

Culture, Context, and Behavior

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ABSTRACT In this article I propose a model that posits three major sources of influence on behavior—basic human nature (via universal psychological processes), culture (via social roles), and personality (via individual role identities) and argue that individual behaviors are the products of the interaction between the three. I discuss how culture emerges from the interaction of basic human nature and the ecological contexts in which groups exist, and how social roles are determined by culture-specific psychological meanings attributed to situational contexts. The model further suggests that situational context moderates the relative contributions of the three sources in influencing behavior. I provide examples of apparent contradictory findings in the study of emotion that can be explained by the model proposed.

Despite the widespread acceptance of the idea that context exerts powerful influences on behavior, psychology has yet to develop adequate models to explain how this influence occurs and especially why behavior is influenced in some contexts but not others. In the cross-cultural literature on emotion, for instance, some studies demonstrate pancultural universality in some aspects of emotion; others demonstrate strong and reliable cultural and personality differences.

Recent work elucidating the nature and function of situational specificity in personality processes (Roberts, 2006; Wood &

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Roberts, 2006) has advanced our theoretical understanding of how different levels of personality can interact with situation-specific social roles to produce situationally driven differences in behavior, above and beyond the existence of underlying dispositional traits. The purpose of this article is to elucidate further on the nature of social roles. I suggest that individual behavior is the product of the interaction between culturally dependent social roles and individually different role identities. Social roles are comprised of expectations and normative behaviors that emerge from the psychological meanings attributed to situational contexts; these meanings are cultural. Culture, in turn, emerges from the interaction of basic human nature with specific ecological contexts in which groups exist through a process of environmental adaptation. This model suggests that individual behavior can be explained by three major sources—basic human nature (via universal psychological processes), culture (via social roles), and personality (via individual role identities). The model further suggests that situational context moderates the relative contributions of each of these three sources in influencing behavior. Below I describe the theoretical assumptions underlying these three sources of behavior, describe the role of situational context in moderating the influence of these three sources, and provide examples from the area of research I know best—emotion—to demonstrate how this model can integrate and synthesize seemingly disparate findings in the area.

HUMAN NATURE

Universal Biological Needs and Social Motives

My understanding of the origins, meaning, and characteristics of culture starts with some assumptions about what may be considered basic human nature and how it may have evolved (see McAdams and Pals [2006] for a similar discussion with regard to the relationship between human nature and personality). My views on this topic are essentially based in evolutionary psychology (Buss, 2001) and borrow from the concept of the environment of evolutionary adaptiveness (Bowlby, 1969). This view begins with the premise that all humans have universal biological needs that need to be met in order to survive and that survival is the ultimate goal of evolutionary life.

Sheldon (2004) called these basic physical needs, and they include eating, drinking, breathing, sleeping, eliminating, having sex, seeking shelter, and otherwise staying healthy. Each of these needs is ultimately related to reproductive success and helps ensure survival because reproductive success is a biological imperative if people are to survive.

Throughout history, people must have solved a host of distinct social problems in order to meet their basic physical needs and achieve reproductive success. These social problems include negotiating complex status hierarchies, forming successful work and social groups, attracting mates, fighting off potential rivals for food and sexual partners, giving birth and raising children, and battling nature (Buss, 1988, 2001). In fact these problems exist in our everyday lives today as well. To aid in our resolving these social problems, nature endowed us with a small set of universal social motives. Sheldon (2004) proposed that these social motives can be organized around three major themes—autonomy, competence, and relatedness. Similarly, Hogan (1982) posited the importance of the needs to get along and get ahead. Presumably, these needs provide humans with the motivation and ability to negotiate and solve complex social problems in order to meet their basic physical needs and survive.

Universal Psychological Processes

I further assume that human nature endowed us with a small set of universal psychological processes that aids in addressing our universal social motives and physical needs. These psychological processes include both cognitive and emotional abilities, dispositions, and preferences. They are akin to a basic set of tools with instructions, which humans can tap into when addressing the problems of living.

The search for psychological universals begs the question of what aspect of behavior is being considered in the first place. Over two-and-a-half decades ago, Lonner (1980) developed a taxonomy of universals, suggesting the existence of seven different types: simple universals, referring to the existence of similar behaviors (e.g., eating, sleeping) across cultures; variform universals, which are simple universals that vary in form across cultures; functional universals, which refer to cross-culturally similar patterns of relationships among behaviors that serve the same function (e.g., child rearing); diachronic universals, which are temporally invariant laws that can explain

behaviors within and across cultures; ethologically oriented universals, which refer to behavior with a phylogenetic link; systematic behavioral universals, which refer to theories of behavior that can be applied panculturally; and cocktail party universals, which refer to psychological processes that are assumed to be universal through speculation and philosophical discourse, but without empirical data.

More recently, Norenzayan and Heine (2005) offered a different view of universals. They defined universals as “core mental attributes that are shared at some conceptual level by all or nearly all non-brain-damaged adult human beings across cultures” (p. 763). Given this definition, Norenzayan and Heine (2005) argued for the existence of three types of universals: existential universals, referring to similar mental attributes that exist across cultures but have different functions; functional universals, referring to similar attributes and similar functions that are used differently; and accessibility universals, which refer to similar attributes with similar functions that are used similarly across cultures.

My perspective is slightly different. I assume that humans are endowed with some number of genetically encoded programs for certain types of mental processes, physiological reactions, and overt behaviors that probably have phylogenetic origins. I further assume that these mental programs are associated, at least initially, with somewhat fixed action patterns of thoughts, behaviors, or physiological responding. None of Lonner's (1980) categories of universals makes this assumption, although my assumption of universal psychological processes is related to his delineations of variform, functional, and ethologically oriented universals. My views are also different than Norenzayan and Heine's (2005) since theirs was limited to cognition. I believe these programs exist not only for some types of cognition, but for emotion, motivation, and behaviors as well.

