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# Personality Development in Adolescence and Young Adulthood

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The phrase ‘personality development’ would have looked like a *‘contradictio in terminis’* to many researchers until approximately 30 years ago, as personality was widely believed to be a stable construct. In contrast, it is now widely acknowledged that there is much change in personality throughout the lifespan, with the most pronounced changes occurring during adolescence and young adulthood. This chapter focuses on these key periods of personality development, roughly spanning ages 12 to 40 years.

Personality is a broad concept and was originally defined as ‘the dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to his environment’ (Allport, 1937, p. 48). This definition emphasized that personality is not static and thus may change, and therefore already pointed to the importance of studying personality *development*. In addition, the definition refers to personality as a configuration of attributes within a particular individual, and therefore points to the importance of studying how multiple characteristics develop together and how their configuration within an individual may change. Therefore, in this chapter, we will refer to changes in both single personality traits and in personality profiles.

A further consideration in studying personality is that there are different kinds of traits representing different levels and different functions in a broader personality system. Within

such a system, dispositions encompassing a wide range of behaviors and cognitions, such as the Big Five personality traits, are usually considered the core of personality (e.g., Asendorpf and van Aken, 2003; McAdams and Olson, 2010; McCrae and Costa, 2008). However, personality also encompasses more process-like constructs like attitudes, goals, motives, and self-related constructs (e.g., narrative identity, self-esteem). In addition, Big Five trait domains are defined by more specific traits referred to as facets. For example, the trait domain neuroticism can be divided into facets of anxiety, angry hostility, depression, self-consciousness, impulsiveness, and vulnerability (McCrae et al., 2005). In the present chapter, the main focus will be on core characteristics, typically summarized in the Big Five personality trait domains, but we will briefly touch upon facet traits.

Our chapter is divided into four sections. In the first section, we will discuss developmental trends in personality traits by referring to findings regarding structural stability, rank-order stability, mean-level change, and individual-level change. The second section is focused on the correlates of personality development. We will distinguish broad mechanisms and narrow mechanisms in this section. The third section summarizes findings obtained with person-centered approaches (i.e., approaches focused on profile stability and typological approaches). Finally, the fourth section summarizes the states of research on adolescent and young adult development and provides potential future directions for this field of research.

## **Developmental Trends in Personality Traits from Adolescence through Young Adulthood**

### **Structural Stability**

A key consideration before studying developmental trends in any construct is whether the construct itself is relevant and valid for individuals of all ages included in your design. Much like it is useful to study crawling in infants, but not in adolescents, psychological constructs may lose or gain relevance. Constructs that lose direct relevance are definitely not

meaningless for predicting future behavior, as certain characteristics may just change in the way they manifest themselves. To stick with the crawling example, individual differences in this behavior may predict individual differences in other abilities related to gross motor skills, such as running. Thus, there may be *heterotypic continuity*, in the sense that the same underlying asset (i.e., gross motor skills) may manifest itself differently.

This heterotypic continuity is also an issue in the study of personality traits from childhood through adolescence into adulthood, in the sense that stable individual differences are typically examined along temperamental dimensions in childhood and along personality traits in adulthood. This raises the question when one should stop studying temperament and start studying personality traits, and thus whether studying personality traits in adolescence is appropriate. Based on previous work in which the overlap between temperament and personality dimensions was examined (e.g., Caspi and Shiner, 2006; De Pauw et al., 2009), Soto and John (2014) developed an integrative model called the Little Six. This model adds an activity factor to the Big Five to provide a more encompassing view on important individual differences from childhood to late adolescence, thereby breaking the trend to only consider Big Five traits when studying personality trait development.

