Journal of Research in Personality 48 (2014) 33–44

Contents lists available at ScienceDirect

Journal of Research in Personality

journal homepage: www.elsevier.com/locate/jrp

Does personality matter more in difficult circumstances?

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ARTICLE INFO

Article history:
Available online 29 October 2013

Keywords:
Personality
Well-being
Family environment
Children
Adolescents

ABSTRACT

The study examined interactions between personality and family environment in the prediction of child well-being in the large and diverse samples of parent reports of 2–18-year-olds ($N = 1978$) and adolescent self reports ($N = 2550$). Well-being was measured by the Strengths and Difficulties Questionnaire and academic achievement, personality was measured by the Inventory of Child Individual Differences at three levels of the hierarchical structure. The results showed specificity of interactive effects in terms of the outcome, personality trait, environment and informant. The majority of interactions indicated that the link between child personality and well-being was stronger in more difficult circumstances; this pattern applied mainly to proximal environment and family risk.

1. Introduction

Systematic reviews and meta-analyses provided considerable evidence for the personality effects on well-being. Ozer and Benet-Martinez (2006) showed that Big Five traits of Extraversion, Neuroticism, Conscientiousness, Agreeableness and Openness to Experience are associated with happiness and satisfaction, physical and psychological health, quality of relationships with peers, family and others, and also with pro- and antisocial behaviours in the community. Roberts, Kuncel, Shiner, Caspi, and Goldberg (2007) demonstrated that personality traits are just as important as socio-economic status and cognitive ability in predicting important life outcomes, such as mortality, divorce and occupational attainment. Caspi and Shiner (2008) documented that Big Five traits influence social relationships, achievements and health from childhood through adulthood. Agreeableness and Extraversion facilitate the development of social competence, whereas Neuroticism and low Conscientiousness predict relationship difficulties (Caspi, Roberts, & Shiner, 2005). Neuroticism is also linked to anxiety and depression, while Openness and low Conscientiousness may predispose to antisocial and criminal behaviours (Ozer & Benet-Martinez, 2006).

Although most studies of personality effects on well-being have focused on the Big Five, recent research clearly shows that personality is pervasively hierarchical (Markon, 2009). This hierarchical structure replicated across samples and measures (Markon, Krueger, & Watson, 2005) and can be found in different cultures from early childhood (Tackett et al., 2012). Markon et al. (2005) suggest that recognition of trait hierarchy may be critical to understanding individual differences in normal and abnormal behaviour. Because relationships between personality and a particular outcome can manifest themselves at different levels of hierarchy, it is important to consider the role of higher- and lower-order traits besides the Big Five. Some lower-order components of broader personality traits may be more closely related to specific behavioural outcomes than other components, and in some cases lower-order traits may provide better criterion prediction than the Big Five (Paunonen & Ashton, 2001). Yet some multidimensional outcomes, such as externalising and internalising problems in children and adolescents, may be more closely linked with the higher-order factors of the Big Five, Alpha comprising Agreeableness, Conscientiousness and Neuroticism (reversed), and Beta comprising Extraversion and Openness (DeYoung, Peterson, Séguin, Pihl, & Tremblay, 2008; Slobodskaya, 2011).

1.1. Personality–environment interactions in child development

Research provided evidence that children with similar temperaments/personalities, as well as children from similar backgrounds, can develop quite differently because of interactions between characteristics of the child and the environment (Belsky & Pluess, 2009; Bush, Lengua, & Colder, 2010; Lengua, Bush, Long, Kovacs, & Trancik, 2008; Leve, Kim, & Pears, 2005). These were first documented in the New York Longitudinal Study which introduced the concept of goodness-of-fit (Chess & Thomas, 1989), suggesting that children's developmental context moderates the outcomes of early individual differences. Most of the later research in this area has focused on temperament-parenting interactions and revealed

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0092-6566/$ - see front matter © 2013 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.jrp.2013.10.005

several replicable patterns (Caspi & Shiner, 2008; Putnam, Sanson, & Rothbart, 2002; Rothbart & Bates, 2006). O'Connor and Dvorak (2001) examined relative frequency of different patterns of personality–environment interactions in a community sample of adolescents.

In many instances, interactions corresponded to a diathesis–stress or dual risk pattern whereby certain traits amplify the negative contextual effects, or the context of social and family disadvantages amplifies the effects of temperament/personality traits. Studies have shown that children with low effortful control, high impulsivity, low conscientiousness and low agreeableness are more affected by poor parenting and adverse environment than children with better self-control (Lengua et al., 2008; Leve et al., 2005; Prinzie et al., 2003; Van Leeuwen, Mervielde, Braet, & Bosmans, 2004). For example, the combination of high impulsivity and inconsistent discipline carries a relatively high risk for developing adjustment problems in children of divorce (Lengua, Wolchik, Sandler, & West, 2000). At the same time, certain personality traits can protect children against the negative effects of poor parenting and adverse environment. It has been shown that high agreeableness and high conscientiousness buffered the negative effect of over-reactive and coercive parenting (Prinzie et al., 2003) and negative control (Van Leeuwen et al., 2004) on children's externalising problems. Similarly, higher effortful control protected children from adjustment problems associated with maternal, socioeconomic and environmental risks (Lengua et al., 2008).

