adler, N.E., Epel, E.S., Castellazzo, G., & Ickovics, J.R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy, White women. *Health Psychology*, 19, 586–592.

Adler, N. E., Boyce, T., Chesney, M. A., Cohen, S., Folkman, S., Kahn, R., & Syme, L. (1994). Socioeconomic status and health: The challenge of the gradient. *American Psychologist*, 49, 15–24.

Ambady, N., & Rosenthal, R. (1992). Thin slices of expressive behavior as predictors of interpersonal consequences: A metaanalysis. *Psychological Bulletin*, 111, 256–274.

Anderson, C., John, O. P., Keltner, D., & Kring, A. M. (2001). Who attains social status? effects of personality and physical attractiveness in social groups. *Journal of Personality and Social Psychology, 81*(1), 116-132.

Anderson, C., & Kilduff, G. J. (2009). The pursuit of status in social groups. Current Directions in *Psychological Science*, 18(5), 295–298.

Anderson, C., Kraus, M. W., Galinksy, A. D., & Keltner, D. (2012). The local ladder effect: Sociometric status and subjective well-being, *Psychological Science*, 23, 764-771.

Argyle, M. (1994). *The Psychology of Interpersonal Behaviour*. London: Penguin.

Beauvois, J. L., & Dubois, N. (1988). The norm of internality in the explanation of psychological events. *European Journal of Social Psychology*, *18*, 299–316.

doi:10.1002/ejsp.2420180402

Belsky, J. (1997). Attachment, mating, and parenting: An evolutionary interpretation. *Human Nature*, 8(4), 361-381.

Bernstein, B. B. (1971). Class, codes and control (Primary socialization, language and education, 4; Primary socialization, language and education, 4). London: Routledge and K. Paul.

Bernstein, B. (1974). *Class codes and control*. Theoretical studies towards a sociology of language (2nd ed.). New York, NY: Schocken Books.

Bourdieu, P. (1979). *Distinction: A social critique of the judgment of taste*. Cambridge, MA: Harvard University Press.

Bourdieu, P. (1985). The social space and the genesis of groups. *Theory and Society*, 14, 723–744.

Bowman, N. A., Kitayama, S., & Nisbett, R. E. (2009). Social class differences in self, attribution, and attention: Is the middle-class more socially attuned than the working class? Personality and *Social Psychology Bulletin*, 35, 880-893.

Boyce, C. J., Brown, G. D. A., & Moore, S. C. (2010). Money and happiness: Rank of income, not income, affects life satisfaction. *Psychological Science, 21*(4), 471-475.

Brown-Iannuzzi, J., Lundberg, K. B., Kay, A. C., & Keith, P.,B. (2015). Subjective status shapes political preferences. *Psychological Science*, 26(1), 15-26.

Burkhauser, R. V., Feng, S., Jenkins, S. P., and Larrimore, J. (2011). Estimating trends in US income inequality using the Current Population Survey: The importance of controlling for censoring. Journal of Economic Inequality, 9(3):393–415.

Burkhauser, R.V., Schmeiser, M.D., & Schroeder, M. (2007). *The employment and economic well-being of working-age men with disabilities: Comparing outcomes in Australia, Germany, and Great Britain with the United States.* Paper presented at the HILDA Survey Research Conference, University of Melbourne.

Callaghan, B., Tan J. J. X, & Kraus, M. W. (2015). The interpersonal is political: Warmth and competence as differential class-based motivations for political participation (manuscript in preparation).

Callan, M. J., Ellard, J. H., Shead, N. W., & Hodgins, D. C. (2008). Gambling as a search for justice: Examining the role of personal relative deprivation in gambling urges and gambling behavior. *Personality and Social Psychology Bulletin*, 34(11), 1514-1529.

Chen, E., Cohen, S., & Miller, G. E. (2010). How low socioeconomic status affects 2-year hormonal trajectories in children. *Psychological Science*, 21, 31-37.

Chen, E., & Matthews, K.A. (2003). Development of the cognitive appraisal and understanding of social events (CAUSE) videos: Application to explaining the link between socioeconomic status and cardiovascular reactivity in older adolescents. *Health Psychology*, 22, 106-110.

