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Racial/Ethnic Differences in Values, Personality, and Psychopathology in Youth

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Abstract

Personality traits and personal values represent individual differences that influence many forms of behavior including psychopathology (Hanel & Wolfradt, 2016; Jarden, 2010; Ozer & Benet-Martinez, 2006; Schwartz, 2006). Extensive research has highlighted the importance of personality traits in the development of psychopathology in children. However, the association between values and psychopathology has yet to be examined in middle childhood. Racial/ethnic differences in personality traits and values have yet to be explicitly explored despite the presence of documented differences in adult samples (Foldes, Duehr & Ones, 2008; Gaines et al., 1997). Three studies evaluated associations between values, personality traits, and psychopathology in middle childhood. Racial/ethnic differences were also examined for each of the constructs. Chapters 2 and 3 evaluated value types in young adults and children. In both studies, two classes emerged, and they were further distinguished by race/ethnicity, gender, and personality trait associations. Chapter 3 also evaluated values-personality associations in children. Values and personality traits were associated in largely expected ways. Chapter 4 evaluated racial/ethnic differences in associations between individual differences and psychopathology. Power, universalism, and Agreeableness predicted externalizing problems, and Neuroticism predicted internalizing problems. Racial/ethnic differences did not emerge for any of the values-psychopathology or personality-psychopathology associations. Overall the findings from the studies suggest that associations between values and personality traits are present as early as middle childhood.

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Chapter 1

General Introduction

Personality traits and personal values represent individual differences that influence many forms of behavior including psychopathology (Hanel & Wolfradt, 2016; Jarden, 2010; Ozer & Benet-Martinez, 2006; Schwartz, 2006). Extensive research has provided compelling evidence of the importance of personality traits in the development of psychopathology in children (Nigg, 2006; Tackett, 2006). Although research has provided evidence that personal values also influence rates of psychopathology in adolescents and adults, this has not been extended down to younger children (Caldwell-Harris & Aycucgi, 2006; Hanel & Wolfradt, 2016; Jarden, 2010). Furthermore, racial/ethnic differences in personality and values have yet to be explored in the context of children, despite the presence of documented differences in adult samples (Foldes, Duehr & Ones, 2008; Gaines et al., 1997). Values are thought to be a culturally relevant representation of individual differences and may be a useful supplement to personality traits in the context of race/ethnicity. Three studies evaluated associations between values, personality traits, and psychopathology in children. Racial/ethnic differences in these associations were also examined.

The Role of Individual Differences in Psychopathology in Children

Individual differences are implicated in the development of internalizing and externalizing problems in children (Nigg, 2006; Tackett, 2006). Empirical evidence evaluating associations between individual differences and psychopathology in children has largely focused on personality traits, despite evidence of values-psychopathology associations in adults (Caldwell-Harris & Aycucgi, 2006; Hanel & Wolfradt, 2016; Jarden, 2010). The current review of the

literature illustrates the utility of examining personality psychopathology associations in children and the need to incorporate values.

Personality and child psychopathology. Personality traits are stable individual differences that are reflected in emotion, cognitive, and behavioral domains and serve as predictors of general adaptation across the lifespan (Allport, 1937; Roberts & DelVecchio, 2000; Rothbart, Ahadi & Evans, 2000). Personality development has benefitted from advances in theoretical conceptualization and reliable measurement in children (Halverson et al., 2003; Mervielde & De Fruyt, 1999; Shiner, 1998; Shiner & Caspi, 2003). Researchers have identified roughly analogous childhood personality traits to the Five-Factor Model (FFM) of adult personality: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness (John, Naumann & Soto, 2008; McCrae & Costa, 2008). Neuroticism describes tendencies toward experiencing negative emotions such as anger, fear, and sadness. Extraversion describes tendencies towards experiencing positive emotions and being sociable. Openness to Experience describes tendencies towards intellectual curiosity, engaging in novel experiences, and imagination. Agreeableness describes tendencies towards being cooperative, friendly, and compassionate. Finally, Conscientiousness describes tendencies towards being organized, compliant and self-disciplined (Goldberg, 1993; Shiner & Caspi, 2003). Collectively, these traits have demonstrated great utility in predicting a range of behaviors including psychopathology in children.

Robust associations between personality traits and psychopathology in children have been well documented in existing literature (Nigg, 2006; Widiger & Smith, 2008). Neuroticism, for instance, predicts higher rates of internalizing and externalizing symptoms later in

development (Cote et al., 2009; Dougherty, Kline, Durbin, Hyden, & Olino, 2010; Gilliom & Shaw, 2004; Hayden, Kline & Durbin, 2005; Schmitz et al., 1999). Furthermore, Neuroticism is consistently associated with both internalizing and externalizing psychopathology (De Bolle, Deyers, De Clercq, & De Fruyt, 2012; Tackett, Kushner et al., 2013; Tackett, Waldman, Van Hulle, & Lahey, 2011). Other traits appear to uniquely predict either internalizing (i.e., low extraversion; Clark & Watson, 1991; Klein, Dyson, Kujawa, & Kotov, 2012; Kushner, Tackett & Bagby, 2012) or externalizing problems (i.e., low conscientiousness and agreeableness; DeYoung, Peterson, Seguin, & Tremblay, 2008; Eisenberg, Spinrad & Eggum, 2010; John, Caspi, Robins, Moffitt & Stouthamer-Loeber, 1994; Miller, Lynam & Jones, 2008; Tackett, Martel & Kushner, 2012).

One way to conceptualize the association between personality traits and the development of psychopathology is the vulnerability model (Tackett, 2006). This model posits that traits are antecedent risk factors that confer risk for maladaptive outcomes (Clark, 2005; Nigg, 2006; Tackett, 2006; Widiger & Smith, 2008). Although other models exist, the vulnerability framework is largely used in most of the extant literature linking personality and psychopathology. The current line of research uses the vulnerability framework as the basis for understanding the personality-psychopathology association as well as the values-psychopathology association.

Values and psychopathology. Personal values are conceptualized as principles that guide how an individual ought to behave and represent an additional dimension of individual differences (Parks & Guay, 2009; Rokeach, 1973; Schwartz, 1992). The most comprehensive and widely used theory of personal values is Schwartz's Value Theory (Schwartz,

1994; Schwartz & Bilsky, 1987). The values are conceptualized according to six tenets described by Schwartz (1992; 2006). (1) Values are beliefs linked to affect. When activated, they are imbued with feelings. (2) Values reference desirable goals that assist in motivating action. (3) Values transcend specific situations and actions. (4) Values serve as criteria or standards. (5) Values are ordered by importance relative to other values. (6) The relative importance of multiple values guides action. Values can be distinguished from one another by the type of motivation or goal that the value expressed (Schwartz, 2006). There are 10 broad values: self-direction (choosing, creating, exploring), stimulation (excitement, novelty, challenge), hedonism (pleasure, sensuous gratification), achievement (personal success and competency), power (social status, prestige, dominance), security (safety, harmony), conformity (social norm-consistency), tradition (respect and commitment to customs), benevolence (concern over close other's welfare) and universalism (concern over welfare of all people and nature). The taxonomy of the values is laid out in a circumplex (see Parks & Guay, 2009; Schwartz, 1992 for an illustration), with complementary values being closer to--and opposing values being further away from--each other. The values are divided into four quadrants along two bipolar dimensions: openness to change versus conservation and self-transcendence versus self-enhancement.

Values and child psychopathology Less empirical work has focused on evaluating values in children. Although personality traits can be reliably measured via multiple informants, values are typically measured using self-report. Thus, the question of how to reliably measure values in children has been raised. Recent research has provided some evidence that a highly differentiated values structure can emerge in samples assessing children (Doring,

2010). The use of measures that explore a child's value without explicitly identifying the value has yielded promising results. The Portrait Values Questionnaire has individuals compare themselves to vignettes that tap into different values and has successfully been used with children and adolescents (Bilsky, Niemann, Schmitz & Rose, 2005; Bubeck & Bilsky, 2004; Knafo & Schwartz, 2004; Schwartz et al., 2001).

Little to no empirical work has focused on examining the association between personal values and psychopathology in children. Limited work in adolescents and adults provide evidence that values also influence psychopathology with others finding no associations between values and psychopathology (Akram & Khan, 2015; Caldwell-Harris & Aycucgi, 2006; Gonzales et al., 2008; Hanel & Wolfradt, 2016; Jarden, 2010). Some studies suggest that a mismatch between personal values and societal values result in increased risk of psychopathology, while other studies find specific associations between psychopathology and values (Caldwell-Harris & Aycucgi, 2006; Chan, 2012; Gonzales et al., 2008; Hanel & Wolfradt, 2016; Jarden, 2010; Le & Kato, 2006; Nasim, Corona, Belgrave, Utsey, & Fallah, 2007). For example, endorsement of traditional cultural values is associated with decreases in externalizing behaviors (Gonzales et al., 2008). Other studies have provided evidence that values influence psychopathology which impacts the importance of other values (e.g., achievement is positively associated with depression, and depressed mood is associated with the decreased importance of hedonism; Hanel & Wolfradt, 2016). The association between values and psychopathology documented in adolescent and adult samples suggests that this relationship may emerge before adolescence, warranting further investigation.

Associations between personality traits and personal values. In addition to understanding personality-psychopathology associations and values-psychopathology associations, it is also important to understand how the two dimensions of individual differences relate to each other. Although similar, personality and values represent two distinct domains of individual differences that each provide meaningful information that can be useful in furthering one's understanding of individual differences in expression of behaviors, including psychopathology (Bilsky & Schwartz, 1994; Parks & Guay, 2009; Parks-Leduc, Feldman, & Bardi, 2015). Personality traits are considered innate dispositions while values are learned beliefs that may reflect adaptation to personal and societal needs (Olver & Mooradian, 2003; Parks & Guay, 2009; Rokeach, 1972; Schwartz, 2006). Values often conflict with each other so that one value is prioritized at the expense of another value, whereas, personality traits are expressed simultaneously. Despite these differences, both personality and values remain important domains that show great utility in furthering our understanding of psychopathology in children.

Robust associations between personal values and personality traits have been documented in the literature almost exclusively using adult samples (Bilsky & Schwartz, 1994; Fischer & Boer, 2014; Olver & Mooradian, 2003; Parks, 2007; Roccas, Sagiv, Schwartz, & Knafo, 2002; Smack, Herzhoff, Tang, Walker, & Tackett, 2017; Vecchione, Alessandri, Barbaranelli & Caprara, 2011; Yik & Tang, 1996). The strength of these associations varies as a function of content overlap between values and traits, as well as, how cognitively based the traits are (e.g., cognitive traits having a stronger association with values; Parks-Leduc et al., 2015). Across studies, Openness to Experience and Agreeableness have the strongest associations with values, followed by Conscientiousness and Extraversion, and Neuroticism having the weakest

association (Fisher & Boer, 2014; Parks, 2007; Parks & Guay, 2009; Roccas et al., 2002). In adults, Openness to Experience is positively correlated with self-direction, universalism, and stimulation and negatively correlated with conformity, security, power and tradition.

Agreeableness is positively correlated with benevolence, tradition, and conformity and negatively correlated with power and achievement. Conscientiousness is positively correlated with achievement, conformity, and security and negatively correlated with stimulation.

Extraversion is positively correlated with achievement, stimulation, and hedonism and negatively correlated with tradition. Although higher-order associations between Neuroticism and values are not typically found, some facets of Neuroticism (e.g., impulsiveness) are associated with values (e.g., stimulation). Collectively, this work provides evidence supporting associations between personality traits and personal values.

There have been many advances in understanding associations between personality traits and values in adults. Despite this, little to no research has evaluated personality-values associations in children. Understanding how these domains of individual differences are associated with each other in childhood may ultimately further our understanding of the development of maladaptive behavior. The current line of research aims to expand our understanding by examining associations between values and personality traits in children.

The Role of Race/Ethnicity in Personality, Values and Psychopathology

As our understanding of the association between individual differences and psychopathology improves, it also becomes important to consider the role of race/ethnicity. Racial/ethnic differences in personality traits, values, and psychopathology are inconsistently documented in studies using adolescent and adult samples (Foldes, Duehr, & Ones, 2008; Gaines

et al., 1997; Merikangas et al., 2010). Despite this, little to no work has examined racial/ethnic differences in these constructs in children or racial/ethnic differences in the association between individual differences and psychopathology. The current review of the literature highlights existing knowledge of racial/ethnic differences among the constructs.

Race/ethnicity, personality and values. Although limited some work has examined cross-cultural differences in childhood personality across countries, explicit examination of racial/ethnic differences in childhood personality has yet to be completed (Knyazev, Zupancic, & Slobodskaya, 2008; Tackett et al., 2012). However, research examining racial/ethnic differences in personality traits in adults and studies evaluating racial/ethnic differences in temperament have inconsistently documented some racial/ethnic differences (Allik & McCrae, 2004; Church et al., 2006; Eap, Degarmo, Kawakami, Hara, Hall, & Teten, 2008; Foldes, Duehr, & Ones, 2008; Gartstein, Slobodskaya, Olaf Zylicz, Goszty, & Nakagawa, 2010; Matsumoto, Nakagawa, & Estrada, 2009). For example, a large meta-analysis found that Neuroticism scores were reported to be highest for Latino and Asian Americans followed by African and European Americans. Extraversion was found to be highest for European Americans, followed by African, Latino, and Asian Americans. Openness scores were found to be highest for Asian Americans, followed by European, Latino, and African Americans. Agreeableness scores were found to be highest for Asian Americans followed by European, Latino, and African Americans. Finally, Conscientiousness was reported to be highest for Latino Americans, followed by African, Asian, and European Americans (Foldes et al., 2008).

Additional studies have provided support for the meta-analytic findings while others have found different patterns of racial/ethnic differences and some have not found evidence of

racial/ethnic differences in personality traits (Allik & McCrae, 2004; Eap et al., 2008; Foldes et al., 2008; McCrae, 2001; Slobodskaya, Gartstein, Nakagawa, & Putnam, 2012; Woo, Chernyshenko, Longley, Zhang, Chiu, & Stark, 2014). However, despite the presence of racial/ethnic differences it is important to recognize that racial/ethnic groups do not differ in terms of possessing vulnerable personality profiles (i.e., characterized by high Neuroticism, and low Extroversion, Openness to Experience, Agreeableness, and Conscientiousness). Taken together, these findings provide evidence for racial/ethnic differences in personality in adults and justify the need to evaluate whether racial/ethnic differences are present in children. An understanding of racial/ethnic differences in child personality traits may shed light on inconsistencies seen in adult samples.

Similar to personality traits, empirical evidence evaluating racial/ethnic differences in personal values have primarily been conducted in adult samples (Coon & Kemmelmeir, 2001; Gaines et al., 1997; Hofstede, 2001). Racial/ethnic differences in values have primarily been explored as a function of individualistic versus collectivistic orientations (Hofstede, 2001; Gaines et al., 1997). Individuals of European descent tend to place a greater emphasis on values corresponding to individualism (i.e., self-direction, hedonism, and stimulation). Individuals of African, Asian, and Hispanic descent tend to place a greater emphasis on values associated with collectivism (i.e., tradition and conformity; Cokely, 2005; Coon & Kemmelmeier, 2001; Gaines et al., 1997; Hofstede, 2001; Kim, Atkinson & Yang, 1999; Kim & Omizo, 2005; Sue & Sue, 2008). However, there is also emerging evidence suggesting that African Americans score higher on individualism relative to their Asian and European American

peers; this finding is believed to be the manifestation of a survival mechanism over time (Cokley, 2005).

There have also been some studies that have examined racial/ethnic differences among value-psychopathology associations in adolescents (Chan, 2012; Le & Kato, 2006; Nasim et al., 2007). Research examining this association typically finds that culturally relevant values serve as a protective factor for engagement in problem behaviors (Chan, 2012; Gonzales et al., 2008; Le & Kato, 2006; Nasim et al., 2007). For example, among African American adolescents, collectivistic family values served as a protective factor against marijuana usage (Nasim et al., 2007). Individualistic values among Asian Americans were a risk factor for risky sexual behavior (Le & Kato, 2006). Collectively, these findings document racial/ethnic differences in the values-psychopathology association and highlight the importance of considering race/ethnicity when examining the association between values and psychopathology.

Race/ethnicity and psychopathology. Research suggests that racial/ethnic differences differ both in their prevalence and manifestation of psychopathology in adolescents and adults. World mental health surveys have suggested that lifetime prevalence of internalizing and externalizing diagnoses is reported to be higher in predominately non-Hispanic European countries (Kessler et al., 2005; Kessler et al., 2007). The few studies conducted on racial/ethnic differences in youth psychopathology have produced mixed findings. Some studies have found that Latino American adolescents report the highest rates of depression and anxiety symptoms followed by Asian, African, and European Americans (Anderson & Mayes, 2010; McLaughlin, Hilt & Nolen-Hoeksema, 2007). However, others have found that

European American adolescents exhibit more internalizing behavior (Morgan, Farkas & Wu, 2009; Nguyen, Huang & Liao, 2007). Findings on externalizing behavior have found that African American males report the highest rates of aggressive behavior compared to European, Asian, and Latino American adolescents within the United States (Anderson & Mayes, 2010; McLaughlin et al., 2007; Nguyen et al., 2007). Other studies have not found any racial/ethnic differences in psychopathology (Ginsburg & Silverman, 1996; Last & Perrin, 1993). These inconsistent results highlight the need for further research in this area which the current dissertation aims to address.

Mixed findings make it difficult to determine whether racial/ethnic differences in prevalence rates of psychopathology are meaningful (Austin & Chorpita, 2004; Cole, Martin, Peeke, Henderson, & Harwell, 1998; Roberts & Chen, 1995). At present, there is some evidence that racial/ethnic differences are found in adolescent samples (Anderson & Mayes, 2010; McLaughlin et al., 2007; Morgan et al., 2009; Nguyen et al., 2007). It is possible that racial/ethnic differences in psychopathology may be present in younger children. An understanding of racial/ethnic differences in psychopathology leads to identification of at-risk groups and provides targets for prevention and intervention efforts. Examining the role of individual differences in the context of race/ethnicity may help clarify the current muddled picture regarding the presence of racial/ethnic differences in psychopathology.

The Current Research

Connections between personality and psychopathology have long been documented in the literature and personality has demonstrated utility as a means of identifying children who may be at a greater risk for developing psychopathology (Nigg, 2006; Tackett, 2006). Values are also

associated with psychopathology and are believed to be more culturally informed representations of individual differences (Hanel & Wolfradt, 2016; Jarden, 2010). Despite the many advances that have been made, particularly with regard to personality-psychopathology associations in adults and children, less work has focused on value-psychopathology associations in adults and even less work has focused on children. Even when these associations have been examined, race/ethnicity is rarely considered. The current line of research examined the association between personality traits and personal values and the association between individual differences and psychopathology in children. Racial/ethnic differences in these associations were also examined for African, European, and Latino American children. These associations were examined specifically in middle childhood in Chapters 3 and 4 given the idea that this timeframe is seen as a critical period for later adjustment (Eccles, 1999; Garcia Coll & Szalacha, 2004).

Chapter 2 evaluated value types and racial/ethnic, gender, and personality differences in value types in a sample of young adults. Two value types emerged that were differentiated by racial/ethnic composition and personality trait associations that were consistent with previous literature. Chapter 3 evaluated values-personality associations in children. Chapter 3 also evaluated value types and racial/ethnic, gender, and personality differences in value types in children. Significant values-personality trait associations emerged for the values: conformity, self-direction, and security. Similar to chapter 2, two value types emerged that were differentiated by racial/ethnic composition and personality trait associations. These findings were consistent with findings from chapter 2 and findings from the adult literature. Chapter 4 evaluated racial/ethnic differences in associations between individual differences and psychopathology. Power, universalism, and Agreeableness predicted externalizing problems, and

Neuroticism predicted internalizing problems. Racial/ethnic differences did not emerge for any of the values-psychopathology or personality-psychopathology associations.

Chapter 2

A Latent Class Analysis of Personal Values in Young Adults

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Personal values reflect principles we use to govern how we ought to behave and represent a dimension of individual differences (Parks & Guay, 2009; Rokeach, 1973; Schwartz, 1992, 2006). Values show robust associations with other individual differences, such as personality traits (Fischer & Boer, 2014; Parks & Guay, 2009; Roccas, Sagiv, Schwartz, & Knafo, 2002), and have been organized into summary categories—most notably, Schwartz’s circumplex taxonomy (2006). In addition to numerous studies examining values from a variable-centered approach, recent empirical attention has focused on adopting a within-person approach to examine value typology (Borg, Bardi, & Schwartz, 2015; Gollan & Witte, 2014; Magun, Rudnew, & Schmidt, 2016). These studies further validate the existing taxonomic distinctions proposed by Schwartz’s value theory (Schwartz, 1992; 2006). The present study seeks to replicate previously reported findings and further describe emergent classes by race/ethnicity and gender, as well as, associations with personality traits.

Two basic conceptualizations have been proposed for personal values: values as preferences and values as principles (Ravlin & Meglino, 1987). We focus here on the latter. Personal values reflect guiding principles that influence an individual’s behavior (Parks & Guay, 2009; Schwartz, 1992; Schwartz, 2006). Schwartz’s Theory of Basic Human Values (1992; Smith & Schwartz, 1997) is perhaps the most widely used and extensively developed taxonomy for personal values. These personal values are conceptualized according to six tenets described by Schwartz (1992; 2006). (1) Values are beliefs linked to affect. When activated, they are imbued with feelings. (2) Values reference desirable goals that assist in motivating action. (3) Values transcend specific situations and actions. (4) Values serve as criteria or standards. (5) Values are ordered by importance relative to other values. (6) The relative importance of

multiple values guides actions. Values can be distinguished from one another by the type of motivation or goal that the value expresses (Schwartz, 2006). Schwartz's theoretical model is further composed of ten broad values: self-direction (choosing, creating, exploring), stimulation (excitement, novelty, challenge), hedonism (pleasure, sensuous gratification), achievement (personal success, competency), power (social status, prestige, dominance), security (safety, harmony), conformity (social norm-consistency), tradition (respect, commitment to customs), benevolence (concern over close other's welfare), and universalism (concern over welfare of all people and nature). The taxonomy of the values is laid out in a circumplex (see Parks & Guay, 2009; Schwartz, 1992 for an illustration), with corresponding values being closer to--and opposing values being further away from--each other. The values are divided into four quadrants along two bipolar dimensions: openness to change versus conservation and self-transcendence versus self-enhancement. Openness to change (self-direction, stimulation, and hedonism) and conservation (tradition, conformity, and security) values represent characteristics of individualism and collectivism, respectively.

