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Intercultural Similarities and Differences in Personality Development

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Abstract

Personality continues to change throughout the life course due to both genetic and environmental factors, including the cultural context. Findings from a primarily North American context using cross-sectional and longitudinal designs suggest that people become more conscientious, agreeable and emotionally stable throughout childhood and adulthood. One question addressed in the chapter is whether these results from North America can be extended to other cultures. We first define culture and the cultural framework that can be adopted to study personality, and then review cultural findings of personality development. Findings provide support for the notion of genetic and environmental influences on personality development at different ages. Finally, we provide suggestions for future research on personality development across cultural groups.

Keywords: Culture; Personality; Personality Development; Big Five; Lifespan

Based on the research findings from the past two decades, we know that personality changes throughout the lifespan, from early childhood to early adolescence and from early adolescence to older adulthood. People become more conscientious, agreeable, and less neurotic with age (Roberts, Wood, & Caspi, 2008; Srivastava, John, Gosling, & Potter, 2003). The stability of individual differences in personality also increases across the life course, meaning that traits tend to change together (Roberts et al., 2008). For example, if you become more conscientious in adulthood, you are more likely to change in another trait, such as Agreeableness. However, the vast majority of research in this area has been conducted on North American and Western European samples. Is it then safe to assume that most of these developmental patterns in personality occur universally, or are there differences in personality development between individuals of different cultures? Do East Asians' personalities develop similarly to North Americans? Do East Asians, like North Americans, become more agreeable and conscientious in middle and older adulthood?

In this chapter we focus on cultural similarities and differences in personality development across the life span. First, we define culture and describe theoretical frameworks that can be used to study personality from a cultural psychological perspective. Next, we focus on parent–child attachment styles and personality, specifically the Big Five traits, across cultures. Third, we discuss empirical cultural evidence for personality development of the Big Five in early, middle, and older adulthood. Lastly, we provide an overview of the current research findings on intercultural differences in personality development and put forward suggestions for future research to better understand personality development across cultures.

Integrating Research on Culture and Personality

In this section we give a brief primer on how culture is studied in cultural psychology before discussing promising existing frameworks for integrating research on culture with personality in psychology.

The Cultural Psychological Perspective

As humans, we are constantly interacting with the world around us in order to create and derive meaning (Bruner, 1990), and this process of "meaning making" is what makes us cultural beings. Culture can be defined as a shared, organized system of beliefs, practices, and artifacts passed on over time. From a cultural psychological perspective, culture can be found publicly via cultural products such as the education system, literature and art, as well as privately in the psychological processes of the human mind, such as in parenting philosophies (Morling & Lamoreaux, 2008). To illustrate, an artist may create a painting of a seascape that survives many generations. Culture, in this case, exists in the painting, in its representation of the ocean and the sky and the implied interests of its creator. But it also exists in the artist herself, in the psychological motives that compelled her to create such a piece in the first place. The constant interplay between the culture that is external, or impressed in the world around us, and internal, or expressed from our internal thoughts and behavior, is what it means to "make meaning." Culture is central to human life, and it is the focus of inquiry in cultural psychology.

Conventionally, culture has been studied in psychology as ethnicity or nationality, yet culture is much more than this. A more inclusive study of culture, one that appreciates its broad definition, examines many forms of culture (A. B. Cohen, 2009). Besides ethnic and national culture, it is possible to conceptualize religion as culture, for instance. Comparing Jewish to Protestant traditions suggests that religious background may shape beliefs about morality (A. B. Cohen & Rozin, 2001). Social class can also be understood as a form of culture, as people from middle-class contexts tend to

value uniqueness more than people from working class contexts (Stephens, Markus, & Townsend, 2007). Similarly, region can show meaningful differences between groups, as demonstrated by research on the culture of honor in the Southern United States (D. Cohen, Nisbett, Bowdle, & Schwarz, 1996) and evidence of high independence in Japan's northern frontier, Hokkaido (Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006). Research on other forms of culture – such as region, social class, and religion as culture – has been increasing, and there are many other meaningful groups that have yet to be studied in depth (e.g., the culture of academia). However, the most common conceptualization of culture in psychology is still ethnic or national culture, and among studies that examine personality and culture, the vast majority has conceptualized culture as ethnicity or nationality. Thus, we use the term "culture" in this chapter to refer to ethnic or national culture for simplicity.