Soto and John (2014) also show that the meaning of traits may change with age. For example, they showed that conscientiousness was increasingly defined by socially responsible versus deceitful behavior. This finding points out that it is crucial to formally test for such shifts in meaning in the study of adolescent and young adult personality trait development. Such tests, referred to as measurement invariance tests, are increasingly often conducted (e.g., Lucas and Donnellan, 2011), but are still not common practice. Given that such tests were usually not conducted in studies that were summarized in influential meta-analyses (e.g., Roberts et al., 2006), much of what we appear to 'know' about personality trait development might not be entirely accurate. That is, what appear to be changes in levels of an entire trait domain might actually be due to changes in the mean-

level scores of only some parts (i.e., items or facets) of that trait domain. The mean levels of other parts of that trait might remain the same or even decrease. Thus, we argue that testing for measurement invariance is crucial, especially in research on personality trait change focusing on developmental periods characterized by rapid changes in cognitive capacity and social skills. Such tests should feature prominently, and not be buried away in one sentence in the method section with results being ‘available from the first author upon request’ (e.g., Klimstra et al., 2012).

### **Rank-Order Stability**

Rank-order stability refers to the maintenance of individuals’ relative standing on a trait dimension within a population over time. Rank-order stability is commonly assessed by means of a test–retest correlation or a stability coefficient in a path or structural equation model. Previous research clearly shows that not all people change to the same extent and in the same direction. Therefore, rank-order stability of personality trait dimensions is by no means perfect. Although rank-order stability tends to decrease as intervals between assessments increase, there is even substantial rank-order stability over decades (Fraley and Roberts, 2005). This suggests that some portion of the between-person variance in personality traits is truly stable. Indeed, research has shown that some personality or temperament traits in childhood show small, positive correlations with personality traits in adulthood (Asendorpf et al., 2008; Block, 1993; Kagan and Moss, 1962; Shiner et al., 2003). In addition, research on lifespan personality trait development shows that 6-year rank-order stability of personality or temperament traits is moderately high in preschool years ( $r \approx .50$ ), increases until middle adulthood ( $r \approx .70$ ), and then plateaus (Anusic and Schimmack, 2016; Bazana and Stelmack, 2004; Briley and Tucker-Drob, 2014; Roberts and DelVecchio, 2000). The robust finding that trait stability increases from childhood through middle adulthood has

been referred to as the cumulative continuity principle of personality development (Roberts and Mroczek, 2008).

However, the stability and change of personality traits varies across adolescence and young adulthood. Existing meta-analyses have aggregated rank-order stability findings across relatively broad age categories (e.g., ages 12 to 18), and therefore less is known about differences in rank-order stability across narrower age categories. Two studies that attempted to address this gap found different results with respect to stability and change in the one-year rank-order stability of Big Five traits in adolescence and young adulthood. One study found that rank-order stability increased throughout adolescence (Klimstra et al., 2009). However, another study found that rank-order stability only increased from early through middle adolescence, and remained stable in late adolescence and early adulthood (Borghuis et al., 2017).

A handful of studies have also examined rank-order stability in facets. A study using parent reports found that in early adolescence, rank-order stability was similar for facets and domains (De Fruyt et al., 2006). This result was more or less confirmed in more recent work, which found high rank-order stability of facets in mother-reports on children and adolescents, but did not compare these coefficients to those for domains (de Haan et al., 2017). One study examining a sample that was heterogeneous in terms of age, but also included young adults, found that rank-order stability was only slightly lower for facets than for trait domains (Bleidorn et al., 2009). A study specifically focused on young adult college students confirmed in two samples that rank-order stability of facets is indeed as high as rank-order stability of trait domains (Klimstra et al., 2016). In general, individual differences in personality facets seem to be about as stable as individual differences in personality trait domains.

### **Mechanisms Explaining Change in Rank-Order Stability**

Relatively little is known about the exact mechanisms that drive age-graded increases in the rank-order stability of personality traits. Nevertheless, meta-analytic research has provided important hints about the nature of these mechanisms. First, Briley and Tucker-Drob (2014) conducted a meta-analysis of genetically informed longitudinal (mostly twin) studies to illuminate the environmental and genetic contributions to personality continuity across the life span. They found that both genetic and environmental influences on personality increase in stability with age. However, because the relative influence of genetic effects on personality traits has been found to decrease with age, the environmental contributions to stability were found to increase with age. Therefore, increasing rank-order stability of personality with age is largely accounted for by the increasingly stable environmental effects, rather than by the increasingly stable genetic effects (see also Bleidorn et al., 2014). Second, a meta-analysis by Anusic and Schimmack (2016) focused on the extent to which personality traits, across the life span, are influenced by stable effects (i.e., all influences on personality traits that never change) and by changing effects (i.e., all influences on personality traits that change over time). Examples of the former are permanent internal biological influences and environmental experiences with permanent effects; examples of the latter are temporary effects of genes and social role transitions. Importantly, they found that the increase in the rank-order stability of personality traits was attributable to an increase in the relative influence of stable factors on personality, rather than to an increase in the stability of change factors. Taken together, these two meta-analyses suggest that the increasing stability of personality traits is driven by increasingly stable environmental influences on personality traits.