Recently, there has been an increase in research examining values using a within-person approach. At least two studies have tested whether Schwartz's value circumplex exists within individuals as well as across individuals (Borg, Bardi, & Schwartz, 2015; Gollan & Witte, 2014). Other studies have employed a wide variety of methods including data clustering techniques to evaluate the within-person structure of values (see Magun et al., 2016 for more details). Most recently, Magun and colleagues (2016) sought to use a typological approach to investigate the between and within-country diversity of values. This approach identifies homogenous classes of individuals with similar value systems and can be tested using a variety of statistical methods

including cluster, discriminant, and latent class analyses (Lee et al., 2011; Magun & Rudney, 2008; Magun et al., 2016; Moors & Vermunt, 2007). In Magun's work, they sought to evaluate within and between country value heterogeneity of populations in Europe. The investigators identified five European value classes. The countries were internally diverse in their value class composition, and most of them had a non-zero probability of having members in all of the classes. These results highlighted latent class analysis as an appropriate strategy for relating values to each other within Schwartz's value taxonomy both within and between countries. A latent class approach can add valuable insight into how personality and values are related to each other within an individual. Presently, known associations between personality and values are based primarily on variable-centered analyses. Therefore, the current study seeks to identify values types in countries in North America and seeks to characterize emergent classes in terms of race/ethnicity, gender, and personality traits.

Values, Race/Ethnicity, and Gender

Culturally reflective demographic variables including race/ethnicity and gender likely relate to within-person configurations of personal values (Coon & Kemmelmeier, 2001; Gaines et al., 1997; Hofstede, 2001; Schwartz & Rubel, 2005). Although the structure of value importance is near universal at the societal level, individuals from different cultural groups could be expected to differ substantially on the relative importance that they attribute to the ten values (Schwartz, 2006). The most robust racial/ethnic differences in personal values are seen when examining individualistic versus collectivistic orientations. Individuals of European descent tend to place a higher emphasis on values corresponding to individualism (e.g., self-direction, hedonism, and stimulation). Individuals of African, Asian, and Latino descent tend to place a

higher emphasis on values associated with collectivism (e.g., tradition, conformity and security; Cokely, 2005; Coon & Kemmelmeier, 2001; Gaines et al., 1997; Hofstede, 2001; Kim, Atkinson, & Yang, 1999; Kim & Omizo, 2005). However, there is also emerging evidence suggesting that African Americans score higher on individualism relative to their Asian and European American peers, likely a manifestation of a survival mechanism over time (Cokley, 2005). Overall, there are similarities and differences between racial/ethnic groups and personal value priorities.

Research examining sex differences in personal value importance produce mixed findings. The most common sex differences found across cultures is that men tend to place a higher emphasis on self-enhancement values, and women tend to emphasize self-transcendence values (Bond, 1988; Di Dio, Saragovi, Koestner, & Aube, 1996; Feather, 1984; 1987; Rokeach, 1973; Schwartz & Rubel, 2005). Some findings suggest that women place a higher importance on conservation values whereas men place a greater emphasis on openness to change values (Ryckman & Houston, 2003; Schwartz & Rubel, 2005). However, there are also studies that find no sex differences among any of the ten personal values (Aygun & Imamoglu, 2002; Prince-Gibson & Schwartz, 1998) or no sex differences for specific values (e.g., tradition and conformity; Schwartz & Rubel, 2005). Despite some inconsistencies in the literature, previous research provides evidence of the presence of racial/ethnic and gender differences that may influence within-person configurations of personal values. As such, race/ethnicity and gender represent sociodemographic variables that will be examined. The current sample is particularly well suited to this goal as it offers racial/ethnic diversity in a large sample of individuals from two distinct geographic locations in North America.

Values and Personality

Associations between personal values and personality traits have been robustly documented in the literature (Bilsky & Schwartz, 1994; Fischer & Boer, 2014; Olver & Mooradian, 2003; Parks, 2007; Parks-Leduc, Feldman, & Bardi, 2015; Roccas et al., 2002; Vecchione, Alessandri, Barbaranelli & Caprara, 2011; Yik & Tang, 1996). Previous research has provided evidence that the strength of associations between values and personality varies as a function whether the traits are more cognitively based (with cognitive traits having a stronger association with values) and the amount of content overlap with between the values and traits (Parks-Leduc et al., 2015). Across studies, Openness to Experience and Agreeableness demonstrate the strongest associations with personal values, followed by Conscientiousness and Extraversion (Fischer & Boer, 2014; Parks, 2007; Parks & Guay, 2009; Parks-Leduc et al., 2015; Roccas et al., 2002). Agreeableness is positively correlated with benevolence, tradition, and conformity and negatively correlated with power and achievement. Openness to Experience is positively correlated with self-direction, universalism, and stimulation and negatively correlated with conformity, security, power, and tradition. Extraversion is positively correlated with achievement, stimulation, and hedonism and negatively correlated with tradition. Conscientiousness is positively correlated with achievement, conformity, and security and negatively correlated with stimulation. Higher order associations between Neuroticism and values are typically absent; however, facets of Neuroticism correlate with the values (e.g., impulsiveness is correlated with stimulation; Roccas et al., 2002). Collectively, this work provides evidence supporting associations between personality traits and personal values.

Personal values and personality traits both represent two related but distinct domains of individual differences (Parks-Leduc et al., 2015). Personality traits are considered to be innate dispositions whereas values are learned beliefs (Olver & Mooradian, 2003; Parks & Guay, 2009; Rokeach, 1972; Schwartz, 2006). Personal values often conflict with each other, so that an individual often has to prioritize one value over another, whereas personality traits can be expressed simultaneously. Both personal values and personality provide meaningful information that can be used to help explain individual differences in behavior (Bilsky & Schwartz, 1994; Parks & Guay, 2009). Examining personality associations among the value types will provide additional information that further distinguishes the value types.

The Present Study

The primary goal of the present study was to identify emergent value types (within-person configurations) of values present in North America using two large, racially and ethnically diverse samples as a replication of previous research. We hypothesized that emergent latent classes would be consistent with Schwartz's circumplex taxonomy of value configurations and that they should map onto existing values types identified in other samples (Magun et al., 2016). The secondary goal of the present study was to describe emergent latent classes by examining race/ethnicity and gender differences as well as associations with personality traits. We expected that emergent classes might vary in group membership such that value types characterized by values representing individualism (i.e., stimulation, hedonism, and self-direction) would be comprised of more individuals of European descent than those value types characterized by values representing collectivism (i.e., tradition and conformity). Given the lack

of empirical work examining personality characteristics within value types, we did not generate a priori hypotheses

Method

Participants

Sample 1. Participants were 547 undergraduate students between the ages of 17-42 years ($M = 19.59$, $SD = 2.95$, three participants did not specify their age; 207 males (37.8%), five participants did not specify their gender) from a large public university in a major metropolitan area in southern Ontario, Canada. Participants self-identified as the following ethnicities: 34.7 % East Asian, 17.7 % South East Asian, 17.7% Western European, 9.9 % Eastern European, 5.7 % Multiracial/ Mixed, 5.5% Middle Eastern, 4.9 % African/Black, 2.6 % Latino, 0.4% Native Canadian/Aboriginal peoples of Canada, and 0.9% did not specify (the current sample is representative of the population of the institution and not the larger Canadian population). Participants were recruited from an undergraduate participant pool that was limited to Introductory Psychology students and is a reflection of the makeup of the student body in the psychology department at the university. No other eligibility requirements, preparation, pre-requisites, disqualifiers, or course restrictions were imposed.

Sample 2. Participants were 938 undergraduate students between the ages of 17-58 years ($M = 23.06$, $SD = 5.88$, 160 males (17.1%), 74 participants did not specify their age and gender) from a large public university in a major metropolitan area in the Southern region of the United States. Participants self-identified as the following ethnicities: 24.6 % Latino, 18.2% European American, 16.5 % African American/Black, 15.1 % South East Asian, 7.0% East Asian, 4.8 % Multiracial/ Mixed, 3.6% Middle Eastern, 0.4% Native American and 9.6 % did not specify (due

to rounding errors these percentages sum up to 99.8%). Participants were recruited from an undergraduate participant pool that was limited to undergraduates taking psychology courses and is a reflection of the makeup of the student body in the psychology department at the university. Participants were recruited from an undergraduate participant pool that was limited to undergraduates taking psychology courses. No other eligibility requirements, preparation, pre-requisites, disqualifiers, or course restrictions were imposed.

For the purposes of the remaining analyses, we combined the two samples ($N = 1,308$) after dropping participants that were missing information on their age, race/ethnicity, and/or their gender ($n = 95$) or those who self-identified as Mixed/Multiracial or Native American/Canadian given the small number of individuals in each ethnic group ($n = 82$). The following racial/ethnic groups were combined for analyses (and reflect slight differences in categorical options between the two samples): in Sample 1, individuals who self-identified as Western European, Eastern European, and Middle Eastern were combined to represent European Americans ($n = 181$) and in Sample 2 individuals who self-identified as Middle Eastern were combined with those who self-identified as European American ($n = 205$)¹.

Measures

Big Five Inventory (BFI; John, Donahue & Kentle, 1991). The BFI is a 44-item questionnaire that assesses a five-factor higher-order structure of personality: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Participants rated each item on a five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). In the current

¹ Individuals who self-identified as Middle Eastern were collapsed with individuals of European Descent in accordance with the U.S. Census racial/ethnic categories (U.S. Census Bureau, Population Estimate Program, 2010).

study, the BFI scales had coefficient alphas ranging from .72 (Openness to Experience) to .83 (Extraversion; average $\alpha = .78$) in the combined sample.

Schwartz Value Survey (SVS; 1992). The SVS is a 57-item questionnaire that assesses ten dimensions of universal values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, and security. The SVS presents two lists of value items: the first contains 30 items that describe potentially desirable end states in noun form [e.g., equality (equal opportunity for all)] and the other 27 items describe potentially desirable ways of acting in adjective form [e.g., honest (genuine, sincere)]. Participants rated each item on a nine-point scale ($7 = \textit{of supreme importance}$ to $-1 = \textit{opposed to my values}$). To account for individual and cultural group differences in the use of the response scale, Schwartz (2006) recommends that the values be corrected by centering each individuals' response around the mean of their total score. As such, the ten values were all centered in this way. In the current study, the SVS scores had coefficient alphas ranging from .64 (hedonism) to .85 (universalism and benevolence; average $\alpha = .78$) in the combined sample.

Procedures

Participants spent approximately one hour completing questionnaires in the lab (Sample 1) or through an online survey (Sample 2), including questionnaires not relevant to the current investigation. All participants gave informed consent prior to participation and were informed of their right to withdraw from the study at any point in time without penalty or loss of course credit. Upon completion of the study, participants were presented with a research summary that contained background information as well as the research hypotheses. Participants were compensated with course credit according to the rules set by the respective psychology

departments. Ethical approval for the study was acquired from the Research Ethics/Institutional Review Board at both universities. Missing data (2% SVS and 0.6% BFI) were imputed using the expectation-maximization (EM) algorithm in SPSS 21 and the Little's Missing Completely at Random test was not significant $\chi^2 = 28.19, p = 1.00$. All analyses were conducted using the combined sample.

Results

Latent Class Analysis of Personal Values

Latent class analyses were conducted in Mplus 5.21 to identify meaningful classes that differentiated personal values-based patterns among participants. Specifically, classes were identified based on patterns of responding to the ten personal values: conformity, tradition, benevolence, universalism, stimulation, self-direction, hedonism, achievement, power, and security. Statistical indicators for model selection included Akaike's Information Criterion (AIC), Bayesian Information Criterion (BIC), and entropy. For AIC and BIC, lower relative values indicate a better-fitting model. For entropy, absolute values closer to 1.0 indicate a greater classification certainty, with acceptable models typically showing entropy $>.80$.

Based on all three fit statistics, two classes best summarized the data (see Table 1 and Figure 1) and thus were examined for further analysis. The Lo-Mendell-Rubin Adjusted Likelihood Ratio Test suggested that the two classes fit significantly better than one class (1005.78, $p <.001$) and that three classes fit significantly better than two classes (499.42, $p <.001$); whereas, four did not fit significantly better than three (Lo-Mendell-Rubin Adjusted Likelihood Ratio Test = 335.18, $p = .110$). However, the entropy value in the three-class solution was below threshold at .76 thus the two-class solution was deemed more interpretable (entropy =

.87). These classes were labeled: personal-focused and social-focused. Relative to the other class, the personal-focused class (16.1% of participants based on the estimated model) was characterized by high stimulation, self-direction, and hedonism, and low tradition and conformity. The social-focused class (83.9% of participants) was characterized by high conformity and tradition, and low self-direction, stimulation, and hedonism².

Race and Gender Differences Between Classes

Racial/ethnic and gender differences between the two groups were examined in SPSS 21 (see Table 2). Class membership significantly differed by both race/ethnicity ($X^2 (4) = 66.63, p < .001, w = 0.23$) and gender ($X^2 (1) = 11.52, p = .001, w = 0.09$). Unsurprisingly, given the differences in group sizes, many aspects of group membership further corresponded to overall group size (e.g., more participants in all racial/ethnic categories were assigned to the social-focused class). As can be seen in Table 2, Latino, East Asians, South East Asians, and African American/Canadians were most prevalent in the social-focused class relative to the personal-focused class. As can be seen in Table 2, males were more prevalent in the personal-focused, class whereas females were more prevalent in the social-focused class.

Personality Differences Between Classes

A multivariate linear model (GLM) was conducted to determine potential personality trait differences between classes in SPSS 21. The overall GLM indicated significant differences in personality traits between classes (Wilks' $\lambda = 0.90, F (5, 1302) = 27.56, p < .001$). There were no significant class differences for Neuroticism ($F (1, 1306) = 0.98, p = .322$) or Extraversion ($F (1,$

² The latent class analyses were also ran controlling for study site. The overall pattern of results remained the same. There was also no significant difference between the classes on level of acculturation.

1306) = 0.79, $p = .375$; see Table 2 and Figure 2). Classes differed on Openness ($F(1, 1306) = 71.83, p < .001$) such that the personal-focused group ($M = 3.94, SD = 0.54$) scored higher on Openness than the social-focused group ($M = 3.58, SD = 0.56$). Classes differed on Agreeableness ($F(1, 1306) = 23.95, p < .001$) such that the personal-focused group ($M = 3.61, SD = 0.66$) scored lower on Agreeableness than the social-focused ($M = 3.84, SD = 0.61$) group. Classes differed on Conscientiousness ($F(1, 1306) = 15.66, p < .001$) such that the social-focused group ($M = 3.54, SD = 0.62$) scored higher on Conscientiousness than the personal-focused group ($M = 3.35, SD = 0.71$).

Discussion

Schwartz's taxonomy of global human values has mobilized this area of research and grounded the field by offering a meaningful and compelling organization of human values (Schwartz, 1992). This area of research remains understudied relative to other domains of individual differences, such as personality. In particular, what has been especially lacking is an understanding of how human values co-occur and manifest within individuals (but see Magun et al., 2016 for a recent example of such an investigation). Thus, it was the primary goal of this study to identify value types present in a large and diverse North American college student sample. Results of latent class analysis supported the emergence of two classes: personal-focused (16.1% of the sample) and social-focused (83.9%; see Figure 1). The classes further exhibited differences based on racial/ethnic composition, gender composition, and personality trait associations, further validating group differences and showing connections to previous variable-centered analytic approaches. These findings will be discussed in more detail below, but overall these findings offer additional support for the presence of value types at the within-person level.

The classes were also distinguished by race/ethnicity, gender, and personality associations, which are in agreement with previous research.

The primary goal of the study was to determine whether value types would emerge that were 1) consistent with Schwartz's values taxonomy, and 2) consistent with previous research identifying value classes (see Magun et al., 2016). This goal was somewhat supported by the identification of two classes showing some overlap with Schwartz's theory (Schwartz, 2006; see Figure 1). Schwartz (2006) proposed additional dynamic underpinnings of the universal values structure: 1) the interests that the value attainment serves (e.g., personal-focused versus social-focused) and 2) self-regulation systems (e.g., the avoidance of punishment and the goal of preventing loss versus the pursuit of reward and the promotion of gain; or prevention-focused versus promotion-focused based on Higgins (1998) self-regulatory theory). Specifically, having a personal focus regulates how one may express personal interests and characteristics. The personal-focused class can be characterized by those who are much more likely to place greater importance on values relating to self-enhancement (e.g., achievement) and openness to change (e.g., hedonism) and less emphasis on values relating to conservation (e.g., conformity) and self-transcendence (e.g., universalism). Social-focused individuals are concerned with regulating how one relates socially to others as well as how it affects them and can be characterized by those who place a higher emphasis on conservation and self-transcendence values and less emphasis on openness to change and self-enhancement values. These results can also be examined in the context of another recent study identifying value types in multiple European countries (Magun et al., 2016). The authors identified five classes that were distributed across the European countries. Furthermore; most of the countries also had a non-zero probability of having members of all the

five classes. Our study extends these findings by identifying value classes in North America and characterizing the classes using race/ethnicity, gender, and personality traits, which may further elucidate how sub-groups differ in their value profiles.

The two classes were further examined regarding subgroup composition for racial/ethnic and gender differences. Although Schwartz's values are hypothesized to be universal, such that all values should show endorsement across a variety of cultures, it is also expected that values, as culturally influenced individual differences, will show differences across major culturally distinct subgroups, as well (Schwartz, 2006). Empirical investigations have found mean-level differences in individualistic and collectivistic values across different racial/ethnic groups (Coon & Kemmelmeier, 2001; Gaines et al., 1997; Hofstede, 2001). Gender differences in values have also been observed (Bond, 1988; Di Dio et al., 1996; Feather, 1984; 1987; Rokeach, 1973; Schwartz & Rubel, 2005). Thus, we sought to determine whether the racial/ethnic and gender subgroups were differentially represented among the value types and if so, whether they reflected known group differences in mean level patterns of endorsement.

Racial/ethnic differences emerged between the two groups in expected ways across all five racial/ethnic groups. Consistent with previous research examining individualistic versus collectivistic value orientations, European American/Canadians were more likely to be in the personal-focused class (i.e., the values in this class most closely reflect individualism). Latino American/Canadians, South East Asian American/Canadians, and African American/Canadians were more likely to be in the social-focused class (i.e., the values in this class most closely reflect collectivism; Coon & Kemmelmeier, 2001; Gaines et al., 1997; Hofstede, 2001; Schwartz & Rubel, 2005). The racial/ethnic differences between the classes support previous findings and

provide evidence that even in diverse environments (e.g., university setting) individuals are still maintaining their value preferences. Given the incredibly diverse nature of both countries in North America it is important to consider how race/ethnicity influences an individual's experience. Future research may investigate these values types in the context of status in the country (i.e., citizen or immigrant) or look at other environmental factors like identity, level of acculturation, or experiences of discrimination to understand how racial/ethnic minorities function in society. It is possible that an individual's level of acculturation may influence their values and that value importance could differ over time as a result.

Gender differences also emerged between the two groups in somewhat expected ways. In this sample, males were more likely to be in the personal-focused class. Although inconsistent, previous research has suggested that men are more likely to endorse power, achievement, hedonism, stimulation, and self-direction (Bond, 1988; Di Dio et al., 1996; Feather, 1984; 1987; Ryckman & Houston, 2003; Schwartz & Rubel, 2005). Given the likelihood that men are more likely to endorse values associated with individualistic orientations it was not surprising that men were more likely to be in the personal-focused group. Women in this sample were more likely to be in the social-focused group. The social-focused group was characterized by high conformity, tradition, and benevolence. Both of these groups are comprised of values that also reflect a collectivistic orientation. This finding is in line with previous research that has suggested that women place a higher value on universalism and benevolence, security, tradition, and conformity (Bond, 1988; Di Dio et al., 1996; Feather, 1984; 1987; Ryckman & Houston, 2003; Schwartz & Rubel, 2005). Both the racial/ethnic and gender differences map onto existing findings using variable-centered approaches and help distinguish the classes from each other.

The final test was to evaluate personality differences among the value types that emerged. Personality traits are another major individual difference domain and an area that has received more empirical attention than values, to date. There are important theoretical distinctions between these constructs, with personality traits being more internal and stable, and values being more environmentally influenced and susceptible to change (Olver & Moordian, 2003; Rokeach, 1972). Furthermore, personality traits are associated with values in meaningful ways, and these patterns of association have been replicated across samples (Bilsky & Schwartz, 1994; Fischer & Boer, 2014; Olver & Mooradian, 2003; Parks, 2007; Roccas et al., 2002; Vecchione et al., 2011; Yik & Tang, 1996). For example, strong associations are often demonstrated between Agreeableness and benevolence, Openness and stimulation, Extraversion and hedonism, and Conscientiousness and achievement (Parks & Guay, 2009). These associations provide some foundation for examining personality trait level composition of the values-based classes presented here.

There were some personality trait differences between classes (see Figure 2). Specifically, Openness, Agreeableness, and Conscientiousness all showed clear patterns of differentiation between classes. Neuroticism and Extraversion showed virtually stable levels in both classes. The social-focused class endorsed higher levels of Agreeableness and Conscientiousness, as would be expected, and lower levels of Openness. This finding may reflect lower levels of endorsement of stimulation, and self-direction in the social-focused class, both of which would be expected to show associations with Openness (Parks, 2007; Parks & Guay, 2009; Roccas et al., 2002).

Regarding those personality traits for which differences between values-based groups were found, the results are not surprising. Previous research has suggested that Openness and Agreeableness have the strongest associations with values followed by Extraversion and Conscientiousness (Parks, 2007; Parks & Guay, 2009). This is consistent with our findings, in that three of these four personality traits showed clear patterns of differentiating between the two values-based groups. The personal-focused class is higher on Openness, and the magnitude of the effect is large. Previous research has found associations between Openness and self-direction and universalism, two values that are higher in the personal-focused class. We get small effects for the class differences on Agreeableness and Conscientiousness, which may be a function of the divergent profiles presented. For example, Agreeableness is associated with benevolence and tradition. Although tradition was higher in the social-focused class, benevolence did not show that same pattern. A similar picture emerged for Conscientiousness, and it is possible that the magnitude of effects would have been larger if the difference between the classes on other values were larger. Previous research has failed to find associations between the ten values and the higher order trait Neuroticism. However, examination at the lower-order facet level has revealed some associations (i.e., impulsiveness with stimulation). These findings help classify and differentiate the values classes that emerged in this sample.