Chen E., & Miller, G.E. (2012). "Shift-and-Persist" strategies: Why being low in socioeconomic status isn't always bad for health. *Perspectives on Psychological Science*, 7, 135 – 158.

Cohen, S., Alper, C. M., Doyle, W. J., Adler, N., Treanor, J. J., & Turner, R. B. (2008). Objective and subjective socioeconomic status and susceptibility to the common cold. *Health Psychology*, 27, 268–274.

Cole, S. W. (2012). *Social regulation of gene expression in the immune system*. The oxford handbook of psychoneuroimmunology. (pp. 254-273). Oxford University Press, New York, NY.

Côté, S., Kraus, M. W., Piff, P. K., Beermann, U., & Keltner, D. Social class clash: A dyadic model of engagement in cross-class and same-class interactions. (under review, *Psychological Science*).

Croizet, J., & Claire, T. (1998). Extending the concept of stereotype and threat to social class: The intellectual underperformance of students from low socioeconimic backgrounds. *Personality and Social Psychology Bulletin*, 24(6), 588-594.

Curhan, K. B., Levine, C. S., Markus, H. R., Kitayama, S., Park, J., Karasawa, M., ... & Ryff, C. D. (2014). Subjective and Objective Hierarchies and Their Relations to Psychological Well-Being: A US/Japan Comparison. Social psychological and personality science, 5(8), 855.

Curhan, K. B., Sims, T., Markus, H. R., Kitayama, S., Karasawa, M., Kawakami, N., . . . Ryff, C. D. (2014). Just how bad negative affect is for your health depends on culture. *Psychological Science*, 25(12), 2277-2280.

Darmon, N. & Drenowski, A. (2008). Does social class predict diet quality?, *The American Journal of Clinical Nutrition*, *87*, 1107-17.

Davidai, S., & Gilovich, T. (2015). Building a more mobile America: One quintile at a time. *Perspectives on* Psychological Science, 10(1), 60-71.

de Waal, F. B. M. (1986). The integration of dominance and social bonding in primates. *Quarterly Review of Biology*, 61, 459–479.

Dickerson, S. S., & Kemeny, M. E. (2004). Acute stressors and cortisol responses: a theoretical integration and synthesis of laboratory research. *Psychological bulletin*, *130*(3), 355.

Diener, E., & Oishi, S. (2000). Money and happiness: Income and subjective well-being across nations. In E. Diener & E. M. Suh (Eds.), *Subjective well-being across cultures* (pp. 185–218). Cambridge, MA: MIT Press.

DiMaggio P., & Garip F. How Network Externalities Can Exacerbate Intergroup Inequality. *American Journal of Sociology.* 2011;116 (6):1887-1933.

Dobbins, I. G., Schnyer, D. M., Verfaellie, M., & Schacter, D. L. (2004). Cortical activity reductions during repetition priming can result from rapid response learning. *Nature*, *428*(6980), 316-319.

Domhoff, G. W. (1998). *Who rules America?: Power and politics in the year 2000* (3rd ed.). Mountain View, Calif.: Mayfield Pub. Co.

Drentea, P. (2000). Age, debt and anxiety. *Journal of Health and Social Behavior*, 41(4), 437-450.

Drewnowski, A., Monsivais, P., Maillot, M., & Darmon, N. (2007). Low-energy-density diets are associated with higher diet quality and higher diet costs in French adults. *Journal of the American Dietetic Association*, 107, 1028-1032.

Durante, F., Fiske, S. T., Kervyn, N., & Cuddy, A. J. C. (2013). Nations' income inequality predicts ambivalence in stereotype content: How societies mind the gap, *British Journal of Social Psychology,* Advance online publication. doi: 10.1111/bjso.12005

Ellis, B. J., Figueredo, A. J., Brumbach, B. H., & Schlomer, G. L. (2009). Fundamental dimensions of environmental risk: The impact of harsh versus unpredictable

environments on the evolution and development of life history strategies. *Human Nature, 20*(2), 204-268.