One mechanism that may drive increasing personality stability with age is increasing commitment to, and thus maintenance of, an identity (Roberts and Caspi, 2003; Roberts et al., 2008). Identity maintenance has been argued to stimulate personality stability because an identity provides clear reference points for making life decisions (Caspi et al., 2005),

facilitates 'strategic' information selection and processing, resulting in the maintenance of consistent self-perceptions (Roberts and Caspi, 2003), and results in consistent role demands and social expectations (Roberts et al., 2008). This reasoning is consistent with identity theory, as defined by Erikson (1950, 1968) and Marcia (1966). However, despite a growing number of studies examining linkages between personality traits or types on the one hand and identity formation processes on the other hand (e.g., Hatano et al., 2017; Luyckx et al., 2014), the role of identity formation in predicting the *stability* of personality still awaits empirical scrutiny.

### **Mean-Level Change**

Mean-level change refers to the change in the average trait levels of a population over time. Mean-level change is conceptually independent from rank-order change because rank orders can be perfectly maintained in groups that change on average and rank orders might be completely reordered in groups that do not change in their average trait level (Roberts et al., 2006).

Previous research has provided a clear picture of how mean-levels of broad personality traits change. A meta-analysis found that, in young adulthood, individuals show significant mean-level increases in the Big Five traits agreeableness, emotional stability, and conscientiousness (Roberts et al., 2006). These mean-level increases have been referred to as the maturity principle of personality development (Roberts and Mroczek, 2008). That is because being agreeable, conscientious, and emotionally stable corresponds closely to definitions of maturity that emphasize functioning in society and social relationships, such as being liked, respected, and admired (Roberts and Mroczek, 2008; Roberts et al., 2008).

In contrast with the period of young adulthood, there is convincing evidence that, in adolescence, the mean levels of most Big Five trait domains tend to first decrease and then



increase (i.e., U-shaped change). Specifically, both a recent meta-analysis (Denissen et al., 2013) and a large-scale cross-sectional study (Soto et al., 2011) found evidence for temporary mean-level decreases in conscientiousness, openness, extraversion, and emotional stability (among girls) in early adolescence, whereas they found evidence for mean-level increases in conscientiousness, emotional stability, and openness in late adolescence and early adulthood. In addition, though contrary to Denissen et al. (2013), Soto et al. (2011) also found evidence for U-shaped change in agreeableness.

These mean-level trends at the trait-domain level do not necessarily directly translate into findings at the facet level. That is, De Fruyt et al. (2006) showed that in early adolescence mean-level changes in facets belonging to the same domain (e.g., the self-confidence and anxiety facets of the neuroticism domain) did not always correspond. For example, mean levels of self-confidence did not change significantly whereas anxiety decreased. De Haan et al. (2017) showed that differences in mean-level changes between facets belonging to the same trait domain are typically not that large, but do seem to become larger as individuals grow older (i.e., enter middle adolescence). A large-scale cross-sectional study (Soto et al., 2011) had similar findings but, within the neuroticism domain, they did show that mean levels of anxiety in late adolescent females remained relatively stable whereas their mean levels of depression dropped. Thus, in adolescence there is only some evidence for different mean-level trends for facets belonging to the same domain.