Limitations and Future Directions

As with any empirical investigation, there are notable limitations of this research as well as exciting areas for future investigation. The strengths of the sample include a very large sample size, college students drawn from two different geographic regions of North America, and the presence of sizable subgroups reflecting major racial and ethnic categories in North America.

Aspects of the sample also reflect limitations that should be considered in future studies. The study of college students allows easier access to particularly large (and in this case, diverse) samples, but also potentially impacts generalizability of such findings to non-college-student samples of adolescents and adults. Thus, future work extending this to individuals drawn from non-college-attending populations may prove highly valuable. Furthermore, mean level differences in acculturation were found, highlighting the importance of examining the role of acculturation in value profiles in future work. Furthermore, culture and race/ethnicity are often intertwined, and future work should attempt to tease apart the unique contributions that each makes to the endorsement of particular values. The pursuit of a college degree in itself likely reflects value-driven behavior, such that values endorsement among college students may differ from non-college students in meaningful ways. Other aspects of the sample that may limit generalizability are that data collection came from only two geographic regions in North America, so other parts of North America and regions around the world are obviously not reflected in these findings. The culturally specific nature of human values places great importance on replication of findings from different cultural regions.

Another exciting area for future studies lies in further identifying characteristics of values types in North Americans. We examined race/ethnicity, gender composition, and personality trait associations as initial variables as a means of further distinguishing classes. Future work might focus on expanding classification to other individual differences, such as motivational preferences and identity or personal narrative or behavioral outcomes such as academic achievement or occupational attainment. There is also a clear need for studies of incremental validity and practical utility of the model. For example, what important criteria do values predict,

above and beyond other individual differences? What potential applications does the measurement of human values have? How might values be fully integrated into a comprehensive model of individual differences (e.g., how do values function alongside personality traits in influencing thoughts, feelings, and behaviors)? Personality traits have proven useful in predicting multiple behavioral outcomes including physical and mental health, occupational status and achievement, and relationship success (Kotov, Gamez, Schmitdt & Watson, 2010; Ozer & Benet-Martinez, 2006; Roberts, Kuncel, Shiner, Capsi & Goldberg, 2007). How can the inclusion of values further these efforts? We see these as some of the many exciting questions awaiting further study.

Conclusion

In summary, this study provided additional evidence for the within-person configuration of personal values. This study builds upon other studies that have done this (e.g., Magun et al., 2016) by identifying within-person configurations of values in a highly diverse sample of North American college students. We specifically identified two classes: personal and social-focused. These two classes were further differentiated by race/ethnicity with more racial/ethnic minorities belonging to the social-focused class (i.e., the class that most resembles a collectivistic orientation) and gender (more females belonging to the social-focused class, which is also consistent with previous research examining gender differences). Furthermore, we identified personality profiles consistent with previous research (i.e., significant differences between the classes emerged on Openness, Agreeableness, and Conscientiousness). These findings highlight the importance of within-person analyses and also highlight the importance of culture and personality in understanding values.

Chapter 3

Exploring Personal Values and Personality Associations in a Diverse Sample of Children

Avanté J. Smack

Personal values, a dimension of individual differences, reflect guiding principles used to inform human behavior (Parks & Guay, 2009; Rokeach, 1973; Schwartz, 1992). Values and personality traits are robustly associated, and efforts have been made to understand values from a variable-centered and within-person approach (Fischer & Boer, 2014; Magun, Rudnew & Schmidt, 2016; Roccas, Sagiv, Schwartz & Knafo, 2002; Smack, Herzhoff, Tang, Walker, & Tackett, 2017). Despite advances in understanding values-personality associations in adults, less research has focused on these associations in children. Furthermore, to our knowledge no research has evaluated value types in children. The purpose of the present study was to assess values-personality associations and identify value types in children.

Values are conceptualized as preferences or principles, and we focus on values representing principles that guide behavior (Parks & Guay, 2009; Ravlin & Meglino, 1987; Schwartz, 1992). One of the most widely used taxonomies for personal values is Schwartz's Theory of Basic Human Values (Schwartz, 1992; Smith & Schwartz, 1997). This theory posits that there are ten near universal value types: self-direction, stimulation, hedonism, tradition, conformity, security, achievement, power, universalism, and benevolence (Schwartz, 2006). The values are divided into four quadrants along two bipolar dimensions: openness to change (self-direction, stimulation, hedonism) versus conservation (tradition, conformity, and security) and self-transcendence (universalism and benevolence) versus self-enhancement (power, achievement). The taxonomic structure is a circumplex with corresponding values being closer in proximity than opposing values (Parks & Guay, 2009; Schwartz, 1992).

Similar to personality traits, the question of how to reliably measure values using self-report in children has been raised. Before the 1990's, indirect approaches were primarily used to

assess values (Doring, 2010). However more recent research has provided some evidence that values can be evaluated in children and adolescents and that highly differentiated value structures emerge (Bilsky, Niemann, Schmitz, & Rose, 2005; Bubeck & Bilsky, 2004; Doring, 2010; Knafo & Schwartz, 2004; Schwartz et al., 2001). Specifically, measures that indirectly assess values appear to be particularly useful for children. The Portrait Values Questionnaire, which has individuals compare themselves to vignettes that tap into different values, has been successfully used to assess preadolescents and adolescent values (Bilsky et al., 2005; Bubeck & Bilsky, 2004; Knafo & Schwartz, 2004; Schwartz et al., 2001). Efforts have been made to modify the measure so that it is appropriate for use with children between the ages of 8 and 10 with varied success. Modifications including reading the items to simplify the task have been implemented (Bubeck & Bilsky, 2004; Bilsky et al., 2005; Doring, 2010). Despite challenges with using self-report measures in children as young as 8, evidence has suggested that highly differentiated value structures emerge in samples of children that young (Doing, 2010).

In addition to reliably measuring values in children, it is also important to understand how they are related to other forms of individual differences, including personality traits. Personality and values represent distinct domains of individual differences that provide meaningful information that can be used to help explain differences in behavior (Bilsky & Schwartz, 1994; Parks & Guay, 2009; Parks-Leduc et al., 2015). Extensive research has documented associations between personality and values in adult samples (Bilsky & Schwartz, 1994; Fischer & Boer, 2014; Olver & Mooradian, 2003; Parks, 2007; Parks- Leduc, Feldman & Bardi, 2015; Roccas et al., 2002; Vecchione, Alessandri, Barbaranelli & Caprara, 2011; Yik & Tang, 1996). The strength of these associations varies as a function of how cognitively based

the traits are (with cognitive traits having a stronger association with values), as well as, the content overlap between values and traits (Parks-Leduc et al., 2015). As such, it is not surprising that Openness to Experience and Agreeableness have the strongest associations with personal values. These traits are followed by Conscientiousness and Extraversion, with values showing the weakest association with Neuroticism (see articles for more detailed information about the direction of effects; Fischer & Boer, 2014; Parks & Guay, 2009; Parks-Leduc et al., 2015; Roccas et al., 2002). Although values-personality associations are documented using adult samples, this relationship has yet to be examined in children. An understanding of how these domains of individual differences are associated with each other in childhood may help further our understanding of behavior in childhood.

It also remains important to understand whether racial/ethnic differences in values are present in children. Despite evidence that the structure of value importance is near universal at the societal level, differences in the relative importance of values are expected at the cultural level (Schwartz, 2006). Racial/ethnic differences are often evaluated using individualistic versus collectivistic orientations. Individuals of European descent tend to place a greater emphasis on values corresponding to individualism. Individuals of African, Asian, and Latino descent tend to place a greater emphasis on values corresponding to collectivism (Cokely, 2005; Coon & Kemmelmeier, 2001; Gaines et al., 1997; Hofstede, 2001; Kim, Atkinson & Yang, 1999; Kim & Omizo, 2005). Although differences are found in adult samples, little to no work has evaluated whether those differences are also present in childhood. Given that values represent culturally informed individual differences, it is important to understand if racial/ethnic differences emerge in childhood.

In addition to understanding values using a person-centered approach, more recent efforts have sought to evaluate values adopting a within-person approach. Multiple studies, using various methods, have evaluated the within-person structure of values in adults (Borg, Bardi & Schwartz, 2015; Gollan & Witte, 2014; Magun et al., 2016; Smack et al., 2017). Adopting a within-person approach provides valuable insight into how personality and values are related to each other within an individual. Our primary understanding of values-personality associations is based on variable-centered approaches in adult samples. An extension down to children is necessary and will provide a more in-depth understanding of values-personality associations. The ability to characterize emergent classes also will further our understanding of values associations with sociodemographic variables.

The Present Study

Despite many advances in our understanding of personal values in adolescents and adults, research on values in younger children has lagged. This lag in research is especially true regarding associations with personality traits. Improving our understanding of associations between personal values and personality in children may have utility for children and could further our understanding of the way that different forms of individual differences influence behavior. Therefore, the primary goal of the present study was to evaluate the association between values and personality traits in a diverse sample of children. The secondary goal of the present study was to identify emergent value types in children using latent class analysis. The final goal of the present study was to describe emergent latent classes by examining race/ethnicity, gender, and personality trait associations. Given the lack of previous research

focusing on associations between values and personality traits in children, this study was exploratory in nature. Therefore, no specific hypotheses were generated.

Method

Participants

Of an initial sample of 350 participants, all African American (35.1%), European American (35.5%), and Latino American (29.4%) participants were selected (excluding smaller categories reflecting Asian American, Multi-racial and Other groups), which resulted in a sample of 296 children and their primary female caregivers (98% mothers). Children were primarily aged 9-10 years ($M = 9.82$, $SD = 0.66$; 140 males (47%), full age range 8-11). Participants were recruited from an urban community in the Southwestern region of the United States, using directory information obtained from local school districts and flyers posted in the community and distributed at events. School directory information was employed using a rolling recruitment procedure, such that batches of letters were sent to potential families and followed up via phone to determine interest and eligibility. Inclusion criteria for the study were (1) fluency in English for the children; and (2) fluency in English or Spanish for the female caregiver. Exclusion criteria were psychotic disorders, mental retardation, and neurodevelopmental disorders in the child.

Measures

Inventory of Child Individual Differences- Short Version (ICID-S; Deal, Halverson, Martin, Victor, & Baker, 2007; Halverson et al., 2003). The ICID-S is a 50-item questionnaire that assesses a five-factor higher-order structure of personality in children: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness, which is

analogous, but not identical, to the Five-factor model in adults (Costa & McCrae, 1992; Goldberg, 2001). Each item was assessed on a 7-point Likert scale ranging from 1 = *much less than the average child or not at all* to 7 = *much more than the average child*. The ICID-S was completed by the primary female caregiver. In the current study, the ICID-S scores had coefficient alphas ranging from .85 to .90; average $\alpha = .87$.

Portrait Values Questionnaire-21 (PVQ-21; Schwartz et al., 2001). The PVQ-21 is a 21-item self-report questionnaire that assesses ten dimensions of universal values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, and security by presenting vignettes of 21 different people. Each vignette is followed by the following question: “How much is this person like you?” on a 6-point Likert scale ranging from 1 = *not at all like me* to 6 = *very much like me*. To account for individual and cultural group differences in the use of the response scale, we followed Schwartz’s (2006) recommendation that the values be corrected by centering each individual’s response on the mean of their total score. In the current study, the PVQ-21 scores had coefficient alphas ranging from .17 to .60; average $\alpha = .43$.

Procedure

Data for the present study were drawn from the intake wave of an ongoing longitudinal investigation. Participating families were invited to the lab for a 3.5-hour visit where they completed a battery of assessments and behavioral tasks including measures of personality and personal values. Ethics approval for this study was obtained from the Institutional Review Board at the University of Houston. Primary caregivers were compensated with a \$75 gift card to a store of their choice (Target or H.E.B) and youth were compensated with their choice of a

puzzle, Frisbee, or \$10 gift card (for iTunes). Missing data were not missing completely at random (Little's MCAR $X^2 = 207.05$, $p < .001$), however missing data did not vary systematically as a function of values or personality. Thus, missing data were imputed using expectation-maximization (EM) algorithm in SPSS 24.

Results

Descriptive statistics and correlations among study variables are displayed in Table 1. To evaluate mean differences in personality traits and personal values across racial/ethnic groups, multivariate linear models (GLM) were conducted in SPSS 24 (see Figures 1 and 2). Four GLM's were conducted to evaluate whether significant differences in values emerged within the sample. The values were combined according to the four quadrants: conservation, openness to change, self-enhancement, and self-transcendence. The overall GLM for the conservation quadrant indicated significant racial/ethnic differences in values (Wilks' $\lambda = 0.92$, $F(6, 574) = 3.90$, $p = .001$). There were no significant racial/ethnic differences for tradition ($F(2, 289) = 2.76$, $p = .065$). Racial/ethnic differences emerged for conformity ($F(2, 289) = 5.30$, $p = .006$), such that African American ($M = 0.43$, $SD = 1.03$) and Latino American children ($M = 0.36$, $SD = 1.02$) scored higher than European American children ($M = 0.00$, $SD = 0.93$). Racial/ethnic differences also emerged for security ($F(2, 289) = 4.05$, $p = .018$), such that African American children ($M = 0.41$, $SD = 0.87$) scored higher relative to European American children ($M = 0.09$, $SD = 0.84$). The overall GLM for the Openness to Change quadrant indicated significant racial/ethnic differences in values (Wilks' $\lambda = 0.88$, $F(6, 582) = 6.56$, $p < .001$). There were no significant racial/ethnic differences for stimulation ($F(2, 293) = 1.13$, $p = .325$). Racial/ethnic differences emerged for hedonism ($F(2, 293) = 6.10$, $p = .003$), such that European American

children ($M = 0.04$, $SD = 0.88$) scored higher relative to African American ($M = -0.29$, $SD = 0.95$) and Latino American children ($M = -0.40$, $SD = 0.92$). Racial/ethnic differences also emerged for self-direction ($F(2, 293) = 12.66$, $p < .001$), such that European American children ($M = 0.16$, $SD = 0.95$) scored higher relative to African American ($M = -0.50$, $SD = 0.99$) and Latino American children ($M = -0.36$, $SD = 1.08$). The overall GLM for the self-enhancement quadrant was not significant (Wilks' $\lambda = 0.98$, $F(4, 578) = 1.44$, $p = .218$) indicating that there were no racial/ethnic differences in power or achievement. The overall GLM for the self-transcendence quadrant was not significant (Wilks' $\lambda = 0.98$, $F(4, 584) = 1.43$, $p = .223$) indicating that there were no racial/ethnic differences in universalism or benevolence. The overall GLM for personality traits indicated significant differences between the racial/ethnic groups (Wilks' $\lambda = 0.88$, $F(10, 578) = 3.74$, $p < .001$). There were no significant racial/ethnic differences for Extraversion ($F(2, 293) = 2.94$, $p = .054$) or Conscientiousness ($F(2, 293) = 2.95$, $p = .054$). Racial/ethnic differences emerged for Neuroticism ($F(2, 293) = 3.26$, $p = .040$) such that European American children ($M = 3.24$, $SD = 0.88$) scored higher on Neuroticism relative to African American children ($M = 2.91$, $SD = 0.99$). Racial/ethnic differences emerged for Openness ($F(2, 293) = 6.64$, $p = .002$), such that European American children ($M = 5.42$, $SD = 1.02$) scored higher on Openness relative to Latino American children ($M = 4.92$, $SD = 1.01$). Racial/ethnic differences emerged for Agreeableness ($F(2, 293) = 8.52$, $p < .001$), such that African American ($M = 5.28$, $SD = 1.08$) and Latino American children ($M = 5.23$, $SD = 1.14$) scored higher on Agreeableness relative to European American children ($M = 4.72$, $SD = 1.02$).

To identify meaningful values-based patterns among children, latent class analysis (LCA) was conducted in *Mplus 7*. Classes were identified based on patterns of covariation among the

personal values. Model selection was guided by the following fit statistics: lower relative values of Akaike's Information Criterion (AIC) and Bayesian Information Criterion (BIC), absolute entropy values closer 1, and a non-significant Lo-Mendell-Rubin adjusted likelihood ratio test indicating better fit (Clark & Muthén, 2009; Nylund, Asparouhov, & Muthén 2007). Based on all three fit statistics, two-classes best summarized the data (see Table 2 and Figure 3) and were examined for further analysis. The Lo-Mendell-Rubin Adjusted Likelihood Ratio test suggested that the two-class solution fit significantly better than the one-class (158.07, $p = .001$). Although the four-class solution has the highest entropy value (entropy = 0.84) and the lowest AIC (7806.97), it did not fit significantly better than the three-class solution (Lo-Mendell-Rubin Adjusted Likelihood Ratio Test = 47.27, $p = 0.568$). The three-class solution also had a lower AIC (7635.00) and higher entropy value (entropy = 0.79) but did not fit significantly better than the two-class solution (Lo-Mendell-Rubin Adjusted Likelihood Ratio Test = 49.99, $p = 0.598$) thus, the two-class solution was deemed more interpretable (entropy = 0.72). These classes were labeled: self-focused and other-focused. Relative to the other-focused class, the self-focused class (28.4% of youth based on the estimated model) was characterized by higher hedonism, achievement, power, and low tradition and conformity. The other-focused class (71.6% of youth) was characterized by low self-direction, hedonism, power and high security, universalism, and benevolence.

To characterize the two classes that emerged from the LCA, gender and racial/ethnic differences between the two classes were examined in SPSS 24 (see Table 3). Class membership significantly differed by race/ethnicity ($X^2 (2) = 11.24, p = .004$) but not for gender ($X^2 (3) = 2.13, p = .546$). Given the differences in group sizes, many aspects of group membership further

corresponded to overall group size (e.g., more participants in all racial/ethnic categories were assigned to the other-focused class). As can be seen in Table 3, Latino American children were most prevalent in the other-focused class relative to the self-focused class. To further characterize the two classes, mean differences in personality traits were examined using GLM in SPSS 24. The overall GLM indicated significant differences in personality traits between classes (Wilks' $\lambda = 0.96$, $F(5, 290) = 2.52$, $p = .029$). There were no significant class differences for Neuroticism ($F(1, 294) = 3.05$, $p = .082$), Extraversion ($F(1, 294) = 2.77$, $p = .097$), Openness ($F(1, 294) = 0.68$, $p = .412$), or Conscientiousness ($F(1, 294) = 0.67$, $p = .414$). Classes differed on Agreeableness ($F(1, 294) = 8.47$, $p = .004$) such that the self-focused class ($M = 4.77$, $SD = 1.09$) scored lower on Agreeableness than the other-focused class ($M = 5.18$, $SD = 1.09$).

Discussion

Relative to other domains of individual differences, personal values have remained largely understudied in younger children. Little to no research has examined values-personality associations in children and even less work has focused on understanding whether racial/ethnic differences in personality traits and values are present in children. Thus, it was the primary goal of this study to evaluate the association between personal values and personality traits in a diverse sample of children. Significant associations emerged among personality traits and conformity, self-direction, and security. The secondary goal of the present study was to identify emergent value types in children as a means of extending previous research on value types (Magun et al., 2016; Smack et al., 2017). Results of the latent class analysis supported the emergence of two classes: self-focused (28.4% of the sample) and other-focused (71.6%; see Figure 3). These classes further exhibited differences based on racial/ethnic composition and

personality trait associations. Overall these findings provide evidence that values are associated with personality traits in childhood, that value types are present in children, and that racial/ethnic differences in values and personality traits are present in childhood.

Personal values were associated with all five personality traits. Power was positively associated with Neuroticism and negatively associated with Extraversion, Agreeableness, and Conscientiousness. Extraversion and Agreeableness were positively associated with security. Openness was positively associated with self-direction and negatively associated with conformity. These associations generally map on to values-personality associations found in the adult literature (Bilsky & Schwartz, 1994; Fischer & Boer, 2014; Olver & Mooradian, 2003; Parks & Guay, 2009; Roccas et al., 2002; Vecchione et al., 2011). Although most associations were consistent with patterns, there are some notable exceptions. Most studies using adult samples have failed to find associations between Neuroticism and values (Roccas et al., 2002). Surprisingly in this sample, power was positively associated with Neuroticism. The desire to obtain power is particularly strong in middle childhood when children start to have more autonomy and peers become more influential (Eccles, 1999; Furman & Buhrmester, 1992). As such, it is possible that for some children the desire to obtain power may influence the amount of Neuroticism they experience. Similarly, power was negatively associated with Conscientiousness which is not typically observed in adult samples (Parks & Guay, 2009; Roccas et al., 2002). Children high on Conscientiousness are rated as being more considerate, achievement-oriented, and organized compared to other children (Shiner & Caspi, 2003). Although it may be advantageous to be organized and achievement-oriented when pursuing power, being considerate may conflict with power. Extraversion was negatively associated with power and positively

associated with security, opposite of what is seen in adult samples. Children high on Extraversion are rated as being expressing more positive emotions, being more sociable, having a higher activity level, and not being very shy relative to other children (Shiner & Capsi, 2003). Although displaying positive emotions, being sociable and having a high activity level can help one obtain power, achieving power often involves exerting dominance which may conflict with these facets. Furthermore, children rated high on Extraversion tend to get along with others which may encourage stable relationships with others. In addition to physical safety, the value also taps into achieving harmony and stability of self, relationships and society (Schwartz, 2006). As such, it is likely that extraverted children may be more likely to engage in behaviors that ultimately promote the stability of relationships and harmony. Nevertheless, by middle childhood, values and personality traits are associated in the same way that they are in adults. Future efforts may continue to explore the divergent patterns of associations observed in this sample.

Racial/ethnic differences emerged for conformity, hedonism, self-direction, and security that were mostly consistent with the adult literature (Coon & Kemmelmeir, 2001; Gaines et al., 1997; Hofstede, 2001). Conformity was higher in African and Latino American children relative to European American children. Hedonism and self-direction, values associated with an individualistic orientation were higher in European American children compared to African and Latino American children. These findings provide evidence that racial/ethnic differences in values are present in middle childhood. This finding is not surprising given that values are culturally informed representations of individual differences. Furthermore, values unlike personality traits, are learned from parents and other members of the community meaning that they are shaped by the environment (Parks & Guay, 2009; Schwartz et al., 2006). Finally, racial/ethnic differences emerged for security with African American children's scores being

higher than European American children. Many of the African American children in the sample are from families that have a lower socioeconomic status relative to the European and Latino American children (Tackett, Herzhoff, Smack, Reardon, & Adam, 2017), which may impact their value in security. Future research should further investigate the role of race, culture, and socioeconomic status in this difference.