For example, humans appear to have a natural proclivity to fear objects such as spiders, snakes, heights, and darkness (Buss, 2001). Presumably, these kinds of objects have been associated in our evolutionary history with danger and death, which, of course, is detrimental to our survival. Developing fears of these objects, therefore, has led to greater probability of survival. Comparative research sheds some light on how these mechanisms may be programmed. Cook and Mineka (1990) demonstrated how fear responses occurred in rhesus monkeys. In their first experiment, the monkeys acquired a

fear of snakes by watching videotapes of other monkeys behaving fearfully with snakes. In their second experiment, monkeys watched videotapes of other monkeys either behaving fearfully with toy snakes and nonfearfully with artificial flowers, or vice versa. The observer monkeys acquired fear of snakes but not flowers. In their third experiment, the monkeys were able to solve problems involving the videotape stimuli, regardless of whether the videotape included the snakes or the flowers. These studies suggest that the program for fear responses to snakes exists from birth, requires a certain stimulus to initiate it (the observation of an other's fear responses), is specific to snakes, and, once initiated, will always occur. They also explain how human infants can be in the close presence of snakes without a fear response (that is, when their program for an innate fear of snakes has not yet been opened).

Ethnocentrism is a psychological universal (Brewer, 1968; Brewer & Campbell, 1976; Levine & Campbell, 1972) as is the tendency to view one's ingroup as heterogeneous but outgroups as homogeneous (Denhaerinck, Leyens, & Yzerbyt, 1989; Du, Liu, & Li, 2003; Linnville & Jones, 1980; Ostrom & Sedikides, 1992; Simon & Mummeny, 1990; Triandis, McCusker, & Hui, 1990; Vanbeselaere, 1991). In our evolutionary history, differentiating between ingroup and outgroup others was probably related to our survival since outgroup members may have been rivals for food and mates or sources of disease that could not be warded off. Such proclivities may be at the root of ethnocentrism, stereotyping, and prejudice, which may also be universal.

There is a host of other psychological processes that are universal to all humans, including language; the ability to know that oneself and others are intentional agents (Tomasello, 1999); incest avoidance, kinship terminology, coming of age rituals, and time perception (D. E. Brown, 1991); emotions and their facial expressions (Ekman, 1992, 1993); division of labor by sex (Georgas, Berry, Van de Vijver, Kagitcibasi, & Poortinga, 2006; Hofstede, 2001); revenge and retaliation (Buss, 2001); the structure of personality traits (McCrae & Costa, 1997); color perception (Berlin & Kay, 1969); self-enhancement processes (J. D. Brown & Kobayashi, 2002; Kobayashi & Brown, 2003; Kurman, 2001; Sedikides, Gaertner, & Toguchi, 2003; Sedikides, Gaertner, & Vevea, 2005); sex differences in mate preferences (Buss, 1989); and others. All of these processes are universally inherent in humans, and they evolved to aid humans in

adapting to their ecological contexts in order to solve complex social and coordination problems, thereby increasing their chance of survival.

Dispositional Traits and Intelligence

I further believe that part of the package of goodies evolution endowed humans with included dispositional traits and intelligence. With regard to the former, there is evidence in the adult literature for the universal existence of five major traits—the Five-Factor Model (Allik & McCrae, 2004; McCrae et al., 2005). But there is also mounting evidence for the existence of other traits, as well, that go beyond the Big Five, including subjective spirituality and tradition-oriented religiousness (Saucier, 2006), altruism versus antagonism and negative self-evaluation (Lee & Ashton, 2006), interpersonal relatedness (Cheung et al., 2001), temperamentality and self-assurance (Church, Katigbak, & Reyes, 1998), and positive and negative valence (Benet-Martinez & Waller, 1997). Although it is not clear what set of dispositional traits exists at birth, there is consensus that humans come to the world with some set of traits that may characterize their basic temperament. For the purposes of this article, it matters not exactly what traits are present at birth, nor how many exist as adults, but only that some traits are indeed present and that humans do not come into the world as blank slates.

Finally, I assume that humans come into the world with some degree of intelligence. Although there are many different aspects of intelligence (Sternberg, 2004), there is now strong evidence for the neurobiological correlates of fluid intelligence (Gray & Thompson, 2004), which includes abilities related to reasoning and problem solving. These are precisely the types of abilities that are directly relevant to adaptation and survival and may be psychometrically indistinguishable from general intelligence (g).

CULTURE

The Emergence of Culture

As mentioned above, humans need to meet biological and social needs in order to survive, and nature endowed humans with a basic toolkit composed of abilities, dispositions, and preferences in order

to meet those needs. Meeting those needs, and ultimately survival, however, is dependent on the degree to which people can adapt to their specific environments, that is, apply their basic tools to the problems posed to them by the specific environments in which they exist. Different environments introduce different problems that humans must deal with—adapt to—in order to survive.

Fortunately, humans need not reinvent the wheel—create entirely new solutions to the problems of survival posed by their environments—in each cycle of life. Humans are inherently social animals and, as such, survive by taking advantage of the power of the group. Groups create solutions to the problems posed by their environments in order to address biological needs and social motives; these solutions are *environmental adaptations* and form the basis of culture. In my view, therefore, culture is the set of ways that emerges when a group uses the basic tools inherent in its members to address the problems presented by the larger ecological context in which the group exists in order to meet biological needs and social motives. Culture is a solution to the problem of how to survive, given the problems in the environment, the physical and social needs that must be addressed, and the tools available.

The Distinctiveness of Human Cultures

All animals engage in environmental adaptation in order to survive; thus, all social animals may have culture, or at least a rudimentary form of culture consisting of social customs and adaptations (Boesch, 2003; Matsuzawa, 2001; McGrew, 2004; Whiten, Horner, & De Waal, 2005). Human cultures, however, are very different from animal cultures, and these differences are rooted in several uniquely human cognitive abilities.

One is verbal language. Humans, unlike other animals, have the unique ability to symbolize their physical and metaphysical world (Premack, 2004), to create sounds representing those symbols (morphemes), to create rules connecting those symbols into meaningful words (lexicon), then phrases and sentences (syntax and grammar), and to put this all together in sentences (pragmatics). Moreover, since the use of papyrus in Greece and bamboo in China, humans have developed writing systems, so we can reduce those oral expressions to words on paper. This article is a uniquely human product.