Several studies on young adults examined mean-level age trends in cross-sectional studies (Jackson et al., 2009; McCrae et al., 2004; Soto et al., 2011). This research provided more evidence for diverging mean-level trends for facets belonging to the same domain. The most consistent patterns were found for extraversion and conscientiousness. Specifically, across different extraversion facets, the mean-level change was more pronounced for the facets of excitement seeking and positive emotions than for facets like activity and assertiveness. For conscientiousness, mean-levels of dutifulness and self-discipline facets increased more than

mean-levels of orderliness-related facets. Longitudinal studies distinguishing facets in early adult samples (Soto and John, 2012; Klimstra et al., 2016) yielded relatively similar findings. Notably, Klimstra et al. (2016) included college samples from the US and Belgium and found subtle differences between those samples. In particular, students in the US changed toward a more laid back and intellectually curious profile whereas Belgian students changed toward a more anxious profile. These findings may well be attributable to contextual differences in how competitive selection procedures are and how much value a particular college degree has for finding a job. Overall, the pattern of findings across studies suggests that considering facets in addition to broad trait domains may provide a few nuances that would be overlooked if only the domain level of personality were to be considered.

### **Individual-Level Change**

Perhaps even more important is to note that the aforementioned research on personality trait change has been concerned more with describing mean-level trends of personality traits than with accounting for individual differences in development. This holds especially for the period of adolescence. Mean-level change coefficients summarize the average development in a population and can therefore not be used to make inferences about development at the individual level. Considering the individual level is important, as adolescents and young adults differ substantially with respect to their personality trajectories. As Figure 11.1 (adapted from Borghuis et al., 2017) illustrates with respect to boys' conscientiousness, some adolescents increase, some decrease, and others remain stable in their personality trait level. This suggests that mean-level trajectories do not always provide accurate descriptions for individuals' personality change. A deeper understanding of personality development requires moving beyond stability and change at the population

level in order to understand and account for individual variation in developmental trajectories (Asendorpf, 1992; Lönqvist et al., 2008; Roberts and Mroczek, 2008).

[Insert Figure 11.1 about here]

## **Correlates of Personality Trait Development**

In examining predictors and correlates of individual differences in change, both broad and narrow mechanisms can be distinguished (cf. Klimstra et al., 2013a). We will first discuss and define these broad mechanisms, and then move to the more specific mechanisms.

### **Broad Mechanisms**

Attempts at identifying broad predictors of personality change in adolescence and young adulthood have been guided by several theories and principles (for reviews, see Bleidorn, 2015; Specht et al., 2014). Two of these are particularly prominent, and these are five-factor theory (FFT, McCrae and Costa, 2008) and the social investment principle (Roberts et al., 2005). FFT posits that personality traits are mainly influenced by evolved, genetically controlled biological processes, and that life experiences play only a negligible role (unless these alter gene expression). The Social Investment Principle holds that social role transitions (e.g., marriage, becoming a parent, getting a 'real' job) do play a significant role in personality maturation, especially if one psychologically commits to a new social role.

In order to examine whether personality trait development is driven by broad mechanisms driving change in multiple traits or narrow mechanisms driving change in specific traits, several studies have addressed correlated change among personality traits (for a review, see Allemand and Martin, 2016). Research on this phenomenon covering adolescence and young adulthood (Klimstra et al., 2013a) found that there is indeed evidence for correlated change among specific pairs of Big Five traits. Specific pairs of traits that have been hypothesized to

be affected by the same neurobiological system (i.e., the serotonergic or dopaminergic system) or same developmental principle (i.e., the social investment principle) produced the highest correlated change estimates. Especially, changes in extraversion and openness, which are the two traits that have been associated with the dopaminergic system (DeYoung et al., 2002), were strongly correlated with each other. Thus, there was some evidence for broad mechanisms affecting personality trait development. However, this approach may contribute to uncovering whether or not broad mechanisms are involved and may also provide hints regarding what these mechanisms are, but it does not actually *test* mechanisms triggering personality trait development.

One method that explicitly tests concrete broad mechanisms, especially those related to FFT, is longitudinal behavioral genetic research. Such studies can help to quantify the proportion of individual differences that are due to genetic and environmental influences. Reviews suggest that the relative influence of genetic influences on personality traits (i.e., heritability) decreases from childhood to old adulthood. By implication, this suggests that environmental influences on individual differences in personality traits increase with age (Bleidorn et al., 2014; Briley and Tucker-Drob, 2014). Yet, it remains a mostly unanswered question which genes and environmental factors matter (Turkheimer and Waldron, 2000; Vinkhuyzen et al., 2012). Despite this, Briley and Tucker-Drob (2014) have drawn the encouraging conclusion that a substantial amount of environmental variance is not attributable to random measurement error and is stable across time, and should therefore, in principle, be measurable.