Racial/ethnic differences also emerged for Neuroticism, Openness, and Agreeableness. These differences were somewhat consistent with the adult literature (Allik & McCrae, 2004; Eap et al., 2008; Foldes et al., 2008; McCrae, 2001; Slobodskaya et al., 2012; Woo et al., 2014). Neuroticism was lower in African American children compared to European American children. This finding is opposite of what is found in some adult samples. However, other studies do not find racial/ethnic differences in personality traits. If the finding represents a meaningful difference, environmental factors may be used to further our understanding of why the differences occur. Environmental factors (e.g., poverty or experiences of discrimination) are thought to influence observed racial/ethnic personality differences (Foldes et al., 2008; Geronimus, Hicken, Keene, & Bound, 2006; Gorey, & Cryns, 1995; Hughes et al., 2011). Many of the African American children in the current sample come from lower socioeconomic status families, and one might expect that they may experience more Neuroticism as a result. However, it is possible that being reared around other individuals who come from similar backgrounds (i.e., attending predominately African American schools and living in predominately African American neighborhoods) may buffer the effects of the environmental stressors. Similar to what is found in adult samples, European American children were rated as higher in Openness compared to their Latino American peers. It is likely that cultural factors may help explain these findings. Latino American parents tend to socialize their children to value tradition and family-oriented values, and as such these values

may discourage the expression of Openness (Germán, Gonzales & Dumka, 2009; Sue & Sue, 2008). Finally, both African and Latino American children were rated as higher in Agreeableness compared to European American children. At the country level, some studies have found that individuals of European American descent have lower Agreeableness scores relative to other countries (Allik & McCrae, 2004; Foldes et al., 2008), indicating the potential impact of socialization processes. This research represents the first attempt to directly measure racial/ethnic differences in personality traits in middle childhood. As such, future efforts should work to determine the trajectory of these differences and the impact on the development of children, as well as, interventions.

Emergent Value Types

A secondary goal of the study was to determine whether value types would emerge in children (see Magun et al., 2016; Smack et al., 2017). This goal was partially supported by the identification of two value classes showing some overlap with Schwartz's theory (Schwartz, 2006; see Figure 3). Schwartz (2006) proposed additional dynamic underpinnings of the universal values structure: 1) the interests that the value attainment serves (e.g., personal-focused versus social-focused) and 2) self-regulation systems (e.g., the avoidance of punishment and the goal of preventing loss versus the pursuit of reward and the promotion of gain; or prevention-focused versus promotion-focused based on Higgins (1998) self-regulatory theory). The two value types that emerged in children provided partial support for this structure with children being classified as self-focused or other-focused. The self-focused class was characterized by children who were more likely to place a higher emphasis on achievement and power and a lower emphasis on tradition and conformity. The other-focused class was characterized by a

higher emphasis on universalism and benevolence and a lower emphasis on hedonism and self-direction. Racial/ethnic and gender differences were examined among the two classes. Racial/ethnic differences emerged between the two classes in expected ways across the racial/ethnic groups. Latino American children were more likely to be in the other-focused group compared to European American children. These results are mostly consistent with findings in the adult literature (Coon & Kemmelmeier, 2001; Gaines et al., 1997; Hofstede, 2001; Schwartz & Rubel, 2005; Smack et al., 2017). Within the current study, no gender difference emerged. Although gender differences in values and value types exist in some adult samples, there are also samples that do not find any gender differences in values (Aygun & Imamoglu, 2002; Prince-Gibson & Schwartz, 1998).

The classes were also examined to determine whether personality differences were present. The classes differed on Agreeableness, such that the Agreeableness was lower in the self-focused class. The remaining four personality traits showed virtually stable levels across the two classes. Previous research has provided evidence that values are strongly associated with Agreeableness (Parks, 2007; Parks & Guay, 2009; Roccas et al., 2002). This pattern likely reflects the lower endorsement of power and higher endorsement of universalism, benevolence, and security in the other-focused class (Parks, 2007; Parks & Guay, 2009; Roccas et al., 2002). These findings help classify and differentiate the values classes that emerged in this sample of children. They also further support the idea that examining values in children can provide meaningful information.

Limitations and Future Directions

Although this study provides novel information about values-personality associations in children several limitations are of note. First, the reliability of the PVQ is low for some of the values. This issue is likely the function of the value scales being composed of two or three questions. Low reliability may have impacted the reported results. Future efforts are needed to refine measures so that they are appropriate for use in younger samples such as the current one. Although the present sample was diverse, future research needs to evaluate values-personality associations in Asian American children as well as children who identify as biracial. It remains important to understand how values and personality function across all racial/ethnic groups, especially since values are largely shaped by cultural factors that can be unique to particular racial/ethnic subgroups.

Many of the studies using adult samples have capitalized on large samples collected from various parts of the world. Data from this study only comes from the southwestern part of the country. Although this study represents the first known attempt to evaluate values and personality trait associations in children, future efforts should replicate findings across many different geographic regions and in samples that have even greater racial/ethnic diversity. Such replications will improve the generalizability of the findings. The present study did not assess for acculturation which represents a goal for future studies. Although English fluency was an inclusion criterion, some of these children are the first generation growing up in the United States. Children who are recent immigrants or first-generation immigrants living in the United States may have different value preferences. These values preferences may reflect aspects of their culture of origin which may differ from non-immigrant children. Furthermore, these children may choose to immediately adopt the new culture's values abandoning values from

their culture of origin to assimilate to the new culture. Therefore, future efforts would benefit from including measures of acculturation to determine the effect of acculturation on values in children. Finally, future efforts should work to understand when values start to take on a similar structure to adults. This study provides evidence that patterns of associations can be observed in children as young as 8. However, it is unclear whether this structure is present in younger children. Despite these limitations, this study provides novel information about values-personality associations in middle childhood.

Conclusion

In summary, this study represents the first attempt to measure values-personality associations and value types in a diverse sample of children. These findings extend previous work (e.g., Magun et al., 2016; Smack et al., 2017) down to middle childhood. The associations between values and personality traits were mostly consistent with previous research in adults. Two classes were identified: self and other-focused and were further differentiated by race/ethnicity and Agreeableness. This study also represents the first attempt to explicitly examine racial/ethnic differences in values and personality traits in middle childhood which was consistent with previous research. These findings provide evidence that values-personality associations begin to emerge in childhood thus highlighting the importance of considering values in addition to personality when evaluating children.

Chapter 4

Are Racial/Ethnic Differences Present in the Association Between Individual Differences and Psychopathology?

Avanté J. Smack

Extensive evidence has highlighted the importance of personality traits in the development of psychopathology in children (Nigg, 2006; Tackett, 2006). Personal values, conceptualized as principles that guide how an individual ought to behave, represent another dimension of individual differences (Parks & Guay, 2009; Rokeach, 1973; Schwartz, 1992). Similar to personality, values are also associated with psychopathology (Caldwell-Harris & Aycucgi, 2006; German, Gonzales & Dumka, 2009; Hanel & Wolfradt, 2016; Jarden, 2010). Despite evidence that values may function similarly to personality traits, no research has explicitly examined values-psychopathology associations in younger children. Furthermore, race/ethnicity has not been explored despite documented racial/ethnic differences in prevalence rates of psychopathology in adolescent and adult samples (Kessler et al., 2005; Kessler et al., 2007; McLaughlin, Hilt & Nolen-Hoeksema, 2007; Morgan, Farkas & Wu, 2009; Nguyen, Huang & Liao, 2007). Therefore, the purpose of the present study was to evaluate personality-psychopathology and values-psychopathology associations in children and to determine whether racial/ethnic differences were present in these associations.

Schwartz's Theory of Basic Human Values is one of the most comprehensive and widely used taxonomies for personal values (Schwartz, 1992; 2006; Smith & Schwartz, 1997). There are ten value types, and the structure of the importance of these values is near universal. The values: conformity, tradition, self-direction, stimulation, hedonism, achievement, power, security, universalism, and benevolence, are divided into four quadrants along two bipolar dimensions: openness to change (self-direction, stimulation, hedonism) versus conservation (tradition, conformity, and security) and self-transcendence (universalism and benevolence) versus self-enhancement (power, achievement). The taxonomic structure of the values forms a circumplex

with related values being closer in proximity than opposing values (Parks & Guay, 2009; Schwartz, 1992). More recently, efforts have been made to ensure that these values can be reliably measured in children using self-report (Bilsky, Niemann, Schmitz, & Rose, 2005; Bubeck & Bilsky, 2004; Doring, 2010; Knafo & Schwartz, 2004; Schwartz et al., 2001). The Portrait Values Questionnaire, which assesses values by having individuals compare themselves to vignettes, has successfully been used to assess values in preadolescent and adolescent samples (Bilsky et al., 2005; Bubeck & Bilsky, 2004; Doring, 2010; Knafo & Schwartz, 2004; Schwartz et al., 2001). This measure has also been extended down to children as young as eight (Doring, 2010).

Although personal values also represent a dimension of individual differences, there are distinct differences between personality and values. Values are learned beliefs that are often influenced by cultural and societal factors whereas personality traits are considered innate dispositions (Meglino & Ravlin, 1998; Olver & Mooradin, 2003; Parks & Guay, 2009; Rokeach, 1972; Schwartz, 2006). As such, values are likely more susceptible to cultural influences and vary as a function of cultural factors. Values are expressed differently from personality traits. Not all values can be expressed at the same time because some values conflict with each other, whereas personality traits are expressed simultaneously. Despite these distinctions, values and personality traits provide meaningful information that is useful in understanding the expression of behaviors. As such, values and personality traits remain an important aid to understanding psychopathology in children (Bilsky & Schwartz, 1994; Parks & Guay, 2009; Parks-Leduc, Feldman & Bardi, 2015).

Personality traits are stable individual differences that are reflected in emotion, cognitive, and behavioral domains. A five-factor model that is roughly analogous to adults was created for children: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (John, Naumann & Soto, 2008; McCrae & Costa, 2008; Shiner & Caspi, 2003). These traits have collectively shown great utility in predicting psychopathology, in addition to other behaviors in children (De Pauw & Mervielde, 2010; Krueger & Tackett, 2006; Nigg, 2006; Tackett, 2006; Widiger & Smith, 2008). Neuroticism predicts higher rates of internalizing and externalizing symptoms later in development (Cote et al., 2009; Dougherty, Kline, Durbin, Hyden, & Olino, 2010; Gilliom & Shaw, 2004; Hayden, Kline & Durbin, 2005; Schmitz et al., 1999). Furthermore, Neuroticism is consistently associated with both internalizing and externalizing psychopathology (De Bolle, Deyers, De Clercq, & De Fruyt, 2012; Tackett, Kushner et al., 2013; Tackett, Waldman, Van Hulle, & Lahey, 2011). Other traits appear to uniquely predict either internalizing (i.e., low extraversion; Clark & Watson, 1991; Klein, Dyson, Kujawa, & Kotov, 2012; Kushner, Tackett & Bagby, 2012) or externalizing problems (i.e., low conscientiousness and agreeableness; DeYoung, Peterson, Seguin, & Tremblay, 2008; Eisenberg, Spinrad & Eggum, 2010; Miller, Lynam & Jones, 2008; Tackett, Martel & Kushner, 2012). Previous research has also attempted to identify how traits impact psychopathology. The vulnerability model, which posits that traits are antecedent risk factors that confer risk for maladaptive outcomes, is widely used in most of the literature linking personality and psychopathology (Clark, 2005; Nigg, 2006; Tackett, 2006; Widiger & Smith, 2008).

The association between values and psychopathology has received less empirical attention in children. In adolescent and adult samples, there is evidence that values are associated

with psychopathology (Caldwell-Harris & Aycucgi, 2006; Chan, 2012; German et al., 2009; Hanel & Wolfradt, 2016; Jarden, 2010; Le & Kato, 2006; Nasim, Corona, Belgrave, Utsey, & Fallah, 2007). Some studies suggest that a mismatch between an individual's values and society's values result in an elevated risk of psychopathology (Caldwell-Harris & Aycucgi, 2006). Other studies have identified meaningful associations between internalizing and externalizing psychopathology and specific values (Chan, 2012; Gonzales et al., 2008; Hanel & Wolfradt, 2016; Jarden, 2010; Le & Kato, 2006; Nasim, Corona, Belgrave, Utsey, & Fallah, 2007). Some work suggests that values influence psychopathology which then impacts the relative importance of different values (e.g., achievement is associated with depression, and depressed mood is associated with hedonism; Hanel & Wolfradt, 2016). Similar to personality traits, endorsement of particular values may be protective of engagement of risky behaviors or other externalizing problems (Chan, 2012; Le & Kato, 2006; Nasim et al., 2008). As such, it is important to understand values-psychopathology associations in younger children.

The few studies evaluating racial/ethnic differences in child and adolescent psychopathology have produced mixed findings (Austin & Chorpita, 2004; Cole, Martin, Peeke, Henderson, & Harwell, 1998; Roberts & Chen, 1995). Some studies have found that Latino American adolescents report the highest rates of depression and anxiety symptoms, followed by Asian, African, and European Americans, respectively (Anderson & Mayes, 2010; McLaughlin, Hilt, & Nolen-Hoeksema, 2007). However, others have found that European American adolescents exhibit more internalizing behaviors (Morgan, Farkas, & Wu, 2009; Nguyen, Huang, & Liao, 2007). Findings from studies examining racial/ethnic differences in externalizing behavior generally find that African American males report the highest rates of aggressive

behavior compared to European, Asian, and Latino American adolescents (Anderson & Mayes, 2010; McLaughlin, et al., 2007; Nguyen et al., 2007). Yet, other studies do not find any racial/ethnic differences in psychopathology (Ginsburg & Silverman, 1996; Last & Perrin, 1993). Given that some research has already provided evidence that values, in particular, may serve as a protective factor for psychopathology in adolescents, it would be helpful to determine whether individual differences and psychopathology are associated in younger children and whether racial/ethnic differences are present. An understanding of these relationships can help identify targets that can inform prevention and intervention efforts.

Less empirical work has focused on explicitly evaluating racial/ethnic differences in values and personality traits in children. Previous research has documented racial/ethnic differences in values in adolescent and adult samples (Coon & Kemmelmeir, 2001; Gaines et al., 1997; Hofstede, 2001). These associations are typically explored as a function of individualism and collectivism. Individuals of European descent are more likely to place a greater emphasis on individualistic values. Individuals of African, Asian and Latino descent are more likely to place a greater emphasis on collectivistic values (Cokely, 2005; Coon & Kemmelmeier, 2001; Gaines et al., 1997; Hofstede, 2001; Kim, Atkinson & Yang, 1999; Kim & Omizo, 2005; Sue & Sue, 2008). Limited work has evaluated cross-cultural differences in childhood personality across countries (Knyazev, Zupancic & Slobodskaya, 2008; Tackett et al., 2012). Although some studies document racial/ethnic differences in personality traits, others do not (Allik & McCrae, 2004; Church et al., 2006; Eap, Degarmo, Kawakami, Hara, Hall, & Teten, 2008; Foldes, Duehr & Ones, 2008; Gartstein et al., 2010; Matsumoto, Nakagawa & Estrada, 2009; McCrae, 2001; Slobodskaya, Gartstein, Nakagawa, & Putnam, 2012; Woo, Chernyshenko, Longley,

Zhang, Chiu, & Stark, 2014). Collectively, these findings provide some evidence for the presence of racial/ethnic differences in values and personality traits in adults. An outstanding question is whether these differences are also observed in children.

Previous research has identified personality traits and personal values as manifestations of individual differences that are associated with psychopathology. Although the personality-psychopathology association has received a significant amount of empirical attention in children, less research has focused on values-psychopathology associations (Eisenberg et al., 2001; Le & Kato, 2006; Mervielde et al., 2006; Nasim et al., 2007; Tackett, 2006; Tackett et al., 2013). When values-psychopathology associations are examined race/ethnicity is often evaluated, and meaningful differences emerge. Despite documented differences, little to no work has explicitly examined whether racial/ethnic differences are present in the association in younger children (Anderson & Mayes, 2010; McLaughlin et al., 2007; Morgan et al., 2009; Nguyen et al., 2007). As such, it is very important to understand whether associations between individual differences and psychopathology are the same across various racial/ethnic groups.

The Present Study

The goal of the present study was to evaluate the presence of racial/ethnic differences in the association between individual differences (i.e., values and personality traits) and psychopathology (i.e., internalizing and externalizing problems) in children. In line with previous research, the following hypotheses were made: (1) values would be associated with psychopathology consistent with findings in the adult literature; (2) personality traits would be associated with psychopathology consistent with findings in the child literature; (3) racial/ethnic

differences would emerge in the values-psychopathology association such that racial/ethnic minorities (African and Hispanic American children) who endorsed individualistic values would be at a higher risk for developing psychopathology; and (4) racial/ethnic differences would emerge in the personality-psychopathology association such that racial/ethnic minority children who were lower on traits associated with psychopathology would be at a higher risk for developing psychopathology.

Method

Participants

All African, European, and Latino American participants were selected from a larger sample of 350 participants (smaller categories reflecting Asian American, Multi-racial, and Other groups were excluded). As stated in Chapter 3, this resulted in a sample of 296 children and their primary female caregivers (98% mothers). Children were primarily aged 9-10 years ($M = 9.82$, $SD = 0.66$; 140 males (47%), full age range 8-11). For more detailed information about the sample, see the participants section in Chapter 3.

Measures

Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001). The CBCL is a 113-item questionnaire that assesses problem behaviors in children with several subscales that are summed into two overarching problem scales: Internalizing Problems and Externalizing Problems. Each item was assessed on a 3-point Likert scale ranging from 0 = *not true as far as you know* to 2 = *very true or often true*. The CBCL was completed by the primary female caregiver. In the current study, the CBCL scales had a coefficient alpha of .83 for the Internalizing Problems scale and .90 for the Externalizing Problems scale.

Inventory of Child Individual Differences- Short Version (ICID-S; Deal, Halverson, Martin, Victor, & Baker, 2007; Halverson et al., 2003). The ICID-S is a 50-item questionnaire that assesses a five-factor higher-order structure of personality in children. For more detailed information about this measure, see the measures section in Chapter 3. In the current study, the ICID-S scores had coefficient alphas ranging from .85 to .90; average $\alpha = .87$.

Portrait Values Questionnaire-21 (PVQ-21; Schwartz et al., 2001). The PVQ-21 is a 21-item self-report questionnaire that assesses ten dimensions of universal values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, and security by presenting vignettes of 21 different people. For more detailed information about this measure, see the measures section in Chapter 3. In the current study, the PVQ-21 scores had coefficient alphas ranging from .17 to .60; average $\alpha = .43$.

Procedure

Data for the present study were drawn from the intake wave of an ongoing longitudinal investigation (see the procedures section in Chapter 3 for more information). Missing data were imputed using the expectation- maximization (EM) algorithm in SPSS 24 (Little's MCAR $\chi^2 = 415.40$ $p = .977$). Given the number of analyses conducted, a stricter alpha of $p < .01$ was used to guide interpretation of results.

Results

Descriptive statistics are displayed in Table 1. To determine associations between individual differences and psychopathology bivariate correlations were run in the total sample, as well as, each of the three racial/ethnic groups (see Table 2). Power was positively associated with externalizing problems $r(295) = 0.27, p < .001$ and universalism was negatively associated

with externalizing problems $r(295) = -0.18, p = .002$. Neuroticism was positively associated with internalizing $r(295) = 0.51, p < .001$ and externalizing problems $r(295) = 0.50, p < .001$. Extraversion was negatively associated with internalizing $r(295) = -0.23, p < .001$ and externalizing problems $r(295) = -0.15, p = .008$. Agreeableness was negatively associated with internalizing $r(295) = -0.33, p < .001$ and externalizing problems $r(295) = -0.68, p < .001$. Conscientiousness was also negatively associated with internalizing $r(295) = -0.25, p < .001$ and externalizing problems $r(295) = -0.37, p < .001$.

Unique associations between values, personality traits, internalizing problems, and externalizing problems were examined in a total of eight multiple regression analyses with block entry of all five personality variables/ four values quadrants (values and personality traits were examined in separate models; see Table 3). Internalizing problems was best predicted by Neuroticism ($b = 2.93, p < .001$) and externalizing problems was best predicted by power ($b = 1.78, p < .001$), universalism ($b = -1.69, p < .001$), and Agreeableness ($b = -3.95, p < .001$). To determine whether racial/ethnic differences were present, hierarchical regression analyses were conducted. Dummy coded variables were created to represent the three racial/ethnic groups with European American children serving as the reference group. For values, internalizing and externalizing problems scores were predicted from one of the four values quadrants, the two dummy coded variables, and the interaction terms between the values in the quadrant and the dummy coded variables for a total of 8 models (4 for internalizing problems and 4 for externalizing problems; see Table 4). For personality traits, internalizing and externalizing problem scores were predicted from the five personality traits, the two dummy coded variables, and the interaction terms between the personality traits and the dummy coded variables for a

total of 2 models (1 for internalizing problems and 1 for externalizing problems). In all models, we first entered gender as a covariate (Step 1), followed by the main effects for values or personality traits and the dummy coded race/ethnicity variables (Step 2), followed by the multiplicative interaction terms between the values or personality traits and the dummy coded variables (Step 3). All independent variables were standardized prior to analysis. Significant interactions were probed using simple slopes analyses at internalizing and/or externalizing problems levels 1 SD above and below the mean using Hayes' (2013) PROCESS modeling.

No racial/ethnic differences emerged in the association between values and psychopathology or the association between personality traits and psychopathology in this sample. There was a trend towards significance in the association between universalism and internalizing problems among European American and Latino American children (see Table 4). Specifically, in the context high universalism Latino American children ($b = 1.49$, $t(286) = 2.30$, $p = .022$) scored higher on the internalizing problems scale compared to European American children ($b = -0.87$, $t(286) = -1.47$, $p = .144$).