Humans also uniquely have the ability to believe that other people are intentional agents. This ability begins at around 9 months of age (Tomasello, 1999). In one of Tomasello's most recent studies, for example, 18-month-old infants were presented with 10 different situations in which an adult experimenter was having trouble achieving a goal (Warneken & Tomasello, 2006). One of these situations was when the experimenter accidentally dropped a marker and unsuccessfully tried to reach for it. More times than not, the infants were likely to help the adult experimenter, even though the experimenter never asked for help or made eye contact with the infant. The fact that human infants help others achieve their goals even though there is no direct benefit to the infant suggests that they have an understanding of other people's goals and an intrinsic motivation to help. These skills were *not* demonstrated in chimpanzees in the same study. Thus, we have causal beliefs, which form the basis for attributions, a uniquely human product.

Humans also have unique abilities concerning self-other knowledge. Clearly, other animals have knowledge or some conception of self. But humans are unique in that they have knowledge of self, knowledge of others, and knowledge that others know about the self (Tomasello, 1999). This knowledge is necessary in order to have morality, another uniquely human product. The existence of self-conscious emotions (Tangney & Fischer, 1995), such as shame, guilt, or pride, is also probably a product of this cognitive ability. The existence of this ability is probably why we don't just take off our clothes in the middle of the street, have sex any time we want to, or hit others whom we disagree with. Other animals, however, seem not to care as much.

Humans also have the unique ability to build continually upon improvements and discoveries. When humans create something that is useful, it is usually improved upon. This is true for computers, cars, audio music players, and, unfortunately, weapons of mass destruction and strategies for waging war. Tomasello, Kruger, and Ratner (1993) call this the *ratchet effect*. Like a ratchet, an improvement never goes backward; it only goes forward and continues to improve upon itself. The ratchet effect does not occur in other animals. Monkeys may use twigs to catch insects, but they never improve upon that tool. Humans not only make tools; they make tools to make tools, automate the process of making tools, and mass-distribute tools around the world for mass consumption.

In my view these abilities differentiate human social and cultural life from that of animals in three important ways: *complexity*, *differentiation*, and *institutionalization*. Because humans have complex social cognition, language, and ratcheting, human social and cultural life are much more complex than that of other animals. We are members of multiple groups, each having its own purpose, hierarchy, and networking system, and human cultures evolved to help us deal with larger and more complex social groups. To deal with this complexity, humans make greater differentiations in their social lives, and institutionalize much of it. One of the functions of human cultures, therefore, is to give meaning to this social complexity. Given this, I define human culture as a unique meaning and information system, shared by a group and transmitted across generations, that allows the group to meet basic needs of survival, coordinate socially to achieve a viable existence, transmit social behavior, pursue happiness and well-being, and derive meaning from life.

Human cultures exist first to enable us to meet basic needs of survival. They help us meet others to procreate and produce offspring, put food on the table, provide shelter from the elements, and care for our daily biological essentials. But human culture is much more than that. It allows for complex social networks and relationships. It allows us to enhance the meaning of normal, daily activities. It allows us to pursue happiness. It allows us to be creative in music, art, drama, and work. It allows us to seek recreation and to engage in sports and organize competitions, whether in the local community Little League or the Olympic Games. It allows us to search the sea and space. It allows us to create mathematics, an achievement no other species can claim, as well as an educational system. It allows us to go to the moon, to create a research laboratory on Antarctica, and send probes to Mars and Jupiter. Unfortunately, it also allows us to wage wars, create nuclear weapons, and recruit and train terrorists. Human culture does all this by creating and maintaining complex social systems, institutionalizing and improving cultural practices, creating beliefs about the world, and communicating the meaning system to other humans and subsequent generations.

Differences Among Human Cultures

Each group's set of solutions, that is culture, is different from another's because of differences in the ecological contexts in which each

group exists—the physical environment, resources available, social factors, history, and types and sizes of their families and communities. Because different cultures exist in different ecological contexts, cultures differ in the specific contents of their meaning and information systems. Cultural differences in meaning and information systems can be observed in two broad aspects of culture—the objective or explicit elements of culture, and the subjective or implicit elements (Kroeber & Kluckhohn, 1952/1963; Triandis, 1972). The former refer to the physical objects of culture—architecture, clothing, utensils, and the like, while the latter refer to the psychological aspects of culture.

Research of the last two-and-a-half decades has identified a number of meaningful dimensions of cultural variability that operationalize the subjective elements of culture. Hofstede's (1980) was first. He initially identified four dimensions—individualism versus collectivism, power distance, uncertainty avoidance, and masculinity versus femininity; more recently, he has added a fifth—long-versus short-term orientation. Of these, individualism versus collectivism became the most popular and widely researched dimension (Triandis, 1994, 1995). Yet there are others. Schwartz (2004) has uncovered seven universal value orientations; Smith, Dugan, and Trompenaars (1996) have reported two universal value orientations; House, Hanges, Javidan, Dorfman, and Gupta (2003) have reported nine value orientations related to leadership; Inglehart (1997) has reported two attitudinal-belief-value orientations; and Bond and colleagues (2004) have reported two dimensions of social axioms (beliefs).

The notion that ecological context influences culture is supported by several lines of evidence. Country-level affluence, for instance, is highly correlated with individualism (Hofstede, 1980, 2001; Kashima & Kashima, 2003; Triandis, 2001). Climates—average temperatures, rainfall, and the degree of extreme weather—can affect culture (Robbins, DeWalt, & Pelto, 1972); Hofstede (2001) and Kashima and Kashima (2003) reported country-level correlations between the latitude of capital cities and Hofstede's index of Individualism, while van de Vliert and his colleagues have demonstrated that climate is related to leadership behavior and volunteer work across countries (Van de Vliert, 2004, 2006; Van de Vliert, Huang, & Levine, 2004; Van de Vliert & Janssen, 2002; Van de Vliert, Schwartz, Huismans, Hofstede, & Daan, 1999). Population density influences culture; members of groups with high population density, especially if characterized by low resource availability (affluence), may need to

cooperate more with each other in order for groups to function effectively. These groups may require greater rules, norms, and rituals in order to prevent social chaos, thus encouraging greater conformity and homogeneity. Triandis (2001) likened these effects to a dimension known as tightness versus looseness of a society (Pelto, 1968).