Somewhat consistent with the propositions of FFT, several cross-cultural studies have found relatively similar mean-level personality changes across different cultures with different societal structures, different political systems, and different historical backgrounds (Bleidorn et al., 2013; McCrae and Terracciano, 2005). However, Bleidorn et al. (2013) also found substantial cultural differences in the timing and magnitude of mean-level age trends in the

Big Five. Providing some evidence for the relevance of environmental influences, these cultural differences in personality change were related to cultural differences in the timing of social role transitions (e.g., graduation from school, marriage, parenthood). Thus, there appears to be evidence for both genetic effects and environmental effects on age-related differences in personality trait development (for a review, also see Bleidorn, 2015).

Although FFT and the social investment principle have also been used to explain mean-level changes in adolescent personality traits, little is known about the mechanisms that drive these changes. Soto and Tackett (2015) speculated that the temporal dips in personality maturity (as defined by conscientiousness, agreeableness, and emotional stability) during early adolescence are related to the rapid and significant biological, psychological, and social changes that characterize this period. Other possible reasons for the U-shaped mean-level changes are that adolescents temporarily adhere to less mature peer norms (Moffitt, 1993) and that they experience initial difficulties in adjusting to increasingly mature expectations (Denissen et al., 2013).

### **Narrow Mechanisms: Correlates Within the Broader Personality Trait System**

Instead of broad mechanisms that are hypothesized to affect multiple traits, narrow mechanisms are supposed to affect single traits. Moreover, narrower mechanisms do not refer to broad biological or sociological processes, but rather to specific variables such as relationship satisfaction, self-esteem, or anxiety symptoms. When examining narrow mechanisms of personality trait change, one direction is to consider other variables within the broader personality system. Several theories emphasize the importance of this. For example, the social investment principle, which is often interpreted as predicting that it is 'just' transitions into social roles of adult life that trigger personality trait change, emphasizes the importance of committing to these social roles. The commitment processes

referred to for the social investment principle are identical to the commitment processes that feature in Erikson's (1950, 1968) developmental theory (Lodi-Smith and Roberts, 2007). Hence, such processes feature in models of identity formation (e.g., Crocetti et al., 2008; Luyckx et al., 2008). These models also emphasize the importance of exploration processes. The social investment principle would predict that the aforementioned identity processes, but especially commitment, would predict changes in personality traits.

FFT (McCrae and Costa, 2008) and the core versus surface trait model (Asendorpf and van Aken, 2003) emphasize a distinction between basic tendencies (i.e., Big Five personality traits) and more specific 'characteristic' adaptations such as identity formation processes. This model would predict that Big Five traits and identity processes are associated, and that the effects of Big Five traits on identity processes are larger than those in the inverse direction.

McAdams' multilayered model (e.g., McAdams and Olson, 2010) presents a sort of compromise between the previous standpoint regarding directionality of effects between identity processes and personality traits. That is, infant and child behavior is thought to be largely driven by basic tendencies (i.e., personality traits). In late childhood, motivations and goals are added to the equation, and behavior becomes more goal-directed. From late adolescence onwards, individuals start behaving in a way that is in line with the way they perceive themselves. Thus, their (narrative) identity starts to play an important role in their behavior. At first, these self-views are largely build upon the way individuals typically behaved up to that point, making traits as well as goals and motivations better predictors of identity at that point. Once identities become solidified, they also start to affect traits. Typically, this should happen from young adulthood onwards. Hence, McAdams would predict that personality traits are good predictors of identity processes throughout development, whereas identity processes only become better predictors of personality traits in young adulthood.

Longitudinal research on the linkages of identity formation processes with personality traits is rather scarce. Overall, these studies suggest that personality traits are often better predictors of identity processes than the other way around (e.g., Luyckx et al., 2014). In adolescence, identity processes rarely predict changes in personality traits (Luyckx et al., 2014), but this is more common in young adults (Luyckx et al., 2006), confirming McAdams' theorizing. However, recent research on Japanese early and middle adolescents questions this conclusion by demonstrating bidirectional identity-personality trait linkages from early adolescence onwards (Hatano et al., 2017). This latter study also considered personality facets underlying broader trait domains and showed that facets belonging to the same trait domain were often differentially associated with identity processes.