Emery, L. F., & Le, B. (2014). Imagining the white picket fence: Social class, future plans, and romantic relationship quality.*Social Psychological and Personality Science, 5*(6), 653-661.

Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. Journal of Personality and Social Psychology, 82, 878–902.

Gallo, L. C. & Matthews, K. A. (2003). Understanding the association between socioeconomic status and physical health: Do negative emotions play a role? *Psychological Bulletin*, 129(1), 10-51.

Gelman, A. (2009). *Red state, blue state, rich state, poor state: Why Americans vote the way they do (Expanded Edition)*. Princeton University Press.

Goodman, E., Adler, N. E., Kawachi, I., Frazier, A. L., Huang, B., & Colditz, G. A. (2001). Adolescents' perceptions of social status: Development and evaluation of a new indicator. *Pediatrics*, 108, 1–8.

Gottfredson, L. S. (2004). Intelligence: is it the epidemiologists' elusive" fundamental cause" of social class inequalities in health?. *Journal of personality and social psychology*, *86*(1), 174.

Griskevicius, V., Tybur, J. M., Delton, A. W., & Robertson, T. E. (2010). The influence of mortality and socioeconomic status on risk and delayed rewards: A life history theory approach, *Journal of Personality and Social Psychology*, *100*, 1015-26.

Griskevicius, V., Delton, A. W., Robertson, T. E., & Tybur, J. M. (2011). Environmental contingency in life history strategies: The influence of mortality and socioeconomic status on reproductive timing. *Journal of Personality and Social Psychology, 100*(2), 241-254.

Grossmann, I., & Varnum, M. E. W. (2011). Social class, culture, and cognition. *Social Psychological and Personality Science*, *2*, 81–89.

Grossman, E. (2013). An Examination of Putnam, Coleman, and Bourdieu's Conceptualizations of Social Capital and the Structural Differences across Class, Race, and Gender Groups. (Electronic Thesis or Dissertation). Retrieved from https://etd.ohiolink.edu/

Hackman, D. A., Farah, M. J., & Meaney, M. J. (2010). Socioeconomic status and the brain: mechanistic insights from human and animal research, *National Review of Neuroscience, 11*, 651-59

Haidt, J., Koller, S., & Dias, M. (1993). Affect, culture, and morality, or is it wrong to eat your dog? *Journal of Personality and Social Psychology*, 65, 613–628.

Han, S., Northoff, G., Vogeley, K., Wexler, B.E., Kitayama, S., Varnum, M.E.W., 2013. A cultural neuroscience approach to the biosocial nature of the human brain. *Annu. Rev. Psychol.* 64, 335–359.

Hofstede, G. (2001). *Culture's consequences*. Thousand Oaks, CA: Sage.

Hout, M. (2008). How class works: Objective and subjective aspects of class since the 1970s. In A. Lareau & D. Conley (Eds.), Social class: How does it work? (pp. 25–64). New York, NY: Russell Sage Foundation.

Howell, R. T., & Howell, C. J. (2008). The relation of economic status to subjective well-being

in developing countries: A meta-analysis, *Psychological Bulletin*, *134*, 536–60. doi:10.1037/0033-2909.134.4.536

Hua, J. C., Kwan, V. S. Y., & Sedikides, C. (2011). A sociocultural approach to narcissism: The case of modern China, *European Journal of Personality*. Advance online publication. doi:10.1002/per.852

Johnson, S. E., Richeson, J. A., & Finkel, E. J. (2011). Middle class and marginal? socioeconomic status, stigma, and self-regulation at an elite university. *Journal of Personality and Social Psychology, 100*(5), 838-852.

Johnson, W., & Krueger, R. F. (2005). Higher perceived life control decreases genetic variance in physical health: Evidence from a national twin study. *Journal of Personality & Social Psychology*, 88(1), 165-173.

Johnson, W., & Krueger, R. F. (2006). How money buys happiness: Genetic and environmental processes linking finances and life satisfaction. *Journal of Personality and Social Psychology*, 90, 680-691.

Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review, 110*(2), 265-284.