Thus, ecological-level factors such as population density, climate, and affluence most likely affect cultures because different groups need to create different solutions for living in order to adapt to their specific ecological context. Groups in areas with high population density, harsh weather, and low resource availability will create different solutions than groups with low population density, mild weather, and high resource availability. These different solutions produce different cultures.

Different Cultural Products

Cultures influence socially transmitted behaviors, in the form of cultural practices, as well as specific ways of understanding the world and themselves, in the form of cultural worldviews (Matsumoto, 2006b). Cultural practices refer to the behavioral responses that groups produce in order to live culturally. Co-sleeping arrangements in child rearing, for instance, is an example of a cultural practice, as are ways of dealing with bosses or subordinates at work, playing sports, or arranging flowers. Cultural worldviews refer to ideological beliefs that people endorse about any domain, even about their own culture itself. As ideological beliefs, they may have little or nothing to do with the actual cultural practices or other types of behaviors that occur in real life. Cultural worldviews exist because humans have a universal need for explanations of their behaviors and causal attribution, as well as for self- and group enhancement. As we will discuss below, cultural practices are rather flexible and adapted for each family and individual. Cultural worldviews, however, tend to be rather stereotypic, harbored to some degree by most in a culture.

CULTURE AND SITUATIONAL CONTEXT

As inherently social animals, humans live in a succession of multiple, different, situational contexts. Consistent with my definition of culture above, one of the functions of human cultures is to ascribe

meaning to these situational contexts. Of course there are many different aspects of situational context, including time, place, interactants, the content of activities or conversations, the reasons why the interactions are occurring in the first place, and the possibility of any future interactions between the same interactants. All of these factors, and others, combine to produce the unique situational contexts in which we live our lives. In this article, I focus on two of these aspects that I believe are major components of situational context: interactants and settings.

Interactants

Because humans are social animals, and because human social life is complex, we need to interact with many different types of others. Survival requires social coordination, and human cultures ascribe meaning to interactants to aid in this coordination. Without such meaning there would be social chaos, which would ultimately be detrimental to both individuals and groups. At least two studies have examined what these meanings may be. Marwell and Hage (1970), for instance, suggested the existence of three dimensions to describe the nature of role-dyads: intimacy, visibility, and regulation. McAuley, Bond, and Kashima (2002) obtained ratings of role-dyads in Australia and Hong Kong and demonstrated the existence of four dimensions used by persons of both cultures to organize these relationships: complexity, equality, adversarialness, and containment.

In my view, there are two major ways in which human cultures ascribe meaning to others in order to aid social coordination: (1) the relationship between the individual and the group and (2) the establishment and maintenance of hierarchies. With regard to the former, all human societies make distinctions between ingroups and outgroups (Brewer & Kramer, 1985; Messick & Mackie, 1989; Tajfel, 1982). Ingroups are afforded favored status by individuals and foster coordination, conformity, and cooperation. Ingroups function effectively to aid in the accomplishment of goals and activities that ultimately aid in the survival of the group. Outgroup members can threaten the ability of ingroups to achieve their goals and, thus, their survival. Self-ingroup relationships, therefore, are inherently different from self-outgroup relationships, and in all societies, enculturation involves learning who are ingroups and who are not, and the specific meanings associated with them.

With regard to the latter, all groups require some degree of hierarchy in order to function effectively. A group with no leaders is just as dysfunctional as a group with only leaders. Thus, social roles within hierarchies need to be clearly defined in order for groups to function effectively, and groups and individuals spend much time and energy on establishing lines of authority—dominance in a hierarchy—in order to clarify these social roles. Status and power are typically conferred to those higher in a dominance hierarchy.

And while all people of all cultures make great social distinctions among the different interactants in their lives, there are differences in the degree to which different cultures ascribe their meaning systems to interactants. For example, while the distinction between ingroups and outgroups is universal, cultures differ in the specific meanings of self-ingroup and self-outgroup relationships (Triandis, Bontempo, et al., 1988). How cultural groups differ in this regard is characterized by the concept of individualism versus collectivism (Hofstede, 2001) or autonomy versus embeddedness (Schwartz, 2004), both of which are aspects of subjective culture mentioned earlier. Individualistic, autonomous cultures may foster the development of more ingroups, and their members are not attached as much to any single ingroup. Collectivistic, embedded cultures, however, foster the development of fewer ingroups, but their commitment to ingroups is greater than in individualistic cultures. Thus, self-ingroup and self-outgroup relationships differ in individualistic and collectivistic cultures in the degree of harmony, cohesion, cooperation, and conformity between the self and the group. Collectivistic cultures foster a greater degree of conformity within their ingroups, and sanctions exist for nonconformity. A high degree of conformity ensures that individuals are identified and bonded with their ingroups, allowing groups to function and for group needs to supersede individual ones. Subjugating personal goals in favor of the group is a primary feature of collectivism. Individualistic cultures foster less conformity within groups because they do not rely as much on identification with groups for the effective functioning of either the groups or the individuals for survival.

Cultures may also differ in the nature of hierarchical differences as well, and these cultural differences are captured by the concept of egalitarian versus hierarchical cultures (Schwartz, 2004) or Power Distance (Hofstede, 2001). Hierarchical, high Power Distance

cultures may tend to utilize fixed attributes of individuals, such as age, seniority, or sex as criteria to afford status. In egalitarian, low Power Distance cultures, educational degrees, performance, or ability may be used as such criteria. Hierarchical, high Power Distance cultures should foster a greater differentiation according to status, while egalitarian, low Power Distance cultures should foster less (Matsumoto, 2006c).

McAuley et al.'s (2002) study is illustrative of cultural differences in the meaning of social interactants. In their study, participants in Hong Kong and Australia rated a number of role dyads on 20 items that tapped objective, contextual characteristics of the dyads and not judgments of a psychological nature. As mentioned above, four contextual dimensions were identified—complexity, equality, adversarialness, and containment—and these were similar across both cultures. Yet the two cultures differed in the placement of specific role dyads on these dimensions. For instance, some dyads that were high on adversarialness, such as political opponents, personal enemies, or business rivals, were rated more equal among Hong Kong Chinese than Australians. Also, many family members were rated more unequal in Hong Kong than in Australia.