Other studies provided more specificity on the identity side by considering life-domain specific identity processes. These studies also found few effects of these processes on personality traits, but the few effects of identity on personality that were found tended to be in line with the social investment principle. That is, educational and relational commitment predicted relative increases in emotional stability and conscientiousness, respectively (Klimstra et al., 2012; Klimstra et al., 2013b).

Overall, these studies show that linkages between identity processes and personality traits are complex. There appears to be some evidence for each of the theoretical perspectives on these linkages, but none of the evidence is overwhelming. Yet, the development of identity processes seems to be associated with the development of adolescent and young adult personality traits.

Another variable in the self-system that has been associated with personality trait development is self-esteem. Self-esteem reflects an overall evaluation of one's worth and positive versus negative feelings about the self (e.g., Orth et al., 2008). Large-scale cross-sectional studies research in young adults (e.g., Erdle et al., 2009; Robins et al., 2001b; Robins et al., 2001c) and adolescents (e.g., Mlacic et al., 2007; Vaszonyi et al., 2015)

generally found strong negative associations of self-esteem with extraversion and conscientiousness, and strong negative associations with neuroticism. In addition to self-esteem levels, self-esteem stability is also associated with Big Five personality trait domains in young adulthood. Especially high emotional stability, agreeableness, and conscientiousness are associated with high self-esteem stability (Zeigler-Hill et al., 2015). In fact, young adults who had a high level of self-esteem and who were also stable had the most optimal personality profile, characterized by high emotional stability, agreeableness, and conscientiousness. Individuals with stable low self-esteem had low levels of openness. This suggests that considering aspects of self-esteem beyond the level (e.g., also considering stability of self-esteem) can produce further insights into its relation with personality trait domains. In addition, longitudinal research can also provide additional insight in the personality trait–self-esteem link.

There are few longitudinal studies examining linkages between personality traits and self-esteem. A study on adolescents showed that neuroticism mattered in how much not meeting expectancies regarding peer acceptance affected self-esteem development (Poorthuis et al., 2014). That is, adolescents who were neurotic and saw their expectancies regarding peer acceptance not being met experienced a decrease in self-esteem. Furthermore, the importance of adolescent personality development was underscored, as a more favorable personality profile in adolescence was predictive of higher self-esteem later in adulthood (Blatný et al., 2015).

Research on young adults (Klimstra et al., 2016; Lönnqvist et al., 2009; Wagner et al., 2013) provides some evidence for high levels of favorable personality traits (especially emotional stability) predicting high levels of, or even increases in, self-esteem. However, another study (Erol and Orth, 2011) found that Big Five traits were related to self-esteem concurrently but did not predict change in self-esteem. Thus, the predictive role of personality traits for the development of self-esteem is still somewhat unclear. Furthermore, a recent study showed



that self-esteem can also affect the development of personality traits (Klimstra et al., 2016), as high self-esteem predicted decreases in facets of neuroticism in two independent samples.

These studies show that the development of self-related processes and core personality trait domains are closely intertwined. However, the development of personality domains is obviously also linked to the development of variables that are less directly related to the self.

### **Narrow Mechanisms: Correlates Outside of the Personality System**

Adolescent and young adult personality development affects, and is affected by, changes in a wide range of other phenomena. Especially, interpersonal relationships, psychopathology symptoms, and academic experiences have received the attention of various researchers.

Studies that consider interpersonal relationships in adolescence examined associations with parenting. In a study covering childhood and adolescence, parenting had few effects on the child's personality (van den Akker et al., 2014). The child's personality did have more of an effect on parenting, with agreeableness and openness eliciting positive parenting, whereas extraversion seemed a mixed blessing. That is, extraversion triggered warm parenting, but also more overreactivity from parents, possibly because extraverted children are charming yet expressive. Their expressiveness may cause more conflicts with parents. Most convincing was the evidence for parallel development between parenting and personality, with increases in agreeableness, conscientiousness, and openness running parallel with increased positive parenting. Thus, it is somewhat unclear what the directionality between parenting and personality is, but it is clear that the two are intertwined.