Kiatpongsan, S. & Norton, M.I. (February, 2015). How much (more) should CEOs make? A universal desire for more equal pay. Paper presented at the Society for Personality and Social Psychology, Long Beach, CA.

Kingston, P. (2000). *The classless society*. Stanford, CA: Stanford University Press.

Kishiyama, M. M., Boyce, W. T., Jimenez, A. M., Perry, L. M., & Knight, R. T. (2009). Socioeconomic disparities affect prefrontal function in children. Journal of cognitive

neuroscience, 21(6), 1106-1115.

Kitayama, S., & Uskul, A. K. (2011). Culture, mind, and the brain: Current evidence and future directions, *Annual Review of Psychology*, *62*, 419–49. doi: 10.1146/annurev-psych-120709-145357

Kluegel, J. R., & Smith, E. R. (1986). *Beliefs about inequality: Americans' views of what is and what ought to be*. Hawthorne, NY: Aldine De Gruyter.

Kohn, M. L., & Schooler, C. (1969). Class, occupation, and orientation. *American Sociological Review*, 34, 657–678.

Kohn, M. L., & Schooler, C. (1973). Occupational experience and psychological functioning: An assessment of reciprocal effects. *American Sociological Review*, 97-118.

Knowles, E. D., & Peng, K. (2005). White selves: Conceptualizing and measuring a dominant-group identity. *Journal of Personality and Social Psychology*, 89(2), 223-241.

Kraus, M. W. Americans still overestimate social class mobility: A pre-registered self-replication. (under review, *Journal of Experimental Social Psychology*).

Kraus, M. W., Cote, S., & Keltner, D. (2010). Social class, contextualism, and empathic accuracy, *Psychological Science*, 21, 1716-1723.

Kraus, M. W., Horberg, E. J., Goetz, J. L., & Keltner, D. (2011). Social class rank, threat vigilance, and hostile reactivity. *Personality and Social Psychology Bulletin*, 37, 1376–1388.

Kraus, M. W., & Keltner, D. (2009). Signs of socioeconomic status: A thin-slicing approach, *Psychological Science*, 20, 99-106.

Kraus, M. W., & Mendes, W. B. (2014). Sartorial symbols of social class elicit class-consistent behavioral and physiological responses: A dyadic approach. *Journal of Experimental Psychology: General*, 143 (6), 2330-2340.

Kraus, M. W., Piff, P. K., & Keltner, D. (2011). Social class as culture: The convergence of resources and rank in the social realm, *Current Directions in Psychological Science*, 20, 246-250.

Kraus, M. W., Piff, P. K, Mendoza-Denton, R., Rheinschmidt, M. L., & Keltner, D. (2012). Social class, solipsism, and contextualism: How the rich are different from the poor, *Psychological Review*, 119, 546-572.

Kraus, M. W., & Stephens, N. M. (2012). A road map for an emerging psychology of social class, *Social and Personality Psychology Compass*, 6, 642-656.

Kraus, M. W., Tan, J. J. X., & Tannenbaum, M. B. (2013). The social ladder: A rank-based perspective on social class, *Psychological Inquiry*, 24, 81-96.

Kraus, M. W., & Tan, J. J. X. (2015). Americans overestimate social class mobility. *Journal of Experimental Social Psychology*, 58, 101-111.

Kusserow, A. (2004). *American individualisms: Child rearing and social class in three neighborhoods*(1st ed.). (Culture, mind, and society; Culture, mind, and society). New York: Palgrave Macmillan.

Lachman, M. E., & Weaver, S. L. (1998). The sense of control as a moderator of social class differences in health and well-being. *Journal of Personality and Social Psychology*, 74, 763–773.

Lareau, A. (2003). Unequal childhoods: Class, race, and family life. Berkeley: University of California Press.

Lewin, K. (1951). *Field theory in social science.* New York: Harper.

Liu, W. M., Ali, S. R., Soleck, G., Hopps, J., Dunston, K., & Pickett, T., Jr. (2004). Using social class in counseling psychology research. *Journal of Counseling Psychology*, 51, 3–18.