Frameworks for Studying Culture and Personality

A common assumption is that culture, no matter its form, is a malleable influence working in opposition to more fixed influences such as personality. Yet this assumption may ignore the reality that, first, culture can interact with personality and situations in order to lead to different behaviors (Leung & Cohen, 2011), and second, personality itself can be shaped by environmental and genetic influences to differing degrees over the course of development (Bleidorn, Kandler, & Caspi, 2014). In this section we discuss two prominent frameworks that can be used to study culture together with personality (see Figure 1).

Culture is composed of shared meanings at the group level, and therefore, cultural differences are not always reducible to individual differences (Na et al., 2010). At the same time, there is often important variability within a culture; some individuals may not share the same meaning as everyone else in their group across situations. Groups and individuals do not always

operate under the same rules, and empirical evidence suggests that variables that systematically correlate at the group level may not correlate at the individual level (Na et al., 2010). In order to account for variation both between and within cultures, Leung and Cohen (2011) proposed the Culture × Person × Situation (CuPS) approach, integrating personality with cultural psychology (see also Gebauer et al., 2014 for discussion of the sociocultural motives perspective, or moderation of personality factors depending on sociocultural normativeness). In particular, the CuPS approach highlights the important point that aspects of the person (P) at the level of personality may interact with features of the social situation (S), and furthermore, the nature of this initial interaction ($P \times S$) may differ from one cultural context (Cu) to the next (Cu \times P \times S). For example, research has shown that mothers in Japan (Cu) are more likely to associate secure attachment of the child (P) with social accommodation, suggesting that they see the context of social relationships (S) as central to the healthy manifestation of secure attachment. Mothers in the U.S. (Cu), however, are more likely to associate secure attachment (P) with a range of positive personality traits and skills, suggesting that they consider personal attributes of the individual (S) to be central to secure attachment (Rothbaum, Kakinuma, Nagaoka, & Azuma, 2007). By considering how culture, person, and situation interact, as in the CuPS approach, researchers may more fully account for profiles of personality development around the world.

Another promising framework comes from the gene–culture interaction model ($G \times C$; H. S. Kim et al., 2010a), which is based on the broader framework of gene–environment interactions ($G \times E$; Caspi et al., 2003). Within the broad $G \times E$ framework, the same genetic tendency may lead to different outcomes depending on variability in the environment, and conversely, the same environment may lead to different outcomes depending on variability in genetic tendencies. The basic premise of $G \times C$ is that culture is a meaningful form of the environment that can shape the

expression of genetic tendencies, and there is accumulating evidence that the same genetic tendency seems to be expressed differently depending on culture for a number of psychological processes, including processes of emotion (emotional support seeking: H. S. Kim et al., 2010a; emotion regulation: H. S. Kim et al., 2011; well-being: Sasaki, Kim, & Xu, 2011) and attention (locus of attention: H. S. Kim et al., 2010b; sensitivity to changes in facial expressions: Ishii, Kim, Sasaki, Shinada, & Kusumi, 2014).¹ To the extent that gene–culture interactions may be implicated in the way people feel and the way they attend to and perceive the world around them, it is likely that G × C processes may be involved in personality development.

One alluring way to integrate the $G \times C$ model with personality is to roughly replace G with personality, P. Assuming that G is highly correlated with P, this perspective predicts that personality interacts with culture (P × C) to lead to different psychological outcomes, and genes are the antecedent to personality. By factoring in the situation as well, this perspective would become very similar to the CuPS approach (Leung & Cohen, 2011) and could thus be one possible way to use perspectives from genetics together with personality and cultural psychology. However, one issue with this method of integration is that genes (or more specifically, genotypes) do not change, even if gene expression does. Personality (a collection of phenotypes), although relatively stable, can change to some extent over time (Specht, Egloff, & Schmuckle, 2011). Relatedly, genes do not explain all of the variance in personality: cultural, situational, and physical environmental factors,

¹ An important methodological point in $G \times C$ research is that if two ethnic groups are used as proxies for culture (the "C" in $G \times C$), then these groups may vary not only in their cultural background but also in their frequencies of alleles for a particular gene. In order to address this issue, some studies (e.g., H. S. Kim et al., 2010a) have included a third cultural group that shares their cultural context with one group (but not ethnicity) and shares their ethnicity with the other group (but not the cultural context). Using this triangulation method can determine whether a gene is interacting with culture, and not just another set of genes. Other studies that instead considered religious ideas as the cultural environment (e.g., Sasaki et al., 2013) have experimentally manipulated religious salience to determine causal effects of the religio-cultural environment depending on genes.

such as parenting styles or early entry into the labor force, have direct effects on personality (see Figure 1). Correspondence between G and P may also change over time due to life experiences, suggesting a complex interplay between genes and the environment in contributing to personality stability over the course of development. Thus, a more useful way to integrate the $G \times C$ model and personality may be to consider personality as one important mediator of $G \times C$ effects on psychological outcomes. When a study shows that a gene interacts with an aspect of the cultural environment to lead to a particular behavior, these effects still require a psychological account of why that effect occurred, and part of that account must include personality.