The Setting

Different settings are associated with different cultural meanings, and these differences influence behavior. Being in public, for example, is different than being in private, and individuals regulate their behaviors much more in public than in private. The regulating effect of public settings may be due to the fact that being in public is associated with the cognitive representation that others have knowledge of oneself and can make causal attributions and judgments about oneself (Baumeister, 2005; Tomasello, 1999). Thus, people watch what they do because they are concerned about how they will be judged by others. This concern is also likely activated in the mirror effect—the fact that individuals often regulate various aspects of their behavior when they see themselves as others see them (Mor & Winquist, 2002).

What exactly are the cultural meanings associated with setting? In fact, there has been very little research in psychology on this topic, despite the widespread acknowledgment of the importance of setting as a component of situational context. The only study I know

of that actually attempted to define the meaning of setting was Altman's (1975), which differentiated between primary and secondary private settings—the former those that people feel belong to them exclusively and are central to their identities, the latter being public settings that are used with such regularity that one develops a proprietary orientation toward them.

In my view, the cultural meaning of settings revolves around three components: beliefs, uncertainty, and anxiety. First of all, settings are associated with a set of beliefs about the degree to which others may be watching or judging oneself and others associated with oneself (e.g., one's family, friends, others of the same ethnic group, etc.). These may also include beliefs concerning the degree to which the judgments of others have potentially positive or negative consequences for oneself or others as well as consequences to future relationships with oneself or others.

Settings are also associated with some degree of uncertainty, especially concerning one's knowledge about how others may think, feel, or act. And because of this uncertainty, different settings are associated with different degrees of anxiety about how others may be. Uncertainty and ambiguity inherent to settings, and the anxiety associated with them, are likely to produce regulatory effects on behavior. Guerin (1986), for instance, suggested that inhibitory contexts, in which the emotions, behaviors, cognitions, and intentions of others are uncertain, influence individuals to be more cautious in their behaviors. Inhibitory contexts are generally those in which one's behaviors are under the watchful eyes of unknown or less familiar others, and such contexts produce increased conformity in behaviors to cultural norms because of the observation.

Thus, settings that are associated with strong beliefs that others may be judging oneself, that those beliefs have potentially strong consequences for oneself and others, and that are associated with high degrees of uncertainty and anxiety are likely to produce a high degree of regulatory effects on behavior. Settings associated with strong beliefs that one's behavior is not judged, that judgments of others have no consequences for oneself, and/or in which there is little ambiguity of the actions of others are likely to produce much less regulatory effects on behavior. Thus, being in a crowded company conference room with one's prospective employers is a very different setting than being at home, and, because of these

psychological differences in the meaning of these settings, produces different effects on behavior.

Human cultures help ascribe these meanings to settings, and different cultures ascribe different meanings to the same setting. We do not know, however, the degree to which setting differences differ across cultures. They should. Future research is needed to examine the degree to which the psychological meaning of setting differs across cultures.

The Emergence of Social Roles

Thus, human cultures prescribe meanings to situational contexts, and because human social life is complex, the myriad of situational contexts in which individuals exist is associated with a myriad of cultural meanings. The meanings of the various situational contexts create expectations for the players in context in terms of normative behaviors, which are the behaviors that each culture expects its members to engage in given the specific situational context in which they are in order to achieve the goal of living in a culturally appropriate fashion. The expectations concerning normative behaviors are summarized for each individual member of a culture in a social role.

Social roles are like scripts in a play (see Goffman, 1959) since they delineate the types of behaviors that are expected in the specific situational context based on the specific meanings ascribed to that context. Because cultures define the meaning of the situational context, the scripts associated with the contexts are culturally dependent. Thus, cultural differences in the meaning of specific situational contexts suggest that there are cultural differences in the specific role expectations associated with different situations across cultures. While situational context provides the general scripts of behavior, cultures adjust those scripts according to their context-specific frameworks.

SITUATIONAL CONTEXTS AND PERSONALITY

The Interaction Between Situational Contexts and Personality

My understanding of the interaction between culture, via situational contexts and social roles, and personality is informed by Roberts and

colleagues' Personality and Role Identity Structural Model (PRISM: Wood & Roberts, 2006). The PRISM model posits a personality hierarchy with multiple levels, including the existence of underlying dispositional traits, role identities, aggregated role experiences, and single role experiences.

Complementing this model, I assume that individuals respond to culturally based social roles described above by adopting role identities, which require them adapt to the specific situations corresponding to the social roles. As individuals engage with multiple situational contexts with multiple, culturally prescribed social roles, individuals situationally adapt to these, producing alterations in their underlying dispositional traits. Thus, while a "core" set of underlying dispositional traits may exist, humans adapt to specific situational contexts by tapping into this underlying dispositional trait resource pool in order to perform the culturally prescribed social roles.

Repeated role performances—the thoughts, feelings, and behaviors that occur in real life across single role experiences—produce a history that comprises aggregate role experiences (Wood & Roberts, 2006). These experiences, in turn, form the basis of other important aspects of personality, including narratives, values, and general motives (Roberts, 2006). Dispositional traits that humans bring with them into the world may be modified and adapted throughout development and the life span via interactions with the environment. Over time, dipping into this resource pool in order to adapt to various situational contexts may serve as the impetus for changes to the pool itself, which may account for changes in consistency and mean levels of the dispositional traits observed in previous studies (Roberts & DelVecchio, 2000; Roberts, Walton, & Viechtbauer, 2006).