Discussion

Relative to personality, values have received less empirical attention, particularly in children. The current investigation sought to determine whether individual differences were associated with psychopathology in children and whether racial/ethnic differences emerged in any of the associations. Significant associations emerged between power, universalism and externalizing problems in the total sample with a similar pattern emerging in the African and European American subgroups. Neuroticism, Extraversion, Agreeableness, and Conscientiousness were all significantly associated with internalizing and externalizing

problems. A similar pattern emerged for Neuroticism, Agreeableness, and Conscientiousness across all three racial/ethnic subgroups. In the combined sample, internalizing problems was positively predicted by Neuroticism and externalizing problems was negatively predicted by universalism and positively predicted by power. No significant racial/ethnic differences emerged in the values-psychopathology or personality-psychopathology associations in this sample. Overall these findings provide evidence that values are associated with psychopathology in middle childhood. These findings also suggest that there are no racial/ethnic differences in the association between individual differences and psychopathology in children.

In the total sample, four of the five personality traits were associated with internalizing and externalizing problems. Consistent with the hypothesis, Neuroticism was positively associated with internalizing and externalizing problems whereas, Extraversion, Agreeableness, and Conscientiousness were negatively associated with internalizing and externalizing problems. The pattern of associations is consistent with the vulnerability model, which suggests that traits are antecedent risk factors that confer risk for maladaptive outcomes (Clark, 2005; Nigg, 2006; Tackett, 2006; Widiger & Smith, 2008). As such, children who possess trait vulnerability (i.e., high Neuroticism, low Extraversion, Openness, Agreeableness, and Conscientiousness) are at a greater risk for developing psychopathology. Among regression analyses, internalizing problems was uniquely predicted by high Neuroticism. Neuroticism consistently predicts both internalizing and externalizing psychopathology in children (Cote et al., 2009; Dougherty et al., 2010; Gilliom & Shaw, 2004; Hayden et al., 2005; Schmitz et al., 1999). Externalizing problems was uniquely predicted by low Agreeableness, and there was a trend for low Conscientiousness. These

findings are also consistent with findings in the existing literature (DeYoung et al., 2008; Eisenberg et al., 2010; John et al., 1994; Miller et al., 2008; Tackett et al., 2012).

There were no racial/ethnic differences in values or personality traits ability to predict psychopathology in this sample. This research adds to the literature that fails to find meaningful racial/ethnic differences in these constructs and fails to support our hypotheses. However, there were some racial/ethnic differences that emerged in correlations between values and psychopathology. Power was positively associated with externalizing problems for both African and European American children. Universalism was negatively associated with externalizing psychopathology for African American children but not for European or Latino American children. African American children grow up navigating a world where they will undoubtedly experience racial/ethnic discrimination at some point in time (Krieger, 1990; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). As such, minority children, including African American children may value a world where everyone is treated equally and justly. Engaging in externalizing behaviors often has consequences for both the perpetrator and any potential victims which may dissuade children from engaging (e.g., aggressive behavior). Achievement was negatively associated with externalizing problems for Latino American children but not African or European American children. Although most children are socialized to achieve, perhaps, Latino American children in this sample are being taught to value achievement more than other groups. Individuals of Latino background tend to place a greater importance on achievement (Sue & Sue, 2008). Achievement, via education, is often seen as a means of achieving upward mobility and can ultimately lead to increases in socioeconomic status. Given that some of the Latino children are the first generation growing up in the United States, parents may instill the

importance of achieving so that they can live better lives than their parents did. As such, for these children, engaging in externalizing problems might result in suspension or other disciplinary action that can hinder them from achieving good grades. These findings may highlight cultural differences in socialization practices and parents' communication surrounding the importance of particular values and represent exciting areas for future research (Garcia Coll & Szalacha, 2004; Hughes et al., 2006).

Associations between Neuroticism, Agreeableness, and Conscientiousness and internalizing and externalizing problems emerged in all three subgroups. Associations between Extraversion and internalizing and externalizing problems emerged in the European American subgroup. Extraversion was negatively associated with both internalizing and externalizing problems in European American children. Extraversion is positively associated with effective coping strategies, general adaptation, and low risk for psychopathology (Abe, 2005; Costa & McCrae, 1980; Hampson, 2012; Lamers, Westerhof, Kovacs & Bohlmeijer, 2012). Extraversion is also typically higher in European American individuals compared to other racial/ethnic groups (Foldes et al., 2008). As such this provides some evidence that European American children may be especially at risk for psychopathology when they are introverted.

Limitations and Future Directions

Although this study provides novel information about values associations with psychopathology in children, several limitations are of note. As stated in Chapter 3, the reliability of the PVQ was considerably low for some of the values. Subsequent efforts should continue to refine measurement of the values, and researchers may want to resort to employing the full version of the measure to improve reliability. Like many other studies that evaluate racial/ethnic differences, we were unable to look at differences in a subsample of Asian American children. From a

developmental perspective, race/ethnicity is largely ignored when evaluating associations in middle childhood (Garcia Coll & Szalacha, 2004). Although Asian and Latino American populations are rapidly growing in the United States, these two groups are often ignored when evaluating racial/ethnic differences. Like African and Latino American children, Asian American children may be reared in environments with unique socialization practices that may influence the expression of personality traits and psychopathology. As such, it is important for future efforts to include Asian American children in studies evaluating associations between individual differences and psychopathology.

The cross-sectional design of the current study limits our ability to evaluate causal connections between values, personality, and psychopathology. Furthermore, a cross-sectional design also limits our ability to understand how these relationships may vary as a function of age. Future research would benefit from using longitudinal designs to help further evaluate the interconnections between individual differences and psychopathology in children. A longitudinal approach may also allow for us to understand when values emerge in children and how they change as children move through different developmental periods. This sample is community-based and has low rates of psychopathology compared to what would be found in clinical populations. Thus, is it possible that different individual differences-psychopathology associations may emerge in samples that have more severe clinical problems. Finally, broadband measures of psychopathology were used in the current project. Many studies that have found values-psychopathology associations have done so evaluating specific disorders. As such, a significant future step would be to examine these associations evaluating specific disorders that are prevalent in middle childhood (e.g., social anxiety, oppositional defiant disorder). A more specific approach may further our understanding of how values influence psychopathology in middle childhood. Despite

these limitations, this study provides novel information about values-psychopathology associations in children.

Conclusion

In summary, this study represents the first attempt to evaluate values-psychopathology associations in middle childhood. Furthermore, this study also represents the first attempt to evaluate whether racial/ethnic differences are present in the association between individual differences and psychopathology. Both values and personality traits were associated with psychopathology in expected ways that are consistent with what is found in the current literature. The lack of racial/ethnic differences in the associations between individual differences and psychopathology were also supported; as some studies fail to find racial/ethnic differences in the individual constructs. These findings provide evidence that values are associated with psychopathology in children and may provide further options for prevention and intervention efforts.

Chapter 5

General Discussion

Previous research has linked individual differences, including personal values and personality traits, with many forms of adaptive and maladaptive behaviors (Hanel & Wolfradt, 2016; Jarden, 2010; Ozer & Benet-Martinez, 2006; Schwartz, 2006). Middle childhood, ages 6 through 10, is characterized by many changes in the way that children function and see themselves in the world. Middle childhood is also a developmental period when maladaptive behaviors can become more problematic (Eccles, 1999). Efforts to understand how individual differences, particularly personality traits, influence the development of psychopathology have increased in the last couple of decades (Nigg, 2006; Tackett, 2006). Although personal values influence psychopathology, values-psychopathology associations have not been examined in children (Caldwell-Harris & Aycucgi, 2006; Hanel & Wolfradt, 2016; Jarden, 2010). There is a paucity of research examining racial/ethnic differences in middle childhood despite the presence of documented differences in older samples (Folders, Duehr & Ones, 2008; Gaines et al., 1997; Garcia Coll & Szalacha, 2004; McLaughlin, Hilt & Nolen-Hoeksema, 2007). Three studies were conducted to evaluate associations between values, personality traits, and psychopathology in children. Racial/ethnic differences in these associations were also evaluated.

Chapter 2 evaluated associations between value types and personality traits in a diverse sample of young adults. Two classes, personal-focused and self-focused, emerged in the young adults. The personal-focused class was characterized by values associated with an individualistic orientation whereas; values associated with a collectivistic orientation characterized the social-focused class. Gender, race/ethnicity, and personality traits differences emerged in ways that are

consistent with previous literature. Women, African, Asian, and Latino Americans/Canadians were all more likely to be in the social-focused class (Bond, 1988; Coon & Kemmelmeier, 2001; Di Dio et al., 1996; Feather, 1984; 1987; Gaines et al., 1997; Hofstede, 2001; Ryckman & Houston, 2003; Schwartz & Rubel, 2005). Regarding personality traits, the social-focused class endorsed higher levels of agreeableness and conscientiousness and lower levels of openness. Neuroticism and extraversion were stable across both classes, and the pattern of findings was consistent with the extant literature (Parks, 2007; Parks & Guay, 2009; Roccas et al., 2002).

To understand the relationship between values and personality traits in children, chapter 3 replicated and extended chapter 2's findings. Power was correlated with Neuroticism, Extraversion, Agreeableness, and Conscientiousness. Extraversion was associated with security, openness was associated with self-direction and conformity, and agreeableness was also associated with security. Unique associations emerged in children that are not present in adult samples (Fischer & Boer, 2014; Olver & Mooradian, 2003; Parks, 2007; Roccas et al., 2002; Vecchione et al., 2011; Yik & Tang, 1996). Divergent associations may be a function of the children being in a different developmental stage and having different needs and goals compared to adults. Nevertheless, chapter 3 represents the first attempt to evaluate associations between values and personality and children. These findings provide evidence that personality-values associations are present before adulthood and that many of the associations may remain stable over time.

Chapter 2 also evaluated racial/ethnic differences in values and personality traits. Racial/ethnic differences emerged for conformity, hedonism, self-direction, and security that were consistent with findings in adult samples (Coon & Kemmelmeier, 2001; Gaines et al., 1997).

African and Latino American children were higher in conformity, and European American children were higher in hedonism and self-direction. These findings are consistent with previous research that looks at racial/ethnic differences focusing on individualism versus collectivism (Coon & Kemmelmeir, 2001; Gaines et al., 1997; Hofstede, 2001). Values are thought to be culturally informed, and as such, it makes sense that racial/ethnic differences would also emerge in children (Parks & Guay, 2009; Schwartz, 2006). Furthermore, racial/ethnic differences in Neuroticism, Openness, and Agreeableness were also consistent with the literature (Allik & McCrae, 2004; Eap et al., 2008; Foldes et al., 2008; Woo et al., 2014). Neuroticism was lower in African American children when compared to European American children. This is opposite of what is typically found in adult samples that document racial/ethnic differences. Environmental factors like poverty and discrimination are thought to be factors that may influence personality differences (Foldes et al., 2008; Geronimus, Hicken, Keene, & Bound, 2006; Gorey, & Cryns, 1995; Hughes et al., 2011). Given that many of the African American children are from lower socioeconomic status families, one might expect that they might experience more Neuroticism as a function of environmental stressors (e.g., living in an impoverished neighborhood). However, it may be the case that there may be other environmental factors that reduce Neuroticism (e.g., one may not realize they are as impoverished as they are because everyone else is in a similar situation). Furthermore, socialization differences may also influence this finding.

European American children were higher in Openness compared to Latino American and Latino, and African American children were higher in Agreeableness compared to European American children. These findings are consistent with the literature and provide evidence that racial/ethnic differences in personality traits also emerge before adulthood. These findings highlight the

necessity of considering racial/ethnic differences when examining personality or values in samples of children.

Chapter 3 also examined evaluated value types in children and sought to evaluate class differences in gender, race/ethnicity and personality. Similar to chapter 2, two classes emerged: self-focused and other-focused. Children in the self-focused class were more likely to place a greater emphasis on achievement and power and a lower emphasis on tradition and conformity. Children in the other-focused class were more likely to put a greater emphasis on universalism and benevolence and a lesser emphasis on hedonism and self-direction. These findings were somewhat convergent with chapter 2 and other literature (Magun et al., 2016; Smack et al., 2017). Although gender differences did not emerge, racial/ethnic differences in personality traits were observed to be consistent with the adult literature. Latino American children were more likely to be in the other-focused group compared to European American children. Latino American parents tend to socialize their children to value tradition and family-oriented values, this finding is not surprising (Germán, Gonzales & Dumka, 2009; Sue & Sue, 2008). Furthermore, class differences emerged with the self-focused class having lower levels of Agreeableness which is consistent with what you would expect (Parks, 2007; Parks & Guay, 2009; Roccas et al., 2002). Collectively, these findings illustrate that by middle childhood, values-personality associations and racial/ethnic differences in values and personality traits are present and can be measured. These findings highlight the importance of considering race/ethnicity when looking at these constructs in children.

Chapter 4 evaluated associations between individual differences and psychopathology and whether racial/ethnic differences in associations would be present. Although there is some

research supporting associations between personality traits and psychopathology in children, little to no research had evaluated the association between values and psychopathology in children. Findings from adolescent and adult samples provide evidence that values may function as a protective factor, reducing participation in risky behavior (Chan, 2012; Germán et al., 2008; Le & Kato, 2006; Nassim et al., 2007). Power and universalism uniquely predicted externalizing psychopathology. Valuing power may be particularly important during middle childhood as it represents changes in children's perceptions of themselves, their abilities, and the importance of the social network (Eccles, 1999; Garcia Coll & Szalacha, 2004). Similarly, children who engage in aggressive or rule-breaking behaviors may negatively impact other children and their broader social environments. Perhaps when children place a lower emphasis on universalism, they may be more likely to use more extreme methods (e.g., aggression) to achieve their goals. These findings may highlight differences in associations that occur as a function of the developmental period. Consistent with what is typically found in the literature, personality traits were associated with internalizing and externalizing problems (Côté et al., 2009; DeYoung et al., 2008; Dougherty et al., 2010; Eisenberg et al., 2010; Gilliom & Shaw, 2004; Hayden et al., 2005; John et al., 1994; Miller et al., 2008; Schmitz et al., 1999; Tackett et al., 2012). Neuroticism uniquely predicted internalizing problems and Agreeableness uniquely predicted externalizing problems. The findings were consistent with the spectrum model which suggests that personality traits and manifestations of psychopathology exist on a continuum, representing a dimensional relationship (Tackett, 2006; Widiger & Smith, 2008). The findings add to the existing body of literature that documents associations between personality traits and psychopathology in middle childhood.

Additionally, Chapter 4 sought to determine whether racial/ethnic differences were present in associations between values and psychopathology in addition to personality and psychopathology. Although it was hypothesized that differences would emerge, this was not the case. There were some racial/ethnic differences in associations, but there were no differences in personality or values ability to predict psychopathology in children. Despite some evidence that racial/ethnic differences are present in values, personality traits, and psychopathology other studies have failed to find racial/ethnic differences (Foldes et al., 2008; Gaines et al., 1997; McLaughlin et al., 2007). Many samples examining racial/ethnic differences in psychopathology have done so evaluating specific disorders or behaviors versus broadband indexes of psychopathology. As such, differences may have been present if specific behaviors were examined. Furthermore, this sample is a community sample with low base rates of internalizing and externalizing problems. Racial/ethnic differences may be harder to detect in non-clinical samples and samples where specific problem behaviors are not assessed. Furthermore, studies that find values to be a protective factor for racial/ethnic minorities are primarily conducted in adolescent samples (Chan, 2012; Germán et al., 2008; Le & Kato, 2006; Nassim et al., 2007). These studies also tend to examine risky behaviors like gambling, smoking, and sexual activity. Although problem behaviors are certainly present in middle childhood, engagement in many risky behaviors occurs in adolescence and early adulthood when impulsivity and sensation seeking increase (Steinberg, 2007; Steinberg & Morris, 2001). This sample has low base rates of psychopathology and broadly examines psychopathology. Thus, it is possible that the values serve as a protective factor for more severe problem behaviors. In adult samples, mean level differences in personality traits have emerged across racial/ethnic groups. Despite these

differences, it is crucial to note that racial/ethnic groups do not differ regarding possession of vulnerable personality profiles (i.e., characterized by high Neuroticism, and low Extraversion, Openness, Agreeableness, and Conscientiousness; Foldes et al., 2008). It is likely that race/ethnicity does not influence personality-psychopathology associations and that the racial/ethnic differences in psychopathology are not explained by personality differences.

Implications

The current findings have relevance for developing nuanced prevention and interventions that can include multiple domains of individual differences. Several therapeutic modalities including Acceptance and Commitment Therapy, Motivational Interviewing, and Rational-Emotive Therapy have incorporated values-based work into their treatment protocols with success (Ellis, 1994; Hayes, Strosahl, & Wilson, 1991; Miller & Rollnick, 1991). As such, including personal values in intervention efforts for children will likely be beneficial. Furthermore, studies assessing values association with psychopathology often find that particular value endorsement may reduce an individual's risk of engaging in risky behavior (Chan, 2012; Germán et al., 2008; Le & Kato, 2006; Nassim et al., 2007). Middle childhood is a time when children are learning who they are as a person and what their strengths are. During this time, improvements in emotion regulation and theory of mind occur (Eccles, 1999). Intervention efforts could incorporate components where children determine what their values are and think about how their behaviors reflect their values. Illustrating how behaviors can work towards or against the pursuit of a particular value may encourage children to think before they act.

Temperament-focused psychoeducation is used with parents of children who have a difficult temperament, and a similar approach can be used with values (Sheeber & Johnson, 1994). Parent components of interventions could include curricula that highlight how personal values can be used to prevent engagement in particular behaviors. Parents are often responsible for teaching children values as they grow in their environment. As such, parents may be harnessed to help prevent children from engaging in maladaptive behaviors. A values-based approach will also tap into cultural differences among groups. Culturally informed interventions may continue to benefit from values being integrated into the curriculum. Multiple studies have suggested that particular value endorsement is relevant for different racial/ethnic groups. The inclusion of culturally relevant values in targeted interventions among high-risk groups (e.g., anxious Latina girls) may foster engagement and reinforce concepts or behaviors valued at home. Similarly, intervention programs may also be improved by including psychoeducational components that target personality traits (particularly for children who have vulnerable personality profiles) as well. The curriculum might include ways in which parenting strategies or behaviors may differentially interact with the child's personality to influence behavior. Given that individual differences influence psychopathology, efforts should continue to be made to incorporate them when designing interventions for children as well as adults.

Future Directions

The current research provides multiple avenues for future research. These studies represent the first attempt at evaluating values-personality and values-psychopathology associations in middle childhood. Personality traits were associated with values in meaningful ways that were somewhat consistent with research examining the same relationships in adults.

Some associations were opposite of adult patterns or not found in adults as well. Future efforts should work to understand how values are related to personality traits examining facet level data as well. Facets of personality traits often provide more nuanced information and may help explain divergent findings in the current research. Neuroticism, which is associated with power in children, is not typically related to values in adults at the higher-order trait level. Thus, it will be helpful to understand how values are associated with facets in addition to higher-order traits.

Values associations with personality traits and psychopathology in middle childhood also highlight the importance of exploring these associations over time via longitudinal studies. Many of the values-personality associations documented in the current research map onto what is found in adults indicating that these relationships develop long before adulthood. With advances in the capability to measure values using self-report in children, it is possible to assess a child's values in a reliable manner (Döring, 2010; Schwartz et al., 2001). As such, it is essential to determine when values start to take on the highly differentiated structure observed by middle childhood (Döring, 2010). How do values change as children progress through middle childhood, adolescence, and into adulthood? Do values-personality relationships change over time? Are the divergent associations presented in this research indicative of a developmental shift that may occur in adolescence or early adulthood? Longitudinal samples are needed to test these questions, which will continue to inform our understanding of values.

Finally, it is also essential to gain a deeper understanding of how values work alongside personality in predicting psychopathology in children. While values and personality traits are related domains of individual differences, they are distinct, and values have stronger influences from the environment and have more flexibility (Parks & Guay, 2009). Personal values may

temper the behavioral expression of personality traits and values and personality may interact to predict behavior (Parks & Guay, 2009). For example, an individual who has an impulsive personality, but values benevolence might choose to drive more cautiously to protect the safety of other people. Previous research has suggested that there are two possible mechanisms by which values can help to predict behavior (Schwartz & Bilsky, 1994). The first operates under the assumption that both values and personality are covariant; thus, both value importance and expression of the personality are increased after the interaction occurs. For example, if an individual values achievement, then this can promote congruent behavioral patterns and when the individual achieves success the value is reinforced which promotes the behavior (Schwartz & Bilsky, 1994). The second hypothesis suggests that values are compensatory to personality, meaning that the value influences the expression of the personality trait which then diminishes the importance of the value. For example, valuing security can promote congruent behavior patterns like caring for one's health, which when the person is successful subsequently diminishes the importance of the valuing security (Schwartz & Bilsky, 1994). As such, future efforts should examine values as a moderator of the association between personality and psychopathology in children.

Conclusion

This research represents the first attempt to evaluate values association with personality traits and psychopathology in middle childhood. Furthermore, these studies also represent the first attempt to evaluate race/ethnicity in these associations at this developmental period. Similar to adolescent and adult samples, values were associated with personality traits and psychopathology in children. Racial/ethnic differences emerged in both values and personality

traits among the three examined groups. Although there were no racial/ethnic differences in the values-psychopathology or personality-psychopathology associations, the absence of racial/ethnic differences is also valuable information. These studies all provide evidence that by middle childhood values are already associated with personality traits and psychopathology. In addition to considering personality in middle childhood, it may also be beneficial to determine how values also influence behavior. Furthermore, values may also be a useful candidate that can be used to inform prevention and intervention efforts.

Table 1.

Statistical fit indices and class sizes for values classes

	2-class model	3-class model	4-class model	5-class model
Statistical fit indices				
AIC	31826.33	31342.58	31025.15	30775.23
BIC	31986.79	31559.99	31299.49	31106.51
Entropy	.87	.76	.81	.83
Class size				
Class 1	210	807	83	39
Class 2	1098	310	804	74
Class 3		191	173	236
Class 4			248	182
Class 5				777

Note. AIC = Akaike's Information Criterion; BIC = Bayesian Information Criterion.

Table 2.