Research on personality stability suggests a strong genetic foundation for personality traits. According to a recent meta-analysis of data from 134 studies, 40% of individual differences were accounted for by genetic factors (Vukasović & Bratko, 2015). However, the environment plays an important role in a number of ways. First, environmental effects are often non-independent of genetic effects, and second, genetic and environmental factors interact and can have variable effects on personality at different time points (Bleidorn et al., 2014). In particular, studies seem to suggest a decrease in heritability of personality traits across the lifespan (McCartney, Harris, & Bernieri, 1990; Viken, Rose, Kaprio, & Koskenvuo, 1994), and these changes in personality seem to result from differences in environmental factors that interact with genes (Kandler et al., 2010; see Caspi, Roberts, & Shiner, 2005 for review). Therefore, frameworks for studying culture and personality may benefit from examining findings at different crucial time points in development, including early childhood and young, middle, and older adulthood.

Personality Development Across Cultures

Personality development has been studied in various ways in the literature. In this chapter, we review cultural psychological findings on personality development that used any of

the three methods at different developmental time points: comparing mean-level differences across different age cohorts and examining intra-individual changes over time (comparing rankorder changes over time or mean-level changes over time; Roberts & DelVecchio, 2000; Soto, John, Gosling, & Potter, 2011; Specht et al., 2011; Terracciano, McCrae, & Costa, 2010). Although these three methods look at personality changes in different ways, recent crosssectional and longitudinal studies provide convergent evidence on personality development (Roberts, Walton, & Viechtbauer, 2006).

Early Childhood

Parent-child attachment styles. Classic work in attachment by Mary Ainsworth classified American infants according to a set of attachment styles, with secure being the most common and insecure variations (avoidant, ambivalent) being relatively less common (Ainsworth, Blehar, Waters, & Wall, 1978). Since then, researchers have set out to replicate these patterns of attachment styles in different cultures, and although there are similarities, there are a number of notable differences in attachment distributions that correspond with differences in cultural practices and values. In some cultures there seem to be differences, not in the proportion of secure attachment, but in the prevalent form of insecure attachment. In Japan the insecurely attached infants were only insecure-ambivalent (or also called insecure-resistant) rather than insecure-avoidant (Miyake, Chen, & Campos, 1985; Takahashi, 1986), and in Israel, there was a high frequency of insecure-ambivalent (Sagi et al., 1985); secure attachment was still the most common attachment style in both cultures. However, in Northern Germany the most common attachment style was insecure-avoidant, followed by secure and then insecureambivalent (Grossmann, Grossmann, Spangler, Suess, & Unzner, 1985). The authors of this research suggest that there seem to be differences in the way mothers interact with their infants

in Northern Germany, where the culture may emphasize status and interpersonal distance even more than in North America, and these cultural differences may be related to the lower percentage of securely attached infants in Northern Germany.

Some cultural researchers have argued that the tenets of attachment theory, such as sensitivity and competence, are rooted in predominantly North American ideals of personal control and autonomy (Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000), and in particular, the way that secure versus insecure attachment is manifested in children and interpreted by parents may differ depending on cultural values. For instance, mothers in the U.S. tend to associate secure attachment with a broader range of positive characteristics in personality and social skills, while Japanese mothers focus more on social roles and accommodating others in relationships as correlates of secure attachment (Rothbaum et al., 2007). The general message from these findings of cultural difference is that broader cultural values may be reflected in the relationship between caregivers and infants, leading to different patterns of attachment across cultures. Just as the caregiver–infant bond may change depending on the amount of resources or impending threats in the surrounding environment, it is perhaps unsurprising that different cultural ideals about how to be a good caregiver can have implications for patterns of attachment.