Individual Differences in Role Performance: The Flexibility of Culture

Even though there may be within-culture consensus on the contents of culturally prescribed social roles and normative behavior, the model proposed above leaves considerable room for individual differences. For example, situational contexts may have different meanings because of individual differences in how people conceive and understand their culturally based social role expectations and the degree to which they accept or reject such expectations. While

studies of cultural differences generally focus on between-group differences in means (e.g., in values, beliefs, or behaviors), recent studies of within-culture variation indicate that such intracultural variation tends to be relatively large (compared to between-culture differences; Au, 1999, 2000). Moreover, the degree of intracultural variation itself appears to be related to culture. Although research examining cultural differences in intracultural variation is just beginning, there is indirect evidence that is relevant. Bond and Smith (1996), for instance, conducted a meta-analysis of studies examining the effects of conformity across studies involving the types of tasks originally used by Asch. Analyzing 133 studies conducted in 17 different countries, they found that the magnitude of the effect of conformity was very large in some countries and very small in others, with a mean effect of moderate value. Conformity was higher when the majority that tried to influence the conforming participant was larger, when there was a greater proportion of female participants, when the majority did not consist of outgroup members, and when the stimuli were more ambiguous. Conformity was also higher in collectivistic cultures than in individualistic ones. In Milgram's (1974) study, about 65% of the participants obeyed the instructions of the experimenter and administered a high level of shock to the confederate. Smith and Bond (1999) reviewed nine other studies that used the Milgram paradigm, conducted in the United States and eight other countries. The results of these studies indicated a broad range in the percentage of participants obeying the experimenter, ranging from a low of 16% among female students in Australia to a high of 92% in the Netherlands.

Individual differences also occur because specific situational contexts are often different for different individuals, regardless of similarities in the prescribed social roles. On the one hand, culture prescribes limits and broad guidelines for acceptable personal and social behavior. On the other hand, culture allows a broad range of freedom. It does so by providing a number of acceptable social roles for individuals to occupy and provides minimum prescriptions for their instantiation. For example, there may be broad differences in child-rearing practices across different cultures, with some cultures encouraging infants to sleep by themselves through the night, while others encourage infants to co-sleep with their parents until early childhood. Yet every family does this differently; when do these cultural practices start and stop? How faithfully does the family practice

it? Do all children do the same, or do some differ? What happens when the child or parent is sick? While a culture may prescribe a certain general guideline about this aspect of child rearing, the guideline is put into practice in a myriad of different ways, reflecting communal, familial, individual, and situational differences within the culture.

Individual differences may also occur because of individual differences in the amount and type of dispositional traits individuals come into the world with. As mentioned previously, although there is disagreement about exactly which traits are present at birth, there is consensus that individuals do come into the world with some traits that have a genetic component and that there are individual differences in these. These individual differences can influence the emergence of role identities during interactions with the environment and social roles.

Cultures represent a set of human-made inventions that help individuals the world over deal with the same basic life issues. Because different parts of the world present those same problems in different ways, cultural solutions are different for different ecological contexts. Culture provides meaning and information systems that are specific and unique to the environment in which it exists. Yet culture is flexible, and the solutions provided to its members are broad guidelines with wide ranges of acceptable tolerances. While cultures provide the basic guidelines for behavior, there is a wide range of acceptable conduct within these cultural guidelines. Cultures also define the meaning of specific situations and specify the expectations of the players like a script. Yet there is wide individual variation in how individual members conceptualize their roles, and accept or not, conform or not, to those roles. These notions are, in fact, consonant with notions of the flexibility of culture (Linton, 1945). The result is a wide range of individual differences even within any cultural framework. In this perspective, culture provides ready-made, pretested solutions to many of life's problems (Allport, 1936). Individuals, according to their underlying and possibly innate temperaments and personalities, select from a tolerable range of acceptable behaviors and practices allowed by culture to adopt features that best fit their own lifestyle. Many cultural practices are internalized by some so that some members of a culture are quite conformist; others, however, may rebel and be total cultural misfits. Most of us fall somewhere in between (Allport, 1936).

SITUATIONAL CONTEXT MODERATES THE RELATIVE CONTRIBUTIONS OF UNIVERSAL PSYCHOLOGICAL PROCESSES, CULTURE, AND PERSONALITY

The model I have outlined thus far is summarized in Figure 1 and suggests that what people think, feel, and do can be construed as *role performances*. That is, mental processes and behaviors, even in the laboratory (or perhaps, especially in the laboratory) do not occur in a vacuum; rather, they occur in a particular situational context with a personal and evolutionary history, aggregated experiences, and possible future consequences. Mental processes and behaviors that occur under such conditions are, in fact, an individual performance.

The model further suggests that the relative contributions of basic human nature (via universal psychological processes), culture (via social roles), and personality (via individual differences in role identities) in accounting for role performance behavior are moderated by the situational context in which the individual is in and behavior is occurring. Thus, some situations are likely to evoke similar responses from all individuals regardless of personality or culture. Some are

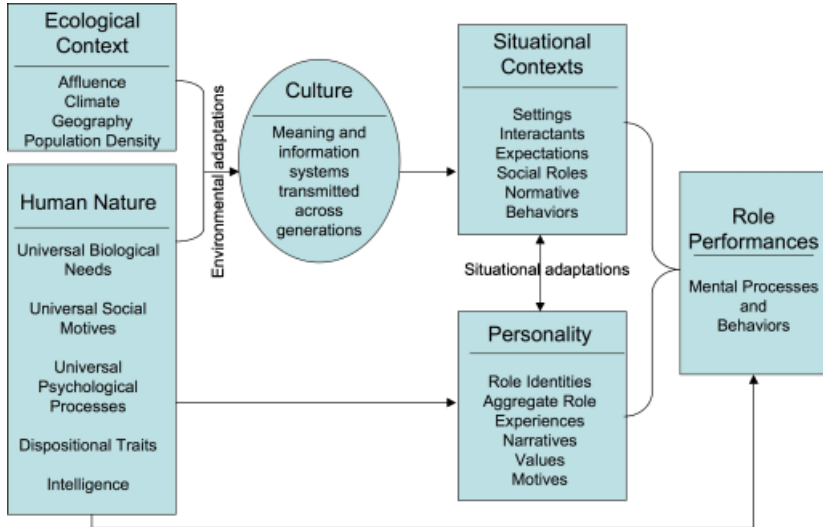


Figure 1

Situational context moderates the relative contributions of basic human nature, culture, and personality to mental processes and behaviors.

likely to evoke responses that demonstrate cultural differences. And some are likely to demonstrate mainly individual differences. This means that in some situational contexts, behavior can be mainly determined by universal psychological processes; in others, mainly by personality; and yet in others, mainly by culture.