Class profiles: Age, personality trait scores, and ethnicity by value class

	Personal-Focused Class (<i>n</i> = 210) <i>M</i> (<i>SD</i>)	Social-Focused Class (<i>n</i> = 1098) <i>M</i> (<i>SD</i>)	Effect Size Cohen's <i>d</i> (Hedges' <i>g</i>)
<u>Sample site</u>	62% Sample 1	34% Sample 1	
Age	20.79 (3.84)	21.82 (5.32)	
<u>Gender</u>			
Male	76 (22%)	275 (78%)	
Female	134 (14%)	823 (86%)	
<u>Personality Traits</u>			
Extraversion	3.32 (0.88)	3.27 (0.74)	0.06 (0.07)
Agreeableness	3.61 (0.66)	3.84 (0.61)	-0.36 (-0.37)
Conscientiousness	3.35 (0.71)	3.54 (0.62)	-0.29 (-0.30)
Neuroticism	2.94 (0.82)	2.99 (0.74)	-0.06 (-0.07)
Openness	3.94 (0.54)	3.58 (0.56)	0.65 (0.65)
<u>Ethnicity</u>			
European Descent	110 (29%)	276 (72%)	
Hispanic/Latino	23 (9%)	222 (91%)	
East Asian	36 (14%)	220 (86%)	
South East Asian	27 (11%)	212 (89%)	
Black/African	14 (8%)	168 (92%)	
Descent			

Table 1.

Correlations and Descriptive Statistics of Values and Personality Traits

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. CON															
2. TRA	0.02														
3. HED	-0.18	-0.26													
4. STIM	-0.17	-0.16	-0.03												
5. Self-D	-0.35	-0.20	0.02	-0.01											
6. ACH	-0.19	-0.22	-0.04	-0.05	-0.06										
7. SEC	0.06	0.02	-0.23	-0.28	-0.13	-0.14									
8. POW	-0.15	-0.13	0.23	-0.14	-0.09	0.07	-0.26								
9. UNI	0.05	0.03	-0.34	-0.06	-0.14	-0.26	0.11	-0.49							
10. BEN	-0.07	-0.02	-0.22	-0.04	-0.12	-0.12	-0.01	-0.34	0.20						
11. N	0.01	-0.08	0.06	0.02	0.01	-0.11	-0.09	0.22	-0.06	-0.00					
12. E	-0.10	0.06	-0.04	0.04	0.02	0.08	0.13	-0.19	0.03	0.01	-0.41				
13. O	-0.15	-0.02	-0.01	0.02	0.15	0.09	0.02	-0.05	-0.01	-0.04	-0.19	0.62			
14. A	0.08	0.07	-0.08	-0.02	0.01	0.02	0.12	-0.26	0.05	0.07	-0.66	0.22	-0.09		

15. C	0.03	0.09	-0.03	-0.07	0.10	0.08	0.05	-0.23	0.03	-0.04	-0.42	0.39	0.38	0.37
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Descriptive Statistics

M	4.61	4.09	4.15	4.98	4.13	4.21	4.62	2.77	4.89	4.85	3.09	5.20	5.20	5.07	4.44
SD	1.12	1.14	1.08	1.02	1.21	1.23	1.12	1.25	0.92	0.98	0.95	0.88	0.98	1.11	0.98

Note. CON = Conformity, TRA = Tradition, HED = Hedonism, STIM= Stimulation, Self- D = Self- Direction, ACH = Achievement, SEC = Security, POW = Power, UNI = Universalism, BEN = Benevolence, N = Neuroticism, E = Extraversion, O = Openness to Experience, A = Agreeableness, C = Conscientiousness. Correlation coefficients listed in bold are significant ($p < .05$).

Table 2.

Personality and Values Correlations by Race/Ethnicity

	African Americans					European Americans					Latino Americans				
	<i>n</i> = 104					<i>n</i> = 105					<i>n</i> = 87				
	N	E	O	A	C	N	E	O	A	C	N	E	O	A	C
Conformity	-.00***	.01*	-.03*	-.08	.08	-.01*	-.10	-.17	.13	.01*	.12	-.25	-.22	.09	-.07
Tradition	.10	.08	.05	-.06	.01*	-.20	.03*	-.15	.13	.09	-.12	.05	.10	.06	.16
Security	-.14	.09	.03*	.06	.02*	-.13	.22	.03	.19	.06	.10	.07	.06	-.02*	.04*
Self-Direction	-.13	.02*	.05	.17	.20	.09	-.05	.28	-.07	.14	-.05	.15	.05	.12	.05
Hedonism	.04*	-.07	-.08	.01*	.02*	.18	-.13	-.11	-.20	-.12	-.10	.07	.04	.06	.04*
Stimulation	-.11	.12	.14	.06	-.04*	.16	.01*	-.05	-.13	-.12	.02	-.00	.00	-.04	-.06
Power	.36	-.36	-.27	-.29	-.34	.12	-.23	.04*	-.23	-.17	.096	.03	.10	-.29	-.18
Achievement	-.03*	.14	.11	.00*	.16	-.07	.01*	.11	-.02*	-.10	-.26	.09	.05	.12	.17
Benevolence	-.03*	-.02*	-.01*	.09	-.07	.04*	.04*	.04*	.11	.15	-.02	-.03	-.09	.01*	-.19
Universalism	-.17	.13	.08	.11	.05	-.16	.21	-.05	.11	.10	.17	-.19	-.12	-.09	-.01*

Note. N = Neuroticism, E = Extraversion, O = Openness to Experience, A = Agreeableness, C = Conscientiousness

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

Table 3.

Statistical Fit Indices and Class Sizes for Values Classes

	2-class model	3-class model	4-class model
AIC	7674.29	7635.00	7608.97
BIC	7818.22	7790.00	7804.56
Entropy	0.72	0.79	0.84
Class 1	84	48	210
Class 2	212	33	35
Class 3		215	47
Class 4			4

Note. AIC = Akaike's Information Criterion; BIC = Bayesian Information Criterion.

Table 4.

Class profiles: Age, Personality Trait Scores, and Race/Ethnicity by Value Class

	Self-Focused Class (<i>n</i> = 83) <i>M</i> (<i>SD</i>)	Other-Focused Class (<i>n</i> = 213) <i>M</i> (<i>SD</i>)
Age	9.86 (0.63)	9.80 (0.68)
<u>Gender</u>		
Male	46 (55%)	94 (44%)
Female	37 (45%)	119 (56%)
<u>Personality Traits</u>		
Neuroticism	3.24 (0.99)	3.03 (0.93)
Extraversion	5.06 (0.85)	5.25 (0.88)
Openness	5.28 (0.83)	5.17 (1.03)
Agreeableness	4.77 (1.09)	5.18 (1.09)
Conscientiousness	4.36 (1.03)	4.47 (0.96)
<u>Ethnicity</u>		
African American	32 (38.6%)	72 (33.8%)
European American	38 (45.8%)	67 (31.5%)
Latino American	13 (15.7%)	74 (34.7%)

Table 1.

Descriptive Statistics Among Study Variables

	Total Sample <i>M</i> (SD) <i>N</i> = 296	African Americans <i>n</i> = 104	European Americans <i>n</i> = 105	Latino Americans <i>n</i> = 87
<u>Personality Traits</u>				
Neuroticism	3.10 (.97)	2.97 (1.04)	3.25 (0.88)	3.09 (0.97)
Extraversion	5.20 (.88)	5.36 (0.93)	5.14 (0.72)	5.09 (0.98)
Openness	5.20 (.99)	5.20 (1.04)	5.41 (0.86)	4.94 (1.02)
Agreeableness	5.03 (1.17)	5.17 (1.23)	4.71 (1.03)	5.23 (1.19)
Conscientiousness	4.41 (1.00)	4.56 (1.11)	4.31 (0.89)	4.36 (0.98)
<u>Personal Values</u>				
Tradition	-0.28 (0.95)	-0.16 (0.97)	-0.45 (0.93)	-0.20 (0.92)
Conformity	0.26 (1.01)	0.44 (1.03)	-0.00 (0.93)	0.36 (1.02)
Security	0.27 (0.84)	0.40 (0.87)	0.08 (0.85)	0.33 (0.76)
Self-Direction	-0.22 (1.04)	-0.50 (0.99)	0.16 (0.95)	-0.36 (1.08)
Hedonism	-0.20 (0.93)	-0.28 (0.96)	0.04 (0.88)	-0.40 (0.92)
Stimulation	0.62 (0.86)	0.58 (0.90)	0.57 (0.80)	0.74 (0.89)
Achievement	-0.15 (0.95)	-0.17 (0.96)	-0.14 (0.87)	-0.14 (1.03)
Power	-1.59 (1.15)	-1.44 (1.31)	-1.54 (1.05)	-1.83 (1.01)
Benevolence	0.48 (0.73)	0.47 (0.79)	0.50 (0.68)	0.49 (0.72)
Universalism	0.53 (0.67)	0.43 (0.69)	0.53 (0.66)	0.65 (0.64)
Internalizing Problems	6.70 (5.71)	5.99 (5.39)	6.75 (5.35)	7.50 (6.40)
Externalizing Problems	6.99 (7.38)	7.80 (7.84)	6.70 (6.93)	6.36 (7.35)

Table 2.

Correlations Between Personality Traits, Values, and Psychopathology in Children

	Whole Sample		African Americans		European Americans		Latino Americans	
	INT	EXT	INT	EXT	INT	EXT	INT	EXT
<u>Personality</u>								
Neuroticism	0.51***	0.50***	0.57***	0.52***	0.47***	0.43***	0.50***	0.59***
Extraversion	-0.23***	-0.15**	-0.14	-0.19	-0.29**	-0.31**	-0.25	-0.02
Openness	-0.14	-0.02	-0.15	-0.15	-0.05	0.06	-0.18	0.05
Agreeableness	-0.33***	-0.68***	-0.37***	-0.66***	-0.28**	-0.70***	-0.37***	-0.74***
Conscientiousness	-0.25***	-0.37***	-0.29**	-0.39***	-0.09	-0.28**	-0.35**	-0.46***
<u>Values</u>								
Tradition	-0.00	-0.08	0.10	-0.01	-0.03	-0.14	-0.08	-0.12
Conformity	0.06	0.03	0.04	0.03	0.01	-0.06	0.15	0.08
Security	-0.05	-0.04	-0.08	0.02	-0.05	-0.15	-0.01	-0.01
Self-Direction	0.01	-0.03	-0.02	-0.11	0.04	0.07	-0.01	-0.01
Hedonism	0.01	0.15	0.08	0.21	0.03	0.18	-0.09	0.05
Stimulation	-0.11	0.02	-0.17	-0.07	-0.05	0.07	-0.13	0.10
Power	0.10	0.27***	0.18	0.30**	0.13	0.28**	0.03	0.19

Achievement	-0.09	-0.08	-0.05	-0.05	-0.00	0.12	-0.20	-0.30**
Benevolence	0.02	-0.14	-0.10	-0.20	0.03	-0.20	0.13	-0.01
Universalism	0.03	-0.18**	-0.05	-0.26**	-0.13	-0.22	0.24	0.01

Note. INT = Internalizing Problems and EXT = Externalizing problems

* = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 3.

Multiple Regression Analysis of Personality Traits and Values Predicting Internalizing and Externalizing Problem Scores

Variable	Internalizing Problems					Externalizing Problems				
	B	SE _B	95%CI	R ²	F	B	SE _B	95%CI	R ²	F
Neuroticism	2.93***	0.43	[2.08, 3.78]	0.27	20.88***	0.45	0.47	[-0.48, 1.38]	0.48	52.83***
Extraversion	-0.08	0.45	[-0.96, 0.81]			0.80	0.49	[-0.17, 1.77]		
Openness	-0.13	0.41	[-0.94, 0.69]			-0.71	0.45	[-1.60, -0.18]		
Agreeableness	0.06	0.36	[-0.65, 0.77]			-3.95***	0.40	[- 4.73, -3.17]		
Conscientiousness	-0.19	0.35	[-0.88, 0.50]			-0.76	0.38	[-1.51, -0.00]		
Tradition	-0.02	0.35	[-0.71, 0.67]	0.01	0.68	-0.59	0.46	[-1.48, 0.31]	0.01	0.78
Conformity	0.36	0.33	[-0.29, 1.01]			0.22	0.43	[-0.62, 1.06]		
Security	-0.39	0.40	[-1.17, 0.40]			-0.34	0.51	[-1.35, 0.67]		
Self-Direction	0.03	0.32	[-0.59, 0.66]	0.01	1.22	-0.25	0.41	[-1.05, 0.56]	0.02	2.40
Stimulation	-0.73	0.39	[-1.49, 0.02]			0.23	0.50	[-0.74, 1.21]		
Hedonism	0.01	0.36	[-0.69, 0.71]			1.19	0.46	[0.29, 2.09]		
Power	0.53	0.29	[-0.04, 1.10]	0.02	2.76	1.78***	0.036	[1.07, 2.49]	0.08	13.05***
Achievement	-0.55	0.35	[-1.24, 0.13]			-0.74	0.44	[-1.60, 0.12]		96

Benevolence	0.08	0.46	[-0.84, 0.99]	0.00	0.15	-1.14	0.59	[-2.30, 0.02]	0.04	6.61**
Universalism	0.25	0.51	[-0.76, 1.25]			-1.69**	0.65	[-2.96, -0.43]		

Note. ** = $p < .01$, *** = $p < .001$

Table 4.

Hierarchical Regression Analyses with Values, Personality Traits, Race/Ethnicity and their Interaction Predicting Internalizing and Externalizing Problems

Internalizing Problems								Externalizing Problems					
Step	Variable	B	SE _B	β	95%CI	R ²	F	B	SE _B	β	95%CI	R ²	F
<u>Personality Traits and Race/ Ethnicity</u>													
3	N x D1	0.96	1.03	0.11	[-1.07, 2.98]	0.30	6.54***	0.04	1.10	0.00	[2.14, 2.21]	0.52	16.41***
	N x D2	-0.34	1.06	-0.03	[-2.43, 1.74]			0.76	1.14	0.06	[-1.48, 3.01]		
	E x D1	1.06	1.03	0.12	[-0.97, 3.09]			1.55	1.11	0.13	[-0.63, 3.74]		
	Ex D2	-0.11	1.11	-0.01	[-2.30, 2.08]			0.75	1.20	0.06	[-1.60, 3.11]		
	O x D1	0.55	1.00	0.06	[-1.41, 2.51]			-0.72	1.07	-0.06	[-2.83, 1.39]		
	O x D2	-0.08	1.19	-0.01	[-2.43, 2.27]			0.43	1.28	0.03	[-2.10, 2.95]		
	A x D1	1.09	1.04	0.12	[-0.96, 3.13]			0.58	1.12	0.05	[-1.62, 2.78]		
	A x D2	-0.43	1.08	-0.04	[-2.55, 1.70]			1.18	1.16	0.09	[-1.10, 3.47]		
	C x D1	-1.24	0.82	-0.14	[-2.85, 0.36]			-0.40	0.88	-0.04	[-2.13, 1.32]		
	Cx D2	-1.20	0.96	-0.11	[-3.08, 0.69]			-1.25	1.03	-0.09	[-3.28, 0.78]		
<u>Conformity, Tradition, Security and Race/Ethnicity</u>													
3	CON x D1	0.04	0.83	0.01	[-1.59, 1.67]	0.03	0.77	0.51	1.08	0.04	[-1.61, 2.62]	0.03	0.60

	CON x D2	0.88	0.88	0.09	[-0.85, 2.61]			0.78	1.14	0.06	[-1.47, 3.02]		
	TRA x D1	0.67	0.80	0.07	[-0.90, 2.25]			0.81	1.04	0.07	[-1.24, 2.85]		
	TRA x D2	-0.24	0.87	-0.02	[-1.95, 1.46]			0.10	1.12	0.01	[-2.11, 2.31]		
	SEC x D1	-0.06	0.79	-0.01	[-1.61, 1.49]			1.11	1.02	0.09	[-0.90, 3.12]		
	SEC x D2	0.11	0.88	0.01	[-1.64, 1.85]			0.81	1.15	0.05	[-1.45, 3.07]		
<hr/>													
<u>Self-Direction, Hedonism, Stimulation and Race/Ethnicity</u>													
3	SED x D1	-0.30	0.86	-0.03	[-1.99, 1.40]	0.04	0.91	-1.52	1.11	-0.12	[-3.70, 0.66]	0.05	1.17
	SED x D2	-0.52	0.87	-0.05	[-2.22, 1.19]			-0.61	1.12	-0.05	[-2.81, 1.59]		
	HED x D1	0.12	0.82	0.01	[-1.50, 1.73]			0.17	1.05	0.01	[-1.91, 2.24]		
	HED x D2	-0.88	0.88	-0.08	[-2.60, 0.85]			-0.97	1.13	-0.07	[-3.19, 1.25]		
	STI x D1	-0.55	0.82	-0.06	[-2.16, 1.06]			-0.70	1.05	-0.06	[-2.77, 1.36]		
	STI x D2	-0.63	0.86	-0.06	[-2.32, 1.07]			0.43	1.11	0.03	[-1.75, 2.62]		
<hr/>													
<u>Benevolence, Universalism and Race/Ethnicity</u>													
3	BEN x D1	-0.92	0.81	-0.10	[-2.52, 0.68]	0.05	1.62	-0.14	1.04	-0.01	[-2.19, 1.91]	0.07	2.21
	BEN x D2	0.14	0.89	0.01	[-1.60, 1.88]			1.00	1.14	0.07	[-1.23, 3.23]		
	UNI x D1	0.67	0.80	0.07	[-0.92, 2.25]			-0.48	1.03	-0.04	[-2.52, 1.55]		
	UNI x D2	2.36	0.88	0.22	[0.63, 4.08]			1.36	1.12	0.10	[-0.85, 3.57]		
<hr/>													

Note. Gender was entered as step 1 and the relevant personality traits or values were entered along with the racial/ethnic dummy coded variables. CON = Conformity, TRA = Tradition, SEC = Security, SED = Self-Direction, HED = Hedonism, STI = Stimulation, BEN = Benevolence, UNI = Universalism.

** = $p < .01$, *** = $p < .001$

Figure 1.

Value Scores as a Function of the Two-Class Solution

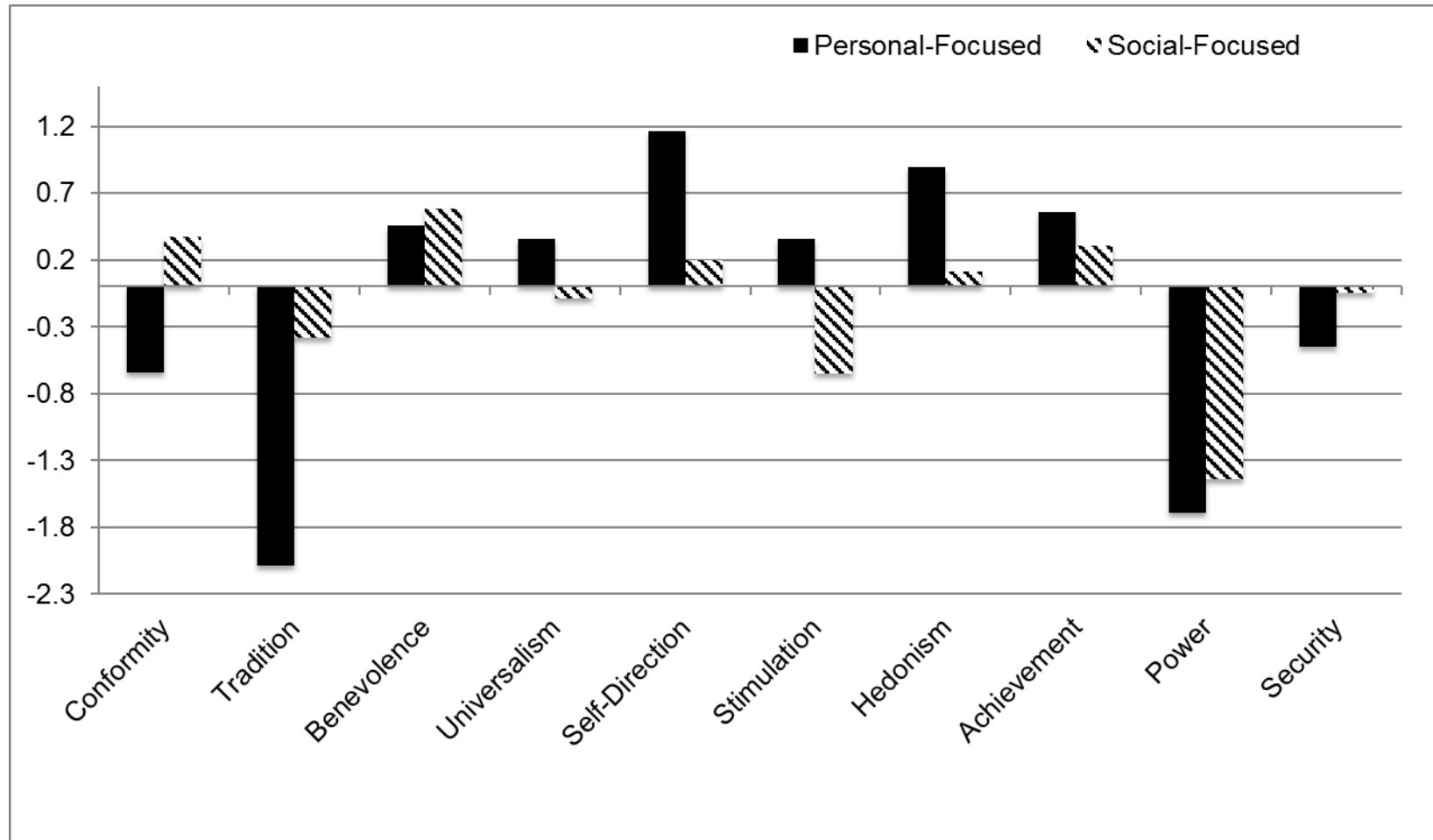


Figure 2.