However, there are important similarities in attachment to note as well. While mothers in the U.S. and Japan may have different ideals for how a "good" infant should behave, mothers in both cultures agreed that secure attachment is related to desirable rather than undesirable child characteristics (Rothbaum et al., 2007). Consistent with this general finding, research comparing descriptions of secure-base behavior from mothers and childcare specialists found marked similarity across seven countries: China, Colombia, Germany, Israel, Japan, Norway, and the United States (Posada et al., 1995). Taking these findings of attachment similarities and

differences together, it seems clear that caregivers across cultures are motivated to respond sensitively to their children in order to help them become good, competent members of society, but specific interpretations about what is "sensitive," "competent," or "good" may differ depending on culture. It is likely that the attachment system is attuned to responses from caregivers, which are inevitably shaped by a host of contextual variables, including resources and threats, as well as shared values and norms at the level of culture. Thus it is possible that different attachment styles very early in life (a form of personality) may be in part shaped by cultural information about good ways to interact with caregivers, with preferred attachment styles in a culture becoming relatively more prevalent and non-preferred styles becoming less prevalent.

Big Five personality traits. Research on culture and personality can be traced to the Big Five personality research from the 1990s. The Big Five personality traits – Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness – are supposed to capture the core features of personality. The Big Five personality structure appears to be well generalizable across different cultures and age groups (John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994; Schmitt, Allik, McCrae, & Benet-Martínez, 2007; Tackett et al., 2012), although Openness to Experience has not been identified in certain cultures and languages (De Raad et al, 2010).

Childhood is an important developmental period in its own right, especially for the development of personality. Childhood personality predicts a number of crucial future outcomes, including internalizing and externalizing problem behaviors (Denissen, Asendorpf, & van Aken, 2008), success and failure in school and the workplace (Asendorpf, Denissen, & van Aken, 2008), and social and romantic relationships (Ozer & Benet-Martínez, 2006; Simpson, 1999). A few studies have focused on personality development in young children, but most of these have

been conducted in Western countries. In one longitudinal study, McCrae and colleagues (2002) examined personality changes of American and Flemish children from age 12 to 18. The largest age difference was observed for Openness, which increased from childhood to early adulthood in both cultural groups from the United States and Belgium, likely as a result of increased cognitive complexity. Neuroticism increased in girls but not in boys, and no differences were observed in the other three personality traits. Consistent with these findings, other studies provide further evidence that personality development largely follows the same patterns in childhood and adulthood: Individuals' normative increases in maturity occur through their reactions to social and physical environments (Roberts et al., 2006).

Other research including a wide variety of age groups (from 10 to 65 years) provided further support for the U-shaped developmental trend for personality with decreasing maturity during puberty (Soto et al., 2011). In this study, participants from English-speaking countries provided personality ratings online (72% were residents of the United States). Children's Conscientiousness levels, for instance, dropped in early childhood but increased during adolescence. Although only a handful of studies have directly focused on young children from a cross-cultural perspective, many of these show evidence of similar developmental patterns for Big Five personality traits in different cultures, at least within North America and parts of Europe.

However, some studies show evidence of cross-cultural differences. One study by Branje, Van Lieshout and Gerris (2007) compared mean levels of personality between young Dutch children aged 11–15 years and found age and gender differences in personality development. The results were somewhat inconsistent with previous results on American children. Openness increased in girls but not boys. Furthermore, Extraversion increased for boys, and Extraversion, Agreeableness, and Emotional Stability (reversed Neuroticism) increased for girls. These gender and age differences in the Netherlands may reflect cultural practices and perhaps genetic factors and socio-economic factors in the Netherlands. Compared to the United States, there is a greater gender gap in wages and labor force participation rates, in that men are more likely to be employed compared to women in the Netherlands (see Evertsson et al., 2009). Accordingly, these differences in cultural environments may interact with individuals' personality, values, and beliefs –child personality and parenting philosophies. Another possible explanation is that there might be differences in genetic tendencies in the two cultures. Even if there are shared cultural values between the Netherlands and U.S., similar cultural environments can interact with the (potentially different) genetic tendencies in the two countries, which may lead to different psychological outcomes.

As most studies on personality development usually start in adolescence, at this time, it is difficult to draw definitive inferences about the contribution of genetic and environmental factors on personality development. Most studies on personality development of young children were predominantly conducted in North America and Western Europe, thus, more research needs to be conducted in cultural groups that are less frequently studied to examine intercultural similarities and differences in personality development among children.

Personality Development in Young, Middle, and Older Adulthood

One of the most commonly studied populations in psychological research is young adults (Henrich, Heine, & Norenzayan, 2010). Much psychological research has been conducted on university students mostly for practical reasons. A few large-scale, cross-sectional, and longitudinal studies on personality provide insights into the intercultural similarities and differences in personality development during adulthood. Indeed, one longitudinal study of the

Big Five assessed North American university students' personality when they first entered the university and four years later (Robins, Fraley, Roberts, & Trzesniewski, 2001). Except for one trait (Extraversion), individuals showed normative changes in their personality, meaning their scores on Conscientiousness, Agreeableness, Openness, and Emotional Stability increased over time. These findings are consistent with a large-scale, cross-cultural investigation with college students from 50 countries (McCrae et al., 2005), suggesting there are similar cross-cultural patterns of personality change in adulthood.