The quality of adolescent relationships with their family members has been somewhat more extensively studied in association with personality. An extensive study examining entire

families across time showed that, especially, agreeableness was of major importance in this regard. That is, more agreeable individuals perceived more support from others, and others also perceived more support from them (Branje et al., 2004). However, the development of other Big Five personality traits was also somewhat associated with changes in support. A study that focused on the relative contributions of adolescents' and parents' personalities to the quality of their mutual relationship showed that the older the adolescents got, the more the quality of the relationship was determined by their personality instead of the parents' (Denissen et al., 2009). A study examining peer support in addition to parental support suggested that conscientiousness was the only trait domain that prospectively predicted support from both the father and the mother (Asendorpf and van Aken, 2003). However, conscientiousness did not predict peer support (but see Jensen-Campbell and Malcolm, 2007). For that, especially, extraversion and agreeableness seemed important trait domains (Asendorpf and van Aken, 2003; Jensen-Campbell et al., 2002).

Toward late adolescence and into young adulthood, romantic relationships become more important and more common. Personality traits are known to predict relationship development (e.g., Ahmetoglu et al., 2010; Lehnart and Neyer, 2006), including who is more likely to get into a relationship in the first place (e.g., Neyer and Lehnart, 2007). That is, more emotionally stable, extraverted, and conscientious young adults seemed more likely to end up in a relationship. Once in a relationship, emotional stability, agreeableness, and conscientiousness are associated with better relationship quality. Romantic relationships – especially the more serious and enduring ones – also have an effect on personality development (e.g., Lehnart et al., 2010; Neyer and Asendorpf, 2001; Robins et al., 2002). That is, entering a relationship has been most clearly associated with increases in emotional stability and conscientiousness. Thus, personality traits affect relationships, but relationship experiences also have a considerable effect on personality trait development (Mund and Neyer, 2014).

Another potential major influence on personality development is experiences related to psychopathology. The linkages between personality traits and psychopathology are complex and can take many shapes (Durbin and Hicks, 2014), but there certainly are strong associations. Research on adolescents has suggested that psychopathology symptoms have an effect on, and are affected by, personality trait development (Klimstra et al., 2010a). However, these associations may be due to psychopathology symptoms being manifestations of very high, or very low, scores on particular personality traits (De Bolle et al., 2012). In this regard, especially, emotional stability and extraversion are consistently associated with internalizing symptoms (e.g., depressive and anxiety symptoms), whereas emotional stability and agreeableness are the most consistently associated with adolescent externalizing symptoms (e.g., aggression, delinquency, substance abuse). In young adulthood, the pattern of associations is pretty much the same (Mezquita et al., 2015). However, it should be noted that these linkages may be slightly different depending on the particular kind of type of psychopathology that is examined within the broader internalizing and externalizing domains (Klimstra et al., 2014). In sum, it remains a question whether personality and psychopathology should be seen as separate constructs, but the development of the two is clearly interconnected.

Academic experiences are also strongly associated with personality trait development. A study by Bleidorn (2012) suggested that personality trait development is triggered by nearing the transition from high school to college, probably mostly due to students preparing for their high school exams. That is, mean levels of conscientiousness clearly increased in the final year of high school, whereas no such changes were found in the year before that. Moreover, these increases in conscientiousness were associated with increases in academic achievement behavior. Somewhat related to this are findings suggesting that education commitment predicts increases in emotional stability (Klimstra et al., 2012). However, it should be noted that there were many more effects of personality traits on

changes in educational commitment. Finally, adjustment to one's educational institution also seems to matter for personality maturation, as a recent study (Klimstra et al., 2016) found that academic and social adjustment to college predicted relative increases in several personality trait domains and facets. Academic adjustment predicted increases in emotional stability, agreeableness, and conscientiousness, whereas social adjustment predicted increases in extraversion and conscientiousness. Thus, attitudes and affective experience toward education may trigger personality maturation.