Mahalingam, R. 1998. Essentialism, power, and representation of caste: A developmental study. Ph.D. diss., University of Pittsburgh, Pittsburgh, Pa.

Mahalingam, R. (2003). Essentialism, culture, and power: Representations of social class, *Journal of Social Issues*, *59*, 733–49. doi:10.1046/j.0022-4537.2003.00087.x

Mahalingam, R. (2007). Essentialism, power, and the representation of social categories: A folk sociology perspective, *Human Development*, *50*, 300–19. doi:10.1159/000109832

Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science,* 341(6149), 976-980.

Markus, H. R., & Kitayama, S. (2003). Models of agency: Sociocultural diversity in the construction of action. In V. Murphy-Berman & J. Berman (Eds.), Nebraska Symposium on Motivation: Vol. 49. Crosscultural differences in perspectives on self (pp. 1–57). Lincoln: University of Nebraska Press.

Marmot, M. G., & Shipley, M. J. (1996). Do socioeconomic differences in mortality persist after retirement? 25 year follow up of civil servants from the first Whitehall study. *British Medical Journal*, 313, 1177–1180.

Miller, G. E. & Chen, E. (2010). Harsh family climate in early life presages the emergence of pro-inflammatory phenotype in adolescence. *Psychological Science,* 21, 848-856.

Miller, P. J., Cho, G. E., & Bracey, J. R. (2005). Working-class children's experience through the prism of personal storytelling. *Human Development,* 48(3), 115-135.

Mullanaithan, S. & Shafir, E. (2013). *Scarcity: Why having so little means so much*. New York: Time Books.

Mullainathan, S., & Shafir, E. (2014). Freeing up intelligence. *Scientific American Mind,* 25(1), 58-63.

Muscatell, K. A., Morelli, S. A., Falk, E. B., Way, B. M., Pfeifer, J. H., Galinsky, A. D., ... & Eisenberger, N. I. (2012). Social status modulates neural activity in the mentalizing network. Neuroimage, 60(3), 1771-1777.

Nisbett, R. E. (2008). *Intelligence and how to get it: Why schools and cultures count.* New York: W.W. Norton & Co.

Nisbett, R.E., & Cohen, D. (1996). *Culture of honor: The psychology of violence in the South*. Boulder, CO: Westview Press.

Noble, K., Norman M. F., & Farah M. (2005). Neurocognitive correlates of socioeconomic status in kindergarten children, *Developmental Science*, *8*, 74–87.

Norton, M. I., & Ariely, D. (2011). Building a better America—One wealth quintile at a time, *Perspectives on Psychological Science, 6,* 9–12. doi:10.1177/1745691610393524

Oakes, J. M., & Rossi, P. H. (2003). The measurement of SES in health research: Current practice and steps toward a new approach. *Social Science & Medicine*, 56(4), 769-784.

Park, J., Kitayama, S., Karasawa, M., Curhan, K. B., Markus, H. R., Kawakami, N., . . . Ryff, C. D. (2013). Clarifying the link between social support and health: Culture, stress, and neuroticism matter, *Journal of Health Psychology*, *18*, 226-35.

Pearlin, L.I., & Kohn, M.L. (1966). Social class, occupation, and parental values: a cross-national study. *American Sociological Review*, 31, 466-79.

Piff, P. K., *Kraus, M. W., Cote, S., Cheng, B., & Keltner, D. (2010). Having less, giving more: The influence of social class on prosocial behavior, *Journal of Personality and Social Psychology,* 99, 771-784.

Reay, D., Ball, S.J., David, M., & Davies, J. (2001). Choices of degree or degrees of choice? Social class, race and the higher education choice process, *Sociology,* 35(4): 855–74.

Sapolsky, R. M. (2004). *Why zebras don't get ulcers*. New York, NY: Holt.

Sapolsky, R. M., Romero, L. M., & Munck, A. U. (2000). How do glucocorticoids influence stress responses? Integrating permissive, suppressive, stimulatory, and preparative actions. *Endocrinology Review*, 21(1):55–89.