Personality traits continue to change and develop throughout adulthood (Fraley & Roberts, 2005). For example, in one of the first cross-cultural studies on age differences in personality, McCrae and colleagues (1999) compared personality across various age groups (age group 18–21, 22–29, 30–49, and 50 years and above) in five different cultural groups: Germany, Italy, Portugal, Croatia and South Korea. This study showed consistent age differences across the cultural groups. College students scored highest on Extraversion and Openness and declined thereafter. The three other traits - Conscientiousness, Agreeableness and Emotional Stability increased as people aged from early adulthood to older adulthood. The developmental patterns were consistent across the cultural groups, but a few cultural differences were observed. For instance, Germans experienced relatively steep age-related personality changes, with young Germans (aged 18-21) showing lower levels of Conscientiousness compared to young Portuguese and both cultural groups showing similar levels of Conscientiousness in middle adulthood. Another study by McCrae et al. (2000) observed similar patterns in samples drawn from the United Kingdom, Germany, Spain, the Czech Republic, and Turkey. Perhaps most informative, further studies based on nationally representative data from 50 countries found similar age-related maturation in personality traits (Donnellan & Lucas, 2008; McCrae &

Terracciano, 2005). All of these studies support the notion that personality development is likely to have a strong genetic component, but importantly, similarities across cultures can mean either that differences in these cultures did not lead to significant differences in personality traits or that the environments in these studies included similar key factors across cultural groups.

More recent studies may shed some light on the genetic and environmental origins of personality development (Bleidorn et al., 2013; Briley & Tucker-Drob, 2014). Bleidorn et al. (2013) analyzed a large internet-based database of young adults from 62 countries to test two theories providing different explanations for these age effects on personality development. They focused on five different age groups in their cross-sectional study: 16-20, 21-25, 26-30, 31-35, and 36–40. The five factor theory (McCrae et al., 2000), which proposes that maturation is largely determined by genetic factors, would predict similar age differences in personality across various cultural groups. The social investment theory (Roberts, Wood, & Smith, 2005) proposes that personality maturation is influenced by not only genetic factors but (crucial) environmental factors that should matter for personality, such as transition into adult roles, and this theory predicts different patterns of age differences across cultural groups. Indeed, their research findings provided evidence for the latter argument: Individuals from countries that tend to adopt adult roles earlier (i.e., earlier transition into labor force) showed accelerated forms of personality development compared to individuals from countries that have later workforce entry. For instance, individuals from Pakistan, Malaysia, and Brazil enter the workforce sooner than individuals from Argentina (average scores on timing of job transition out of 62 countries) and individuals from the Netherlands, Canada and the United States (latest transition into labor force). Correspondingly, there were accelerated increases in Emotional Stability, Agreeableness and Conscientiousness, and decreases in Openness and Extraversion in cultures such as Pakistan, where people take on adult roles earlier. In other words, individuals from Pakistan are more likely to show psychological maturation earlier to fulfill adult-role responsibilities at an earlier age. According to this research, cross-cultural level variables explained 11–25% of the cross-cultural variance in age effects on the Big Five traits. In other words, culture-level variables partially explained the difference in cultural patterns of personality development. Importantly, consistent with previous findings, a mainly universal pattern of personality development was observed across different cultural groups. These results may provide a basis for a more comprehensive understanding of the determinants of personality by elucidating how genetic and nonshared environmental factors are both clearly involved in personality development (Bleidorn et al., 2014).

A few studies focusing on an older age group found an inverted U-shaped pattern for rank-order stability of Emotional Stability, Extraversion, Openness, and Agreeableness, with peak stability occurring in middle age and a decrease in stability occurring after age 60 in the German and Australian national representative samples (Lucas & Donnellan, 2011; Specht et al., 2011; Wortman, Lucas, & Donnellan, 2012). Yet discrepancies were observed concerning the direction of the relationship between certain personality traits and age in the U.S. and Swiss nationally representative samples (Anusic, Lucas, & Donnellan, 2012).