Further, this model also suggests that the relative contributions of the three sources of behavior may be different for different dependent variables. There should be a difference in the relative contributions of basic human nature, culture, and personality in accounting for actual behaviors related to one's immediate welfare, as opposed to beliefs about hypothetical situations that have little to do with one's welfare. Actual behaviors may be more influenced by basic human nature and personality, while self-reports of behavior, or of attitudes and values, may be more influenced by culture.

EVIDENCE FROM STUDIES OF EMOTION

Let me discuss findings from the area of study I know best—emotion—to exemplify the utility of the model. When strong emotions are elicited in situations in which individuals are alone and free to respond without social constraint, all individuals, regardless of culture or sex, express emotions in their faces in the same ways (Ekman, 1972; Matsumoto & Willingham, 2006). These are situations that allow for the influence of a universal facial affect program to directly and primarily influence behavior. Yet when these same individuals are in situations that place social constraints on them, they alter their expressions to be consonant with culturally accepted norms (Ekman, 1972; Matsumoto & Kupperbusch, 2001; Matsumoto & Willingham, 2006). These are situations that allow for a stronger influence of culture to override basic human nature, according to a mechanism known as cultural display rules (Ekman & Friesen, 1969).

Examinations of cultural display rules across a wide range of situational contexts and cultures also provide evidence for the model presented in Figure 1. In our 30-country study of display rules (Matsumoto et al., 2005), participants gave the highest expressivity ratings when alone, followed by when with family and close friends in private, family and close friends in public, acquaintances in private, alone in public, acquaintances in public, professors in private, and professors in public. These differences reflected universal

differences in expressivity norms as a function of situational context. Correlations between each country's means on expressivity in each of the situational contexts and Hofstede's (2001) five cultural dimensions indicated that the cultural dimensions were strongly correlated with the country means in the "alone" and "family and close friends in private" situations, somewhat less correlated in the "family and close friends in public" and "acquaintances in private" situations, and not correlated at all in the remaining situations. These data suggested that cultural influences on expressivity norms are strongest for the former situations but weaker for the latter, indicating that situational contexts allow for cultural influences to occur in some situations but not others. Indices of interindividual variability were also computed; these represent individual differences in expressivity norms. This variance was largest in the "alone in private and in public" situations, suggesting that these situations allowed for the largest individual differences to emerge; they were significantly smaller in the other conditions, suggesting that, while individual differences existed in all contexts, some situational contexts allowed for individual differences to emerge more than others.

Studies on emotion recognition offer another line of evidence for the influence of situational context. Many studies demonstrate that when universal facial expressions of emotion are shown by themselves to observers who are asked to judge what emotion is being portrayed, there is high, universal agreement about the emotions portrayed (Matsumoto, 2001). These findings demonstrate the existence of a universal psychological process to recognize emotions. In a recent study, we (Matsumoto & Yamada, 2006) showed judges the universal faces along with vignettes that were pretested to be associated with emotions at roughly the same accuracy rates as the faces. The face-vignette combinations were either congruent (i.e., same intended emotion in the face and vignette) or incongruent, and judges were asked what the actors were feeling. For congruent face-vignette combinations, there were no cultural differences in the judgments, and agreement rates of the intended emotions were higher than either face or vignette alone (88.7% for U.S., 95% for Japan). When face-vignette combinations were incongruent, however, recognition rates varied. Americans were more likely to believe that the actor was feeling an emotion congruent more with the face (51%) compared to the vignette (15%), while Japanese were evenly split in their judgments (34% each for face and vignette). These cultural

differences in judgments were statistically significant and indicated that the situational context manipulation altered the judgment process from one that was primarily based on a universal recognition ability (congruent face and vignette) to one that was influenced by culture (incongruent pairings). Recent neuroscience research has begun to examine how the brain may function differently when faces are paired with such congruent and incongruent context information (Righart & de Gelder, in press).

Differences in findings from research on self-reported emotional experiences can also be reconciled with the model presented in Figure 1. When phenomenologically based self-reports of emotional experience are assessed, especially concerning the intensity of experience, verbal and nonverbal reactions, and physiological sensations, there are relatively small cultural differences (Breugelmans et al., 2005; Scherer & Wallbott, 1994). Also, different phenomenological experiences are reliably related to each other, suggesting the existence of coherence among emotion response systems, and this coherence is relatively unrelated to culture (Matsumoto, Nezlek, & Koopmann, 2007). These findings suggest an underlying universal psychological process related to emotion. When, however, appraisals related to emotion elicitation are assessed (Scherer, 1997), or when beliefs, concerns, and social meanings of emotions are assessed (Mesquita, 2001; Mesquita & Karasawa, 2002), reliable cultural differences emerge. This makes sense because these aspects of emotion are more heavily influenced by social and cultural construction, whereas the basic emotion program is biological and universal.

There is also a rich literature documenting the relationship between personality and emotion (Keltner, 1996; Malatesta-Magai, 1990). Much of it suggests that emotions are central to the structure of personality and how it forms. A large portion of this line of study has focused on the organization of emotion words as reflective of personality (Shaver, Murdaya, & Fraley, 2001; Shaver, Schwartz, Kirson, & O'Connor, 1987; Shaver, Wu, & Schwartz, 1992) and on the structure of affect (Feldman Barrett & Russell, 1999; Watson & Tellegen, 1985). Individual differences in attentional and perceptual processes in the brain linked to the regulation of behavior have been linked to a number of emotion processes as well (Derryberry & Reed, 2003), as have individual differences in reactivity and coping (Krohne, 2003).

Also germane to this article is previous work linking specific personality traits to emotions. For example, one of the most consistent

findings in the literature is that Extraversion is correlated with both the experience (Schimmack, Radhakrishnan, Oishi, & Dzokoto, 2002) and expression of positive emotions (Costa & McCrae, 1980; Emmons & Diener, 1985, 1986; Pavot, Diener, & Fujita, 1990; Ruch, 1993). Neuroticism has been correlated with the experience of negative emotions (Schimmack et al., 2002). Individuals low on Agreeableness may be prone to more anger; this notion is supported by Chesney et al.'s (1990) findings that facial glares may be related to hostility, and by Keltner, Moffitt, and Stouthamer-Loeber's (1995) findings that adolescents who externalized displayed more anger, while adolescents who internalized showed more fear. Also, two studies have shown that Openness is positively correlated with the ability to recognize emotions in faces (Matsumoto et al., 2000; Terracciano, Merritt, Zonderman, & Evans, 2003).