Big Five Scores as a Function of the Two-Class Solution

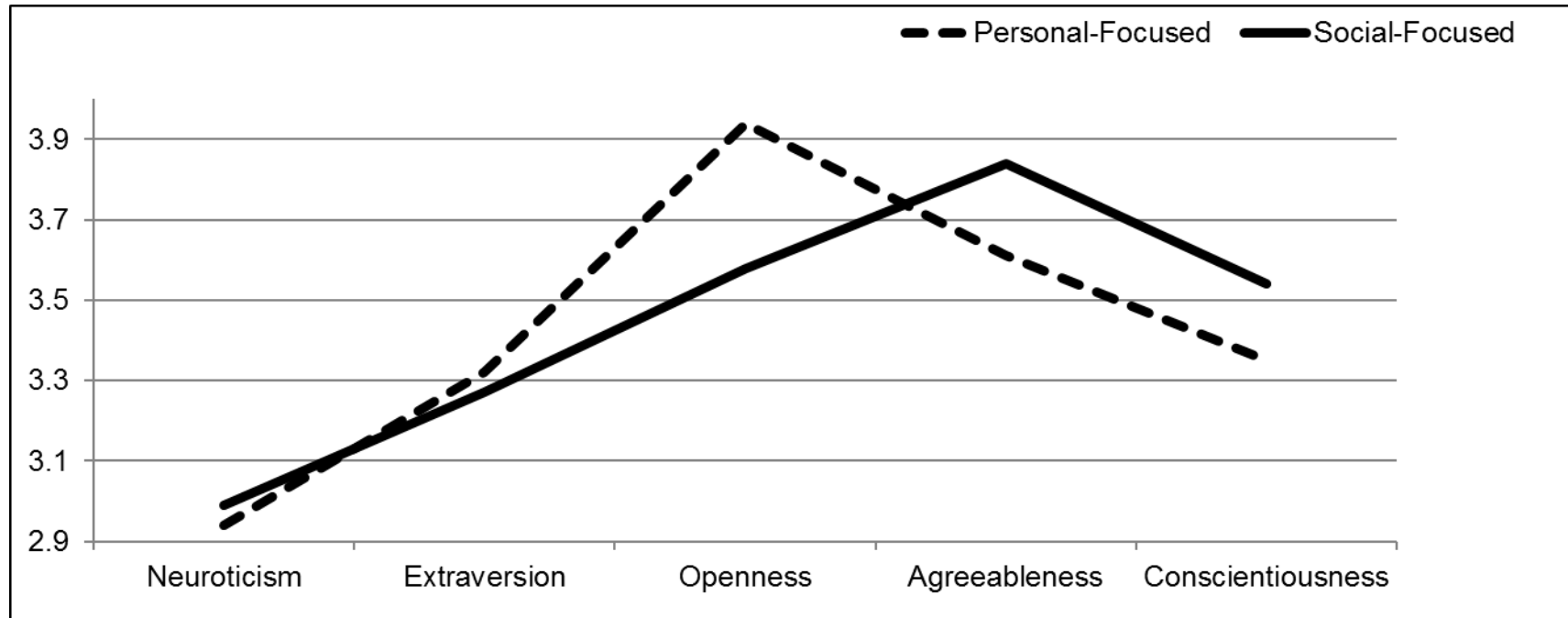
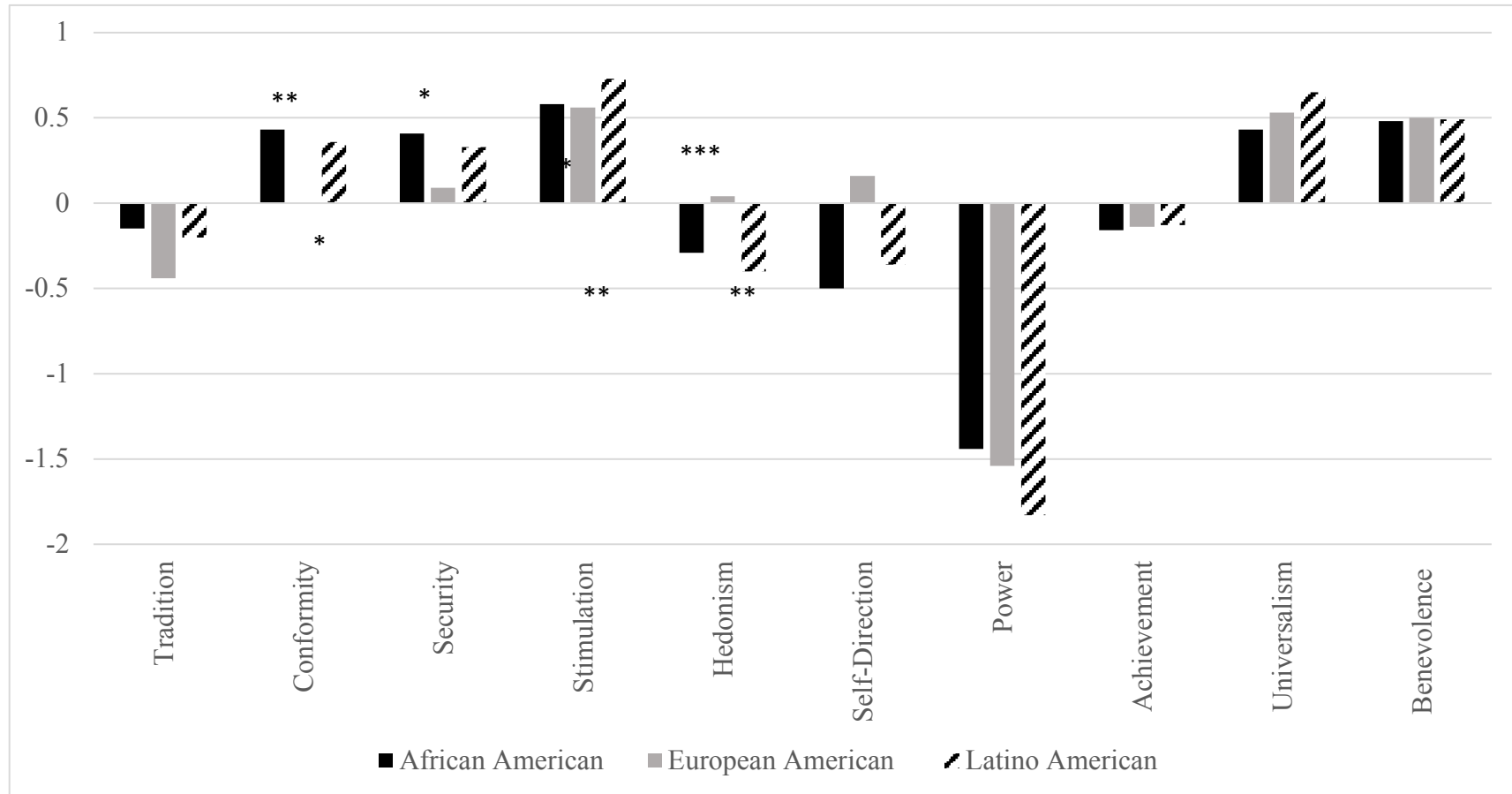


Figure 1.

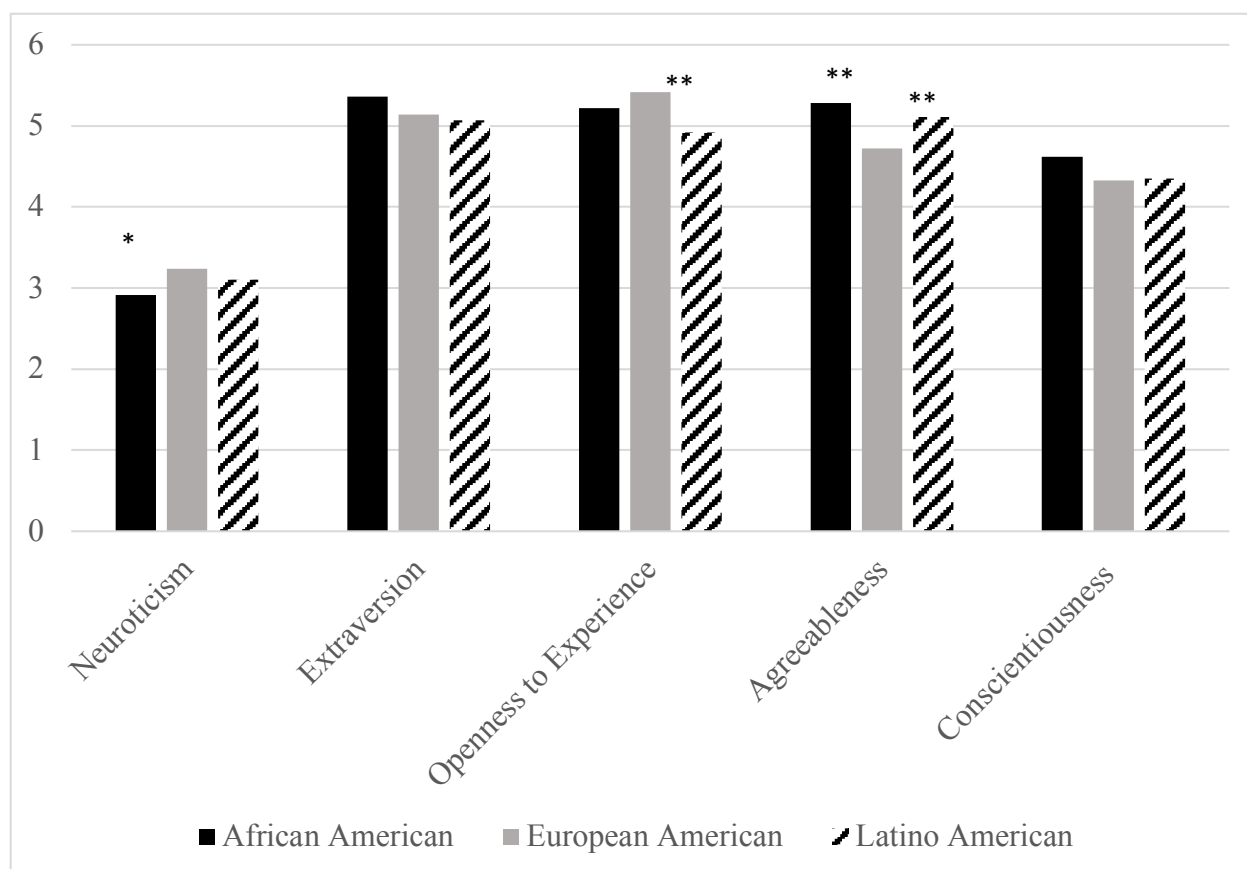
Mean Differences in Personal Values among African, European, and Latino American Children



Note. * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Figure 2.

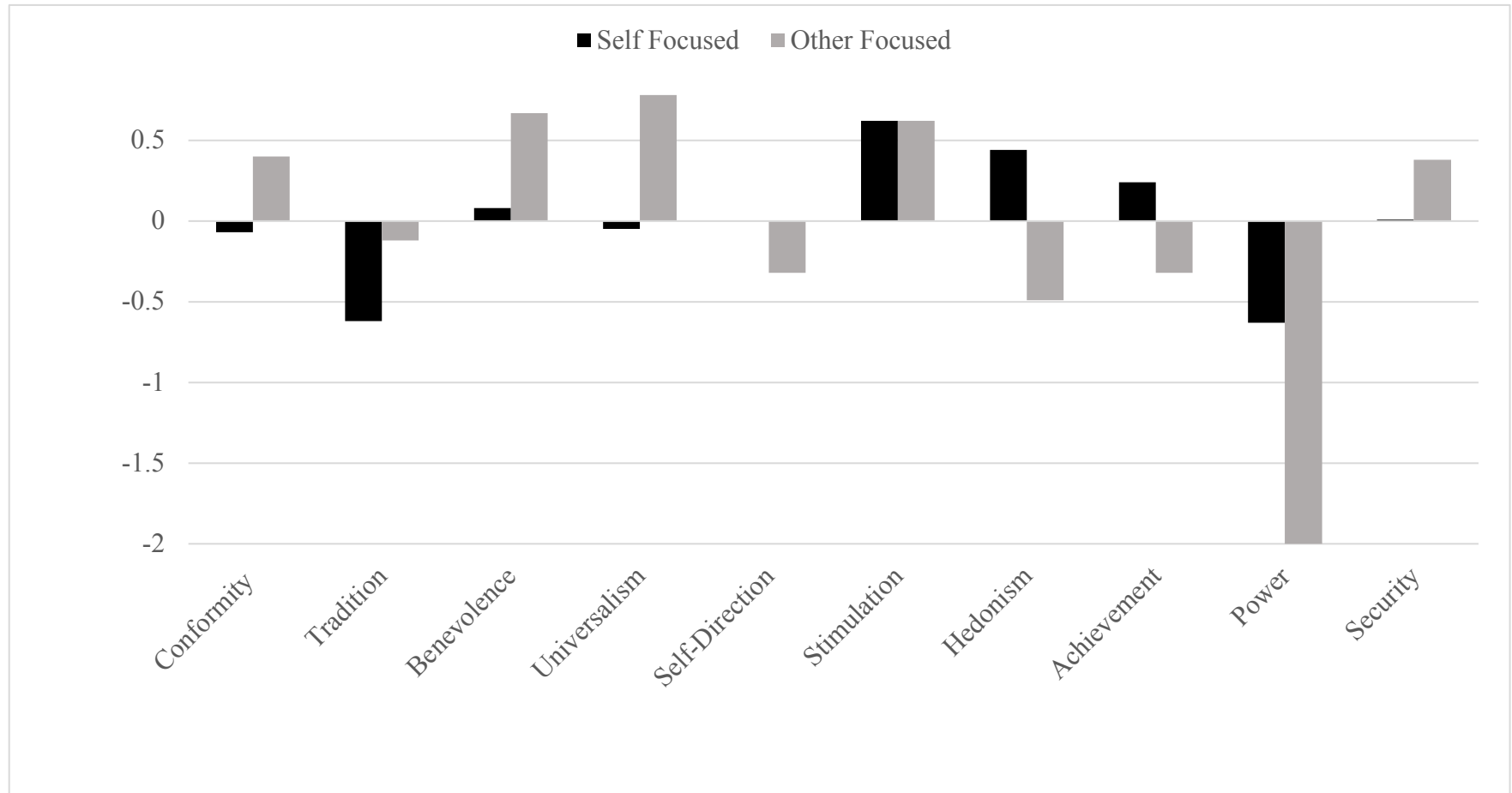
Mean Differences in Big Five Personality Traits among African, European, and Latino Children



Note. * = $p < .05$, ** = $p < .01$

Figure 3.

Values Scores as a Function of the Two- Class Solution



References

- Abe, J. A. (2005). The predictive validity of the Five-Factor Model of personality with preschool age children: A nine-year follow-up study. *Journal of Research in Personality*, 39, 423-442. doi: 10.1016/j.jrp.2004.05.002
- Achenbach, T. M. & Rescorla, L. A. (2001). Manual for the ASEBA school-age forms and profiles. Burlington: University of Vermont, Research Center for Children, Youth, & Families.
- Akaike, H. (1987). Factor analysis and AIC. *Psychometrika*, 52, 317-332.
- Akram, F., & Khan, S. D. (2015). Personal values in relation to parental relationship and vulnerability towards psychopathology. *Pakistan Journal of Psychology*, 46, 15-28.
- Allik, J., & McCrae, R. R. (2004). Toward a geography of personality traits: Patterns of profiles across 36 cultures. *Journal of Cross-Cultural Psychology*, 35, 13-28.
- Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Holt.
- Anderson, E. R., & Mayes, L. C. (2010). Race/ethnicity and internalizing disorders in youth: A review. *Clinical Psychology Review*, 30, 338-348.
- Austin, A. A., & Chorpita, B. F. (2004). Temperament, anxiety, and depression: Comparisons across five ethnic groups of children. *Journal of Clinical Child and Adolescent Psychology*, 33, 216-226.
- Aygun, Z. K., & Imamoglu, E. O. (2002). Value domains of Turkish adults and university students. *Journal of Social Psychology*, 142, 333–351. doi: 10.1080/00224540209603903

- Bond, M. H. (1988). Finding universal dimensions of individual variation in multi-cultural studies of values: The Rokeach and Chinese value surveys. *Journal of Personality and Social Psychology*, 55, 1009–1015. doi: 10.1037/002-3514.55.6.1009
- Bilsky, W., Niemann, F., Schmitz, J., & Rose, I. (2005, July). Value structure at an early age: Cross-cultural replications. In *Facet theory: Design, analysis and applications. Proceedings of the 10th international facet theory conference in Rome* (pp. 241-248). Prague, Czech Republic: Agentura Action M.
- Bilsky, W., & Schwartz, S. H. (1994). Values and personality. *European Journal of Personality*, 8, 163-181. doi: 10.1002/per.2410080303
- Bond, M. H. (1988). Finding universal dimensions of individual variation in multicultural studies of values: The Rokeach and Chinese value surveys. *Journal of Personality and Social Psychology*, 55, 1009-1015.
- Borg, I., Bardi, A., & Schwartz, S. H. (2015). Does the value circle exist within persons or only across persons? *Journal of Personality*. doi: 10.1111/jopy.12228
- Bubeck, M., & Bilsky, W. (2004). Value structure at an early age. *Swiss Journal of Psychology/Schweizerische Zeitschrift für Psychologie/Revue Suisse de Psychologie*, 63, 31-41. doi: [10.1024/1421-0185.63.1.31](https://doi.org/10.1024/1421-0185.63.1.31)
- Caldwell-Harris, C.L. & Aycicegi, A. (2006). When personality and culture clash: The psychological distress of allocentrics in an individualist culture and idiocentrics in a collectivist culture. *Transcultural Psychiatry*, 43, 331-361. doi: 10.1177/1363461506066982

- Chan, V. K. (2012). The Relationship Between Universal Human Values and Adolescent Problem and Pathological Gambling. *Journal of Addictive Diseases, 31*, 183-194. doi: 10.1080/10550887.2012.665690
- Church, A. T., Katigbak, M. S., del Prado, A. M., Valdez-Medina, J. L., Miramontes, L. G., & Ortiz, F. A. (2006). A cross-cultural study of trait self-enhancement, explanatory variables, and adjustment. *Journal of Research in Personality, 40*, 1169-1201. doi: 10.1016/j.jrp.2006.01.004
- Clark, L. A. (2005). Temperament as a unifying basis for personality and psychopathology. *Journal of Abnormal Psychology, 114*, 505-521.
- Clark, L. A., & Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications. *Journal of Abnormal Psychology, 3*, 316-336. doi: 10.1037/0021-843X.100.3.316
- Clark, S. L., & Muthén, B. (2009). Relating latent class analysis results to variables not included in the analysis. *Submitted for publication*.
- Cokley, K. O. (2005). Racial(ized) identity, ethnic identity, and afrocentric values: Conceptual and methodological challenges in understanding African American identity. *Journal of Counseling Psychology, 52*, 517-526. doi: 10.1037/0022-0167.52.4.517
- Cole, D. A., Martin, J. M., Peeke, L., Henderson, A., & Harwell, J. (1998). Validation of depression and anxiety measures in White and Black youths: Multitrait-multimethod analyses. *Psychological Assessment, 10*, 261-276.
- Coll, C. G., & Szalacha, L. A. (2004). The multiple contexts of middle childhood. *The Future of Children, 81-97*.

- Coon, H. M., & Kemmelmeier, M. (2001). Cultural orientations in the United States (re) examining differences among ethnic groups. *Journal of Cross-Cultural Psychology*, 32, 348-364. doi:1177/0022022101032003006
- Costa, P. T., & McCrae, R. R. (1980). Influence of extraversion and neuroticism on subjective well-being: Happy and unhappy people. *Journal of Personality and Social Psychology*, 38, 668-678. doi:10.1037/0022-3514.38.4.668
- Costa, P. T., & McCrae, R. R. (1992). Revised NEO Personality Inventory: Professional manual. Odessa, FL: Psychological Assessment Resources.
- Côté, S. M., Boivin, M., Liu, X., Nagin, D. S., Zoccolillo, M., & Tremblay, R. E. (2009). Depression and anxiety symptoms: Onset, developmental course and risk factors during early childhood. *Journal of Child Psychology and Psychiatry*, 50, 1201-1208.
- David, C. F., & Kistner, J. A. (2000). Do positive self-perceptions have a “dark side”? Examination of the link between perceptual bias and aggression. *Journal of Abnormal Child Psychology*, 28, 327-337. doi: 10.1023/A:1005164925300
- De Bolle, M., Beyers, W., De Clercq, B., & De Fruyt, F. (2012). General personality and psychopathology in referred and nonreferred children and adolescents: An investigation of continuity, pathoplasty, and complication models. *Journal of Abnormal Psychology*, 121, 958-970.
- De Pauw, S. S. W., & Mervielde, I. (2010). Temperament, personality and developmental psychopathology: A review based on the conceptual dimensions underlying childhood traits. *Child Psychiatry and Human Development*, 41, 313-329.

- Deal, J. E., Halverson, C. F., Martin, R. P., Victor, J., & Baker, S. (2007). The Inventory of Children's Individual Differences: Development and validation of a short version. *Journal of Personality Assessment*, 89, 162-166. doi: 10.1080/00223890701468550
- DeYoung, C. G., Peterson, J. B., Séguin, J. R., & Tremblay, R. E. (2008). Externalizing behavior and the higher order factors of the big five. *Journal of Abnormal Psychology*, 117, 947-953.
- Di Dio, L., Saragovi, C., Koestner, R., & Aube, J. (1996). Linking personal values to gender. *Sex Roles*, 34, 621-637. doi: 10.1007/BF01551498
- Döring, A. K. (2010). Assessing children's values: An exploratory study. *Journal of Psychoeducational Assessment*, 28, 564-577.
- Dougherty, L. R., Klein, D. N., Durbin, C. E., Hayden, E. P., & Olino, T. M. (2010). Temperamental positive and negative emotionality and children's depressive symptoms: A longitudinal prospective study from age three to age ten. *Journal of Social and Clinical Psychology*, 29, 462-488.
- Eap, S., DeGarmo, D. S., Kawakami, A., Hara, S. N., Hall, G. C., & Teten, A. L. (2008). Culture and personality among European American and Asian American men. *Journal of Cross-Cultural Psychology*, 39, 630-643.
- Eccles, J. S. (1999). The development of children ages 6 to 14. *The Future of Children*, 30-44.
- Eisenberg, N., Cumberland, A., Spinrad, T. L., Fabes, R. A., Shepard, S. A., Reiser, M., ... & Guthrie, I. K. (2001). The relations of regulation and emotionality to children's externalizing and internalizing problem behavior. *Child Development*, 72, 1112-1134.