Belsky's differential susceptibility hypothesis suggests that individuals should differ in the degree to which environment may affect their development, so that some children are more affected—both for better and for worse—by their rearing experiences than are others (Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2007). For example, children high in negative emotionality were most vulnerable to the effects of adversity, but also benefited most from positive environmental influences (Belsky & Pluess, 2009). Reviewing the literature on the interactions between individual differences and environment, Belsky and Pluess (2009) presented behavioural, physiological and genetic characteristics that function as potential markers of developmental plasticity. Whether developmental plasticity could be considered a personality trait is still unclear; however, in some aspects it resembles Beta higher-order factor of personality, or metatrait, which DeYoung (2010) labelled Plasticity. The metatrait Plasticity is related to dopamine and reward brain system (DeYoung, 2010), and is associated both with positive outcomes such as personal growth and achieving status (Digman, 1997), social participation and self-expressive activities (Hirsh, DeYoung, & Peterson, 2009) and with externalising behaviours such as aggression, impulsivity, antisocial activities and drug abuse (DeYoung et al., 2008).

1.2. Moderation models of child well-being

Studies of interactions between individual characteristics and environment in predicting child well-being differ in several ways. Some studies view child temperament/personality as a moderator of environmental influences (e.g. Belsky et al., 2007; Bush et al., 2010; Leve et al., 2005; Prinzie et al., 2003; Van Leeuwen et al., 2004) whereas other studies view family environment as a moderator of the relation between personality and developmental outcome (Bohlin & Hagekull, 2009; Degnan & Fox, 2007; Jensen-Campbell, Knack, & Rex-Lear, 2009; Karreman, de Haas, van Tuijl, van Aken, & Deković, 2010; Rubin, Burgess, & Hastings, 2002). Although this distinction may be conceptually important and may have implications for interventions (Putnam et al., 2002), mathematically there is no difference between the predictor and the moderator in the interaction term (Baron & Kenny, 1986), and the interpretation often depends on the researcher. Several considerations favour the choice of personality as a predictor and environment as a moderator of important developmental outcomes. First, personality consists of relatively stable, inherent properties influencing each individual all the time (Ozer & Benet-Martinez, 2006), while environments inevitably change as the child grows older. Second, there is good evidence that children's temperaments/personalities actively shape their environment through such processes as environmental elicitation, construal, selection and manipulation (Caspi & Shiner, 2008). However, both of these considerations can equally favour an alternative choice of environment as a predictor and personality as a moderator.

It may be more important that from the statistical perspective, it is desirable that the moderator variable be uncorrelated with both the predictor and the criterion to provide a clearly interpretable interaction term (Baron & Kenny, 1986). Empirical findings show that the personality effects on child well-being are often stronger than the effects of environment (Bohlin & Hagekull, 2009; Bush et al., 2010; Karreman et al., 2010; Lengua, 2008; Leve et al., 2005; Prinzie et al., 2003; Rothbart & Bates, 2006). For example, in our previous study personality explained about 30% of variance in children's internalising problems, and 50% in externalising problems, whereas family factors contributed less than 4% (Slobodskaya & Akhmetova, 2010). Current evidence suggests that although some children are disproportionately affected by their experiences, environment in the normal range may have little effect on child well-being (Pluess & Belsky, 2010). Adversities, such as deprivation, maltreatment and marital conflict, often have profound and enduring effects, but there is little evidence for specificity (McMahon, Grant, Compas, Thurm, & Ey, 2003). All these facts, along with abundant evidence for direct links between specific traits and specific outcomes (Caspi & Shiner, 2008; Ozer & Benet-Martinez, 2006; Rothbart & Bates, 2006), support Thomas and Chess' goodness-of-fit model in which temperament/personality effects on child well-being may be moderated by developmental context.

1.3. The current study

Examining personality–environment interactions at different levels of hierarchy may hepl to better understand the role of personality in influencing important outcomes. Focusing on childhood and adolescence can provide important clues as to the mechanisms involved in the development of well-being. However, to our knowledge, no published studies reported moderation analysis at different levels of personality hierarchy across childhood and adolescence. The aim of the present study was to explore the interactions between personality and family factors in the prediction of child and adolescent well-being targeting three levels of the hierarchical personality structure, mid-level traits, the Big Five and two higher-order factors, Alpha and Beta.

2. Method

2.1. Participants

2.1.1. Sample one

There were parent reports of 1978 children from 2 to 18 years (M = 10.4, SD = 4.2), equally divided across gender (48% female) and four age groups: 23% preschool (3–6 years), 26% middle childhood (7–10 years), 25% early adolescence (11–14 years) and 26% late adolescence (15–18 years). Most data came from mothers (85%), 9% of the children were rated by fathers, the rest were rated by other caregivers. Demographic items indicated that 72% of the children lived with both biological parents, 18% with a single mother, 9% with a mother and a stepfather, and the rest with other carers. The average size of the family was four, 56% of the children