Shah, A. K., Mullainathan, S., & Shafir, E. (2012). Some consequences of having too little. *Science*, 338(6107), 682-685.

Shweder, R. A. (1990). Cultural psychology: What is it? In J. W. Stigler, R. A. Shweder, & G. Herdt (Eds.), *Cultural psychology: Essays on comparative human development* (pp. 1–46). Cambridge, England: Cambridge University Press.

Singh-Manoux, A., Adler, N. E., & Marmot, M. G. (2003). Subjective social status: Its determinants and its association with measures of ill-health in the Whitehall II study. *Social Science & Medicine,* 56, 1321–1333.

Snibbe, A.C., & Markus, H.R. (2005). You can't always get what you want: Educational attainment, agency, and choice. *Journal of Personality and Social Psychology*, 88, 703–720.

Sobal, J. & Stunkard, A. J. (1989). Socioeconomic status and obesity: a review of the literature, *Psychological Bulletin*, *105*, 260-75.

Spencer, B., & Castano, E. (2007). Social class is dead. Long live social class! Stereotype threat among low socioeconomic status individuals. *Social Justice Research*, 20(4), 418-432.

Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of african americans. *Journal of Personality and Social Psychology*, 69(5), 797-811.

Stellar, J. E., Manzo, V. M., Kraus, M. W., & Keltner, D. (2012). Class and compassion: Socioeconomic factors predict responses to suffering. *Emotion*, 12(3), 449-459.

Stephens, N. M., Hamedani, M. G., & Destin, M. (2014). Closing the social class achievement gap: A difference-education intervention improves first-generation students' academic performance and all students' college transition, *Psychological Science*, *25*, 943-53.

Stephens, N. M., Markus, H. R., & Fryberg, S. A. (2012). Social class disparities in health and education: Reducing inequality by applying a sociocultural self model of behavior. *Psychological Review*, 119, 723–744.

Stephens, N. M., Markus, H. R., & Townsend, S. S. M. (2007). Choice as an act of meaning: The case of social class. *Journal of Personality and Social Psychology*, 93, 814–830.

Sweeney, M. M., & Cancian, M. (2004). The changing importance of White women's economic prospects for assortative mating. *Journal of Marriage and Family*, 66, 1015–1028.

Tajfel, H. & Turner, J. C. (1979). "An Integrative Theory of Intergroup Conflict". In W. G. Austin & S. Worchel (Eds.), *The Social Psychology of Intergroup Relations*. Monterey, CA: Brooks-Cole.

Tan, J. J. X., Kraus, M. W., Oveis, C., Impett, E., Kogan, A., & Keltner, D. Social interdependence moderates the association between social class and subjective well-being. (manuscript in preparation).

Tan, J. J. X., & Kraus, M. W. (2015). Lay theories of social class buffer lower-class individuals against poor self-rated health and negative affect. *Personality and Social Psychology Bulletin*, 41, 446-61.

Varnum, M. E. W., Grossmann, I., Kitayama, S., & Nisbett, R. E. (2010). The origin of cultural differences in cognition: The social orientation hypothesis. *Current Directions in Psychological Science*, 19(1), 9-13.

Varnum, M. E. W., Na, J., Murata, A., & Kitayama, S. (2012). Social class differences in N400 indicate differences in spontaneous trait inference. *Journal of Experimental Psychology: General*, 141(3), 518-526.

Varnum, M. E. W., Blais, C., Hampton, R. S., & Brewer, G. A. (in press). Social class affects neural empathic responses. Culture and Brain.

Weininger, E. B., & Lareau, A. (2009). Paradoxical pathways: An ethnographic extension of Kohn's findings on class and childrearing. *Journal of Marriage and Family*, 71, 680–695.

Wickings, E.J. & Dixson, A.F. (1992) Testicular function, secondary sexual development, and social-status in male mandrills (Mandrillus–Sphinx). *Physiology & Behavior*, 52:909–916.

Wilkinson, R. G., & Pickett, K. E. (2006). Income inequality and population health: a review and explanation of the evidence, *Social science & medicine*, *62*, 1768-84.