Collectively, the literature suggests that there is a biologically based emotion program that is genetically encoded in all individuals. This program forms the basis of a universal psychological process related to emotion and is a part of basic human nature. There are likely individual differences in the arousability of this system—some people are more easily aroused than others—in the intensity of response and in the types of emotions that are more easily aroused. These individual differences form the basis of personality influences on emotion. Aggregate differences in personality can produce culture-level mean differences in emotion responding that appear cultural, and cultures influence the meaning of specific situations that elicit emotions and the meaning of emotions to oneself and others once elicited. These form the basis of cultural influences on emotion. Given this state of affairs, any particular study may elicit universal responding, individual differences in responding, or cultural differences, depending on the specific aspect of emotion being studied and the specific situational context in which it is studied.

CONCLUSION

The model presented in this article is consonant with Kluckhohn, Murray, and Schneider's (1953) notion over a half century ago that every person is in certain respects like all others, like some others, and like no others (p. 53). The model here suggests that, broadly speaking, much human behavior can be accounted for by

incorporating what is true for all humans (basic human nature/universal psychological processes), what is true for some humans of the same group (cultural influences/situational context/social roles), and what is unique to the person (personality/role identities/experiences). If we use a multilevel model to represent these sources to explain behavior, we can conceptualize individual behaviors and mental processes as role performances that are dependent on a host of personality processes at Level 1 (role identities, aggregate role experiences, narratives, values, motives), with culture (situational meaning, social roles, norms) and basic human nature (universal psychological processes, dispositional traits, intelligence) at Level 2, and ecological variables (geography, climate, resource availability) at Level 3.

One of the goals of research in psychology is to identify the relative contributions of each of these sources in a complex, multilevel model. Unfortunately, most cross-cultural researchers primarily consider Level 2 effects—and sometimes Level 3—but usually exclude Level 1. Identifying the effects of culture but ignoring the potential effects of other sources ignores the possibility that cultural differences mask the effects of the other sources. For example, Matsumoto (2006a) recently conducted a study in which he demonstrated American–Japanese country differences on emotion regulation, with Americans demonstrating higher tendencies to reappraise emotion-eliciting events and Japanese demonstrating higher tendencies to suppress their emotional reactions. While many cultural theorists could take these findings and develop cultural theories to explain why Americans reappraise more and suppress less than the Japanese, such cultural theories would negate the possibility that individual differences in dispositional traits accounted for those country-level differences. Indeed, this study also included an assessment of the Five-Factor Model of personality, and statistical analyses indicated that Extraversion, Neuroticism, and Conscientiousness fully accounted for the observed between-country differences in emotion regulation. These findings suggested that the source of the observed country differences was not cultural and instead lay in dispositional traits. Future research, and especially cross-cultural research, needs to consider strongly the incorporation of personality assessments in their designs in order to demonstrate empirically that any observed differences are truly “cultural” or not.

The perspective I have described also provides a more nuanced view of how cultures and self-construals may influence behavior. The

dominant model in the field suggests that certain cultures are associated with certain types of self-construals, for example, that individualistic cultures produce independent self-construals, that collectivistic cultures produce interdependent self-construals, and that these different self-construals, in turn, produce different types of behaviors (Markus & Kitayama, 1991). This viewpoint, however, essentially substitutes culture for a personality-type variable to explain group differences. Individuals in all cultures, however, probably have multiple senses of self, such as the private, public, and collective self (Triandis, 1989). Moreover, the nature of self-construals can differ, depending on how they are assessed in questionnaires (Matsumoto, Weissman, Preston, Brown, & Kupperbusch, 1997; Rhee, Uleman, & Lee, 1996; Uleman, Rhee, Bardoliwalla, Semin, & Toyama, 2000); in experiments, different culturally based self-construals can be accessed within the same individuals depending on how they are primed (Gardner, Gabriel, & Lee, 1999; Trafimow, Silverman, Fan, & Law, 1997; Trafimow, Triandis, & Goto, 1991; Ybarra & Trafimow, 1988). This suggests a more complex view of the relationship between culture, self, and behavior, based on the model presented here, one in which individuals have multiple senses of self, some of which are more encouraged in some cultures than others, and that the relative contributions of each in influencing behavior are dependent on the specific situational context in which behavior is elicited and self and culture are measured (Matsumoto, 1999).

Another line of research that is laden with apparently contradictory findings but that can be reconciled with the model proposed here concerns the area of self-enhancement. Many studies have shown that Americans self-enhance (Heine, 2005; Heine, Lehman, Markus, & Kitayama, 1999; Markus & Kitayama, 1991), but Japanese do not (Takata, 1987) and are often cited as evidence for culture specificity in the need for uniqueness. Recent research, however, clearly shows that Japanese and people of other supposedly collectivistic cultures also self-enhance (J. D. Brown & Kobayashi, 2002; Endo, Heine, & Lehman, 2000; Harrington & Liu, 2002; Kobayashi & Brown, 2003; Kobayashi & Greenwald, 2003; Kurman, 2001; Sedikides et al., 2003). Most recently, Sedikides, Gaertner, and Vevea (2005) have clearly shown that the emergence or nonemergence of self-enhancement across cultures is dependent on the situational context in which it is assessed, a finding that is consistent

with the idea presented here that situational context moderates behaviors. Members of all cultures self-enhance; they just do it differently in different cultures (i.e., in different situational contexts).

I suspect that there are other lines of evidence that demonstrate how an aspect of human functioning has universal, cultural, and individual-level effects and how different situational contexts elicit different relative amounts of each in producing observed behaviors. Given that many studies are conducted in laboratories or with questionnaires, researchers should give consideration to the specific meanings such situational contexts have vis-à-vis the responses observed and studied. Such contexts may or may not provide data that are commensurate with how people behave in other contexts. Even within such contexts, changing the way in which questions are asked can alter responses drastically (Schwarz, 1999). Future integrative theorizing may be better served by acknowledging the existence of multiple, different sources of behavior and the role of situational context in moderating the relative contributions of each in the production of human behavior.

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