- Eisenberg, N., Spinrad, T. L., & Eggum, N. D. (2010). Emotion-related self-regulation and its relation to children's maladjustment. *Annual Review of Clinical Psychology*, 6, 495-525. doi: 10.1146/annurev.clinpsy.121208.131208
- Ellis, A. (1994). The essence of Rational Emotive Behavior Therapy (REBT): A comprehensive approach to treatment. Retrieved March 10, 2018, from: http://www.rebt.ws/albert_ellis_the_essence_of_rebt.htm
- Feather, N. T. (1984). Masculinity, femininity, psychological androgyny and the structure of values. *Journal of Personality and Social Psychology*, 47, 604–620. doi: 10.1037/002-3514.47.3.604
- Feather, N. T. (1987). Gender differences in values: Implications of the expectancy value model. In F. Holiest & J. Kohl (Eds.), *Motivation, intention, and volition* (pp. 31–45). Berlin, Germany: Springer-Verlag.
- Fischer, R., & Boer, D. (2014). Motivational basis of personality traits: A meta-analysis of value-personality correlations. *Journal of Personality*, 83, 491-510. doi:10.1111/jopy.12125
- Foldes, H. J., Duehr, E. E., & Ones, D. S. (2008). Group differences in personality: Meta-analyses comparing five US racial groups. *Personnel Psychology*, 61, 579-616. doi: 10.1111/j.1744-6570.2008.00123.x
- Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development*, 63, 103-115.
- Gaines, S.R, Marelich, W.D., Bledose, K.L., Steers, W., Henderson, M.C., Granrose, C.S.&... Page, M.S. (1997). Links between race/ethnicity and cultural values as mediated by

- racial/ethnic identity and moderated by gender. *Journal of Personality and Social Psychology*, 72, 1460-1476. doi:10.1037/0022-3514.72.6.1460
- Gartstein, M. A., Slobodskaya, H. R., Olaf Zylicz, P., Gosztyla, D., & Nakagawa, A. (2010). A cross-cultural evaluation of temperament: Japan, USA, Poland and Russia. *International Journal of Psychology and Psychological Therapy*, 10, 55-57.
- Germán, M., Gonzales, N. A., & Dumka, L. (2009). Familism values as a protective factor for Mexican-origin adolescents exposed to deviant peers. *The Journal of Early Adolescence*, 29, 16-42
- Geronimus, A. T., Hicken, M., Keene, D., & Bound, J. (2006). “Weathering” and age patterns of allostatic load scores among Blacks and Whites in the United States. *American Journal of Public Health*, 96, 826–833.
- Gilliom, M., & Shaw, D. S. (2004). Codevelopment of externalizing and internalizing problems in early childhood. *Development and Psychopathology*, 16, 313-333.
- Ginsburg, G. S., & Silverman, W. K. (1996). Phobic and anxiety disorders in Hispanic and Caucasian youth. *Journal of Anxiety Disorders*, 10, 517-528.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 48, 26-34. doi: 10.1037/0003-066X.48.1.26
- Goldberg, L. R. (2001). Analyses of Digman’s child personality data: Derivation of big-five factor scores from each of the six samples. *Journal of Personality*, 69, 709-744. doi: 10.1111/1467-6494.695161

- Gollan, T., & Witte, E. H. (2014). From the interindividual to the intraindividual level: Is the circumplex model of values applicable to intraindividual value profiles? *Journal of Cross-Cultural Psychology*, 45, 452-467. doi:10.1177/0022022113509885
- Gonzales, N. A., Germán, M., Kim, S. Y., George, P., Fabrett, F. C., Millsap, R., & Dumka, L. E. (2008). Mexican American adolescents' cultural orientation, externalizing behavior and academic engagement: The role of traditional cultural values. *American Journal of Community Psychology*, 41, 151-164.
- Gorey, K. M., & Cryns, A. G. (1995). Lack of racial-differences in behavior—a quantitative replication of Rushton (1988) review and an independent meta-analysis. *Personality and Individual Differences*, 19, 345–353.
- Graham, S., Bellmore, A. D., & Mize, J. (2006). Peer victimization, aggression, and their co-occurrence in middle school: Pathways to adjustment problems. *Journal of Abnormal Child Psychology*, 34, 349-364. doi:10.1007/s10802-006-9030-2
- Halverson, C. F., Havill, V. L., Deal, J., Baker, S. R., Victor, J. B., Pavlopoulos, V., ... Wen, L. (2003). Personality structure as derived from parental ratings of free descriptions of children: The Inventory of Child Individual Differences. *Journal of Personality*, 71, 995-1026. doi: 10.1111/1467-6494.7106005
- Hampson, S. E. (2012). Personality processes: Mechanisms by which personality traits “get outside the skin”. *Annual Review of Psychology*, 63, 315-339. doi:10.1146/annurev-psych-120710-100419

- Hanel, P. H. P., & Wolfradt, U. (2016). The 'dark side' of personal values: Relations to clinical constructs and their implications. *Personality and Individual Differences*, 97, 140-145.
doi: 10.1016/j.paid.2016.03.045
- Hayden, E. P., Klein, D. N., & Durbin, C. E. (2005). Parent reports and laboratory assessments of child temperament: A comparison of their associations with risk for depression and externalizing disorders. *Journal of Psychopathology and Behavioral Assessment*, 27, 89-100.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis*. New York: The Guilford Press.
- Hayes, S. C., Strosahl, K., & Wilson, K. G. (1999). *Acceptance and Commitment Therapy: An experiential approach to behavior change*. New York: Guilford Press.
- Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. In *Advances in experimental social psychology* (Vol. 30, pp. 1-46). Academic Press.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations* (2nd ed.). Beverly Hills, CA: Sage.
- Hughes, D., Rodriguez, J., Smith, E. P., Johnson, D. J., Stevenson, H. C., & Spicer, P. (2006). Parents' ethnic-racial socialization practices: A review of research and directions for future study. *Developmental psychology*, 42, 747-770.
- Jarden, A. (2010). Relationships between personal values and depressed mood and subjective wellbeing. In *Doctoral Thesis*. Christchurch: University of Canterbury.

- John, O. P., Caspi, A., Robins, R. W., Moffitt, T. E., & Stouthamer-Loeber, M. (1994). The "little five": Exploring the nomological network of the five-factor model of personality in adolescent boys. *Child Development, 65*, 160-178.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative big five trait taxonomy. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of Personality: Theory and Research* (3rd ed., pp. 114-158). New York: Guilford Press.
- Kessler, R. C., Angermeyer, M., Anthony, J. C., de Graaf, R., Demyttenaere, K., Gasquet, I., ... & Uestuen, T. B. (2007). Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative. *World Psychiatry, 6*, 168-176.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*, 593-602.
- Kim, B.S.K., Atkinson, D.R., & Yang, P.H. (1999). The Asian value scale: development, factor analysis, validation, and reliability. *Journal of Counseling Psychology, 46*, 342-352.
doi:10.1037/0022-0167.46.3.342
- Kim, B. S. K., & Omizo, M. M. (2005). Asian and European American cultural values, collective self-esteem, acculturative stress, cognitive flexibility, and general self-efficacy among Asian American college students. *Journal of Counseling Psychology, 52*, 412-419. doi: 10.1037/0022-0167.52.3.412

- Klein, D. M., Dyson, M. W., Kujawa, A. J., & Kotov, R. (2012). Temperament and internalizing disorders. In M. Zentner, & R. L. Shiner (Eds), *Handbook of Temperament* (pp. 541-561). New York: Guilford Press.
- Knafo, A., & Schwartz, S. H. (2004). Identity formation and parent-child value congruence in adolescence. *British Journal of Developmental Psychology*, 22, 439-458.
- Knyazev, G. G., Zupancic, M., & Slobodskaya, H. R. (2008). Child personality in Slovenia and Russia: Structure and mean level of traits in parent and self-ratings. *Journal of Cross-Cultural Psychology*, 39, 317-334. doi: 10.1177/0022022108314542
- Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking “big” personality traits to anxiety, depressive, and substance use disorders: A meta-analysis. *Psychological Bulletin*, 136, 768-821. doi:10.1037/a0020327
- Krieger, N. (1990). Racial and gender discrimination: risk factors for high blood pressure?. *Social Science and Medicine*, 30, 1273-1281. doi:10.1016/0277-9536(90)90307-E
- Krueger, R. F., & Tackett, J. L. (Eds.). (2006). *Personality and psychopathology*. New York, NY: Guilford Press.
- Kushner, S. C., Tackett, J. L., & Bagby, R. M. (2012). The structure of internalizing disorders in middle childhood and evidence for personality correlates. *Journal of Psychopathology and Behavioral Assessment*, 34, 22-34. doi: 10.1007/s10862-011-9263-4
- Lamers, S. A., Westerhof, G. J., Kovács, V., & Bohlmeijer, E. T. (2012). Differential relationships in the association of the Big Five personality traits with positive mental

- health and psychopathology. *Journal of Research in Personality*, 46, 517-524.
doi:10.1016/j.jrp.2012.05.012
- Last, C. G., & Perrin, S. (1993). Anxiety disorders in African-American and White children. *Journal of Abnormal Child Psychology*, 21, 153-164.
- Le, T. N., & Kato, T. (2006). The role of peer, parent, and culture in risky sexual behavior for Cambodian and Lao/Mien adolescents. *Journal of Adolescent Health*, 38, 288-296. doi: 10.1016/j.jadohealth.2004.12.005
- Lee, J. A., Soutar, G. N., Daly, T. M., & Louviere, J. J. (2011). Schwartz values clusters in the United States and China. *Journal of Cross-Cultural Psychology*, 42, 234-252.
- Magun, V., & Rudnev, M. (2008). Basic human values of Russians: similarities and dissimilarities with other European countries. *The Russian Public Opinion Herald: Data Analysis, Discussions*, 93, 33-58.
- Magun, V., Rudnev, M., & Schmidt, P. (2016). Within-and between-country value diversity in Europe: A typological approach. *European Sociological Review*, 32, 189-202. doi: 10.1093/esr/jcv080
- Matsumoto, D., Nakagawa, S., & Estrada, A. (2009). The role of dispositional traits in accounting for country and ethnic group differences on adjustment. *Journal of Personality*, 77, 177-212. doi: 10.1111/j.1467-6494.2008.00542.x
- McCrae, R. R. (2001). Trait psychology and culture: Exploring intercultural comparisons. *Journal of Personality*, 69, 819-846.

- McCrae, R. R., & Costa, P. T. (2008). The five-factor theory of personality. In O. P. John, R. W. Robins & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (3rd ed., pp. 159-181). New York, NY: Guilford Press.
- McLaughlin, K. A., Hilt, L. M., & Nolen-Hoeksema, S. (2007). Racial/ethnic differences in internalizing and externalizing symptoms in adolescents. *Journal of Abnormal Child Psychology*, 35, 801-816.
- Meglino, B. M., & Ravlin, E. C. (1998). Individual values in organizations: Concepts, controversies, and research. *Journal of Management*, 24, 351-389.
- Merikangas, K. R., He, J. P., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., ... & Swendsen, J. (2010). Lifetime prevalence of mental disorders in US adolescents: Results from the National Comorbidity Survey Replication–Adolescent Supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry*, 49, 980-989. doi: 10.1016/j.jaac.2010.05.017
- Mervielde, I., De Clercq, B., De Fruyt, F., & Van Leeuwen, K. (2006). Temperament and personality as broad-spectrum antecedents of psychopathology in childhood and adolescence. Dimensional models of personality disorders. Refining the research agenda for DSM-V, 85-109.
- Mervielde, I., & De Fruyt, F. (1999). Construction of the Hierarchical Personality Inventory for Children (HiPIC). In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality psychology in Europe. Proceedings of the Eighth European Conference on personality psychology* (pp. 107-127). Tilburg, NL: Tilburg University Press.

- Miller, J. D., Lynam, D. R., & Jones, S. (2008). Externalizing behavior through the lens of the five-factor model: A focus on agreeableness and conscientiousness. *Journal of Personality Assessment, 90*, 158-164.
- Miller, W. R., & Rollnick, S. (1991). *Motivational interviewing: Preparing people to change addictive behavior*. New York: Guilford Press.
- Moors, G., & Vermunt, J. (2007). Heterogeneity in post-materialist value priorities. Evidence from a latent class discrete choice approach. *European Sociological Review, 23*, 631-648.
- Morgan, P. L., Farkas, G., & Wu, Q. (2009). Five-year growth trajectories of kindergarten children with learning difficulties in mathematics. *Journal of Learning Disabilities, 42*, 306-321.
- Muthén, B., & Muthén, L. K. (2000). Integrating person-centered and variable-centered analyses: Growth mixture modeling with latent trajectory classes. *Alcoholism: Clinical and Experimental Research, 24*, 882-891. doi: 10.1111/j.1530-0277.2000.tb02070.x
- Muthén, B., & Muthén, L. (2007). *Mplus version 7*. Los Angeles, CA: Muthén & Muthén.
- Nasim, A., Corona, R., Belgrave, F., Utsey, S.O., & Fallah, N. (2007). Cultural orientation as a protective factor against tobacco and marijuana and smoking for African American young women. *Journal of Youth and Adolescence, 36*, 503-516. doi: 10.1007/s10964-006-9097-7
- Nigg, J. T. (2006). Temperament and developmental psychopathology. *Journal of Child Psychology and Psychiatry, 47*, 395-422. doi: 10.1111/j.1469-7610.2006.01612.x

- Nguyen, L., Huang, L. N., Arganza, G. F., & Liao, Q. (2007). The influence of race and ethnicity on psychiatric diagnoses and clinical characteristics of children and adolescents in children's services. *Cultural Diversity and Ethnic Minority Psychology, 13*, 18-25.
- Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling, 14*, 535-569. doi: 10.1080/10705510701575396
- Olver, J. M., & Mooradian, T. A. (2003). Personality traits and personal values: a conceptual and empirical integration. *Personality and Individual Differences, 35*, 109-125.
doi:10.1016/S0191-8869(02)00145-9
- Ozer, D. J., & Benet-Martinez, V. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology, 57*, 401-421.
doi:10.1146/annurev.psych.57.102904.190127
- Parks, L. (2007). Personality and values: A meta-analysis. Paper presented at the annual conference for the society of industrial and organizational psychology. New York, New York.
- Parks, L., & Guay, R. P. (2009). Personality, values, and motivation. *Personality and Individual Differences, 47*, 675-684. doi:10.1016/j.paid.2009.06.002
- Parks-Leduc, L., Feldman, G., & Bardi, A. (2015). Personality traits and personal values: A meta-analysis. *Personality and Social Psychology Review, 19*, 3-29.
- Prince-Gibson, E., & Schwartz, S. H. (1998). Value priorities and gender. *Social Psychology Quarterly, 61*, 49-67. doi: 10.2307/2787057

- Ravlin, E. C., & Meglino, B.M. (1987). Issues in work values measurement. In L. Preston (Ed.). *Research in corporate social performance and policy* (Vol. 9, pp. 153-183). JAI Press Inc.
- Rokeach, M. (1972). *Beliefs, attitudes, and values: A theory of organization and change*. San Francisco, CA: Jossey-Bass Inc.
- Rokeach, M. (1973). *The nature of human values*. New York, NY: The Free Press.
- Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). The big five personality factors and personal values. *Personality and Social Psychology Bulletin*, 28, 789-801.
doi:10.1177/0146167202289008
- Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin*, 126, 3-25. doi:10.1037//0033-2909.126.1.3
- Roberts, B. W., Kuncel, N. R., Shiner, R., Caspi, A., & Goldberg, L. R. (2007). The power of personality: The comparative validity of personality traits, socioeconomic status, and cognitive ability for predicting important life outcomes. *Perspectives on Psychological Science*, 2, 313-345. doi:10.1111/j.1745-6916.2007.00047.x
- Roberts, R. E., & Chen, Y. W. (1995). Depressive symptoms and suicidal ideation among Mexican-origin and Anglo adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, 34, 81-90.
- Roberts, R. E., Roberts, C. R., & Chen, Y. R. (1997). Ethnocultural differences in prevalence of adolescent depression. *American Journal of Community Psychology*, 25, 95-110.

- Rothbart, M. K., Ahadi, S. A., & Evans, D. E. (2000). Temperament and personality: origins and outcomes. *Journal of Personality and Social Psychology*, 78, 122-135. doi: 10.1037//0022-3514.78.1.122
- Ryckman, R. M., & Houston, D. M. (2003). Value priorities in American and British female and male university students. *Journal of Social Psychology*, 143, 127-138. doi: 10.1080/00224540309598435
- Schmitz, S., Fulker, D. W., Plomin, R., Zahn-Waxler, C., Emde, R. N., & DeFreis, J. C. (1999). Temperament and problem behaviour during early childhood. *International Journal of Behavioral Development*, 23, 333-355.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theory and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1-65). New York: Academic Press.
- Schwartz, S. H. (1994). Beyond individualism/collectivism. New cultural dimensions of values. In U. Kim, H.C. Triandis, C. Kagitcibasi, S. Choi, & G. Yoon (Eds.), *Individualism and collectivism: Theory method, and applications* (pp.85-119). Thousand Oaks, CA: Sage Publications
- Schwartz, S. H. (2006). Basic human values: an overview. *Unpublished manuscript*.
- Schwartz, S. H., & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology*, 32, 268-290. doi:10.1177/0022022101032003002

Schwartz, S. H., & Bilsky, W. (1987). Toward a psychological structure of human values.

Journal of Personality and Social Psychology, 53, 550-562. doi:10.1037/0022-3514.53.3.550

Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., Harris, M., & Owens, V. (2001).

Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology*, 32, 519-542. doi: 10.1177/0022022101032005001

Schwartz, S.H., & Rubel, T. (2005). Sex differences in value priorities: Cross-cultural and

multimethod studies. *Journal of Personality and Social Psychology*, 89, 1010-1028. doi: 10.1037/0022-3514.89.6.1010

Schwartz, S. H., & Sagiv, L. (1995). Identifying culture-specifics in the content and structure of values. *Journal of Cross-Cultural Psychology*, 26, 92-116.

doi:10.1177/0022022195261007

Sellers, R. M., Caldwell, C. H., Schmeelk-Cone, K. H., & Zimmerman, M. A. (2003). Racial

identity, racial discrimination, perceived stress, and psychological distress among African American young adults. *Journal of Health and Social Behavior*, 33 302-317.

doi:10.2307/1519781

Shiner, R. L. (1998). How shall we speak of children's personalities in middle childhood? A

preliminary taxonomy. *Psychological Bulletin*, 124, 308-332. doi: 10.1037/0033-2909.124.3.308

- Shiner, R. L., & Caspi, A. (2003). Personality differences in childhood and adolescence: Measurement, development, and consequences. *Journal of Child Psychology and Psychiatry*, 44, 2-32. doi: 10.1111/1469-7610.00101
- Sheeber, L. B., & Johnson, J. H. (1994). Evaluation of a temperament-focused, parent-training program. *Journal of Clinical Child Psychology*, 23, 249-259.
doi:10.1207/s15374424jccp2303_3
- Slobodskaya, H. R., Gartstein, M. A., Nakagawa, A., & Putnam, S. P. (2013). Early temperament in Japan, the United States, and Russia: Do cross-cultural differences decrease with age? *Journal of Cross-Cultural Psychology*, 44, 438-460.
- Smack, A. J., Herzhoff, K., Tang, R., Walker, R. L., & Tackett, J. L. (2017). A Latent Class Analysis of Personal Values in Young Adults. *Collabra: Psychology*, 3.
- Smith, P. B., & Schwartz, S. H. (1997). Values. In J. W. Berry, M. H. Segall, & C. Kagitcibasi (Eds.), *Handbook of Cross-Cultural Psychology* (Vol. 3, 2nd ed., pp. 77-118). Boston: Allyn & Bacon.
- Steinberg, L. (2007). Risk taking in adolescence: New perspectives from brain and behavioral science. *Current Directions in Psychological Science*, 16, 55-59.
- Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Annual Review of Psychology*, 52, 83-110.
- Sue, D. W. & Sue, D. (2008). *Counseling the Culturally Diverse: Theory and Practice*, 5th Ed. Hoboken, NJ: John Wiley & Sons.

- Tackett, J. L. (2006). Evaluating models of the personality–psychopathology relationship in children and adolescents. *Clinical Psychology Review*, 26, 584-599. doi: 10.1016/j.cpr.2006.04.003
- Tackett, J. L., Herzhoff, K., Smack, A. J., Reardon, K. W., & Adam, E. K. (2017). Does socioeconomic status mediate racial differences in the cortisol response in middle childhood? *Health Psychology*, 36, 662-672.
- Tackett, J. L., Kushner, S. C., De Fruyt, F., & Mervielde, I. (2013). Mapping the terrain of personality traits in childhood and adolescence: Associations across measures, temperament, and behavioral problems. *Assessment*, 20, 738-751.
- Tackett, J. L., Martel, M. M., & Kushner, S. C. (2012). Temperament, Externalizing Disorders, and Attention Deficit/Hyperactivity Disorder. In M. Zentner & R. Shiner (Eds.), *The handbook of temperament* (pp. 562-580). New York, NY: Guilford.
- Tackett, J. L., Slobodskaya, H. R., Mar, R. A., Deal, J., Halverson, C. F., Baker, S. R., ... & Besevegis, E. (2012). The hierarchical structure of childhood personality in five countries: Continuity from early childhood to early adolescence. *Journal of Personality*, 80, 847-879. doi: 10.1111/j.1467-6494.2011.00748.x
- Tackett, J. L., Waldman, I. D., Van Hulle, C. A., & Lahey, B. B. (2011). Shared genetic influences on negative emotionality and major depression/conduct disorder comorbidity. *Journal of the American Academy of Child and Adolescent Psychiatry*, 50, 818-827.
- U.S. Census Bureau, Population Estimates Program (2010). Retrieved from https://www.census.gov/quickfacts/meta/long_RHI225215.htm

- Vecchione, M., Alessandri, G., Barbaranelli, C., & Caprara, G. (2011). Higher-order factors of the big five and basic values: Empirical and theoretical relations. *British Journal of Psychology*, *102*, 478-498. doi: 10.1111/j.2044-8295.2010.02006.x
- Widiger, T. A., & Smith, G. T. (2008). Personality and psychopathology. In O. P. John, R. W. Robins & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (3rd ed., pp. 743-769). New York, NY: Guilford Press.
- Woo, S. E., Chernyshenko, O. S., Longley, A., Zhang, Z. X., Chiu, C. Y., & Stark, S. E. (2014). Openness to experience: Its lower level structure, measurement, and cross-cultural equivalence. *Journal of Personality Assessment*, *96*, 29-45.
- Yik, M. S. M., & Tang, C. S. (1996). Linking personality and values: The importance of a culturally relevant personality scale. *Personality and Individual Differences*, *21*, 767-774. doi: 10.1016/0191-8869(96)00114-6