The majority of the described studies on personality development in childhood and adulthood were based on cross-sectional data that examined cultural differences in personality trait levels. The sole reliance on cross-sectional study can be problematic in examining personality development as it confounds age and cohort effects. Yet it is important to point out that cross-sectional data provides us important information about the social and cultural changes between birth cohorts (Twenge, 2000, 2001). In the United States, for instance, mean levels of Extraversion and Neuroticism have increased in recent decades. The increases in narcissistic personality traits among American university students are theorized to be the result of larger culture-level changes in the United States involving parenting and education. The cultural shift towards encouraging very high self-esteem, individual achievement, money, and fame may have had far-reaching effects on psychological traits in recent generations. Thus, exploring and measuring personality development using multi-method approaches may help us understand how genetic and environmental factors interact to influence average personality tendencies in different cultures, and how personality predicts different psychological outcomes across the lifespan.

Future Directions in Personality Development Across Cultures

For future research on culture and personality development we have a number of recommendations. First, in terms of methods, it is important consider language differences in intercultural comparisons. Thus, measurement invariance needs to be established to ensure that the constructs measured are comparable across cultures. Two ways to accomplish this are (1) to establish measurement invariance before making cross-cultural comparisons, and (2) to focus on bilingual immigrants and trace their personality development using two language versions of the same measure. Second, we would like to emphasize the importance of exploring intercultural similarities and differences at the facet level, which can provide richer understanding of developing patterns of different cultures. The majority of previous cultural studies focused on personality changes at the trait level. However, some research provides important insights into cultural differences in personality at the facet level (e.g., positive emotion facet of Extraversion) and cultural differences in the relationship between personality and psychological outcomes at the facet level (Suh, Diener, Oishi, & Triandis, 1998). It is also crucial to consider systematic

differences in response styles across cultures (Cheung & Rensvold, 2000). People may differ in the way they respond to items or provide inflated evaluation of themselves. Compared to individuals with Asian ethnic background, individuals with European ethnic background tended to show more overly positive self-evaluations whereas Asians were more likely to show ambivalent and moderate responses (Hamamura, Heine, & Paulhus, 2008), and/or accurate evaluations of themselves (H. Kim, Schimmack, Cheng, Webster, & Spectre, 2016; H. Kim, Schimmack, & Oishi, 2012). As these evaluation biases are systematic and highly reproducible, it is important to account for these cultural differences in evaluative biases in examining personality development.

Conclusion

In this chapter we reviewed cross-cultural research that used one (or more) of the three commonly used methods to understand personality development: (1) examining mean-level differences across different age cohorts, (2) examining mean-level changes in personality over time, and (3) examining rank-order changes in personality over time. These different methods help us understand the psychological reasons for the observed cultural similarities and differences in personality. For example, although age and cohort effects are confounded in a single cross-sectional study, it still provides valuable insights into the differences in personality development across various age groups.

Accumulated evidence has demonstrated the influence of genetic and environmental factors on personality development. People from countries that enter the labor force earlier than later showed an accelerated increase in maturity-related traits, such as Agreeableness, Conscientiousness and Emotional Stability. Yet studies show a universal pattern of personality development across the lifespan: people becoming more conscientious, agreeable, and emotionally stable as they get older. Findings of cultural similarities in personality development should not be interpreted as a diminished role of culture. People in different cultures may show similar patterns of personality because they are engaging in "universal life tasks" at similar life stages (Bleidorn, 2012; Bleidorn et al., 2013; Lodi-Smith & Roberts, 2007), and even when studying personality within a single group, the role of culture is to be explained. Genes do not act in isolation from culture to build personality tendencies, but rather are in constant interaction with it. Indeed, cultural inputs are a necessary part of personality development everywhere.

One way to think about culture is as a form of social feedback about one's behaviors, including those based on personality traits. There seems to be consistent similarities in personality development across cultures, perhaps due to genetic variation within a population, but there are interesting differences between cultures as well (e.g., different timing of entry into labor force). Where cultural differences exist, these could be due to reinforcement or dampening of behaviors from cultural values. It is possible that certain personality types are approved or disapproved of depending on what is valued in a culture, and these values can work to maintain cultural patterns of personality over time.

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Figure 1. Framework for integrating genes, environment, and personality. *Note.* The model implies direct effects of genes and environmental factors (e.g., cultural, situational, and physical environmental factors, such as early transition into adulthood) and gene-by-environment effects on personality. The relationship between gene and personality change developmentally over time $(T_1, T_2, T_3 ... T_n)$ due to an individual's life experiences. Personality also interacts more proximally with the environment to predict psychological outcomes.