Actual academic performance (e.g., Grade Point Average; GPA) has rarely been considered as a predictor of personality development. We are aware of only one study examining such an effect. This study showed that GPA had no effect on the differential stability of personality traits in adolescence (Pullmann et al., 2006). More research is needed to confirm whether or not academic performance can affect personality trait development.

## **True Personality Development: Taking a Person-Centered Approach**

The aforementioned research on personality development focused on trait domains, or on the facets underlying these domains. However, personality refers to a dynamic organization of traits within an individual (cf. Allport, 1937). The study of personality development should therefore also focus on changes in the configuration of traits, also referred to as profiles. To examine development at the profile-level, one can examine profile stability or examine change from a typological perspective on personality. In both approaches, the configuration of variables within an individual is the study object, which is why these are referred to as person-centered approaches.

### **Profile Stability**

Profile stability provides information on the stability of a constellation of traits for every single person in a research sample. To assess profile stability, one computes the within-individual consistency of the mean scores on personality traits. It is possible, for example, that a person is more conscientious than agreeable, more agreeable than open to experience, more open to experience than emotionally stable, and more emotionally stable than extraverted. The extent to which this pattern of trait scores of this person remains the same across time indicates that person's profile stability (e.g., Furr, 2008). Thus, profile stability is about the extent to which, for example, the tidy, adventurous, and friendly person is still like that at a later point in time.

The calculation of profile stability for every person within a research sample is done by correlating the individual's set of personality trait scores at one time point with that same person's set of personality trait scores at the next time point. Every individual gets a stability score. Therefore, this profile stability score has a sample mean. Using this approach, relatively high profile stability has been demonstrated in early adolescents (De Fruyt et al., 2006). Using data on multiple measurement occasions (i.e., five), and therefore multiple time lags (i.e., four), Klimstra et al. (2009) were able to demonstrate that personality profile stability increased substantially from early to late adolescence. Other studies (Donnellan et al., 2007; Roberts et al., 2001; Robins et al., 2001a) have shown that profile stability remains high in young adulthood.

High profile stability has been linked to more desirable personality traits and well-being in several studies (e.g., Donnellan et al., 2007; Lönqvist et al., 2008; Roberts et al., 2001), and it should therefore be indicative of positive adjustment. However, profile stability coefficients suffer from conceptual and statistical problems arising from the confounding effect of profile normativeness. That is, profile stability might not only arise from people's tendency to retain their idiosyncratic, distinctive qualities over time, but could also arise from their tendency to consistently resemble the normative personality profile (e.g., Furr,

2008). When these two different sources of consistency are disentangled from each other, it turns out that it is not the stability of the distinctive qualities of one's profile that drives the association with adjustment, but mainly the similarity of one's profile to the norm (i.e., average) in a sample (Klimstra et al., 2010c). Thus, individuals with a stable profile are not necessarily the better-adjusted ones. Instead, the individuals who are more similar to the average person in the sample appear to be better adjusted.

Profile stability is one way to approach personality development from a person-centered perspective, but it has its limitations. The main limitation is that it remains unclear what exactly remains stable and what changes in an individual's profile (cf. Bleidorn et al., 2012). To obtain greater insight into what changes about personality profiles, and to answer questions about whether the general direction of development is favorable or not, typological approaches are needed.

### **Typological Approaches**

The study of personality types can be more or less traced back to ancient Greece and China, but the most relevant to the contemporary view on personality types is inspired by the work that Block and Block started in the 1970s (Block, 1971; Block and Block, 1980). Block (1971) initially identified separate typologies for men and women using a Q-sorting procedure. These typologies were actually development trajectories, as data on multiple measurement occasions were used. From the early 1980s onwards, the focus shifted to three replicable types that were derived on one measurement occasion and were distinguished on the temperamental traits of ego-control (comparable to impulse control) and ego-resiliency (the ability to adapt one's level of ego-control to fit the environmental demands). Specifically, Block and Block (1980) distinguished Resilients (high ego-resiliency, flexible levels of ego-control), Undercontrollers (low ego-resiliency, low ego-control), and Overcontrollers (low

ego-resiliency, high ego-control). These types have distinguishable Big Five profiles (e.g., Asendorpf and van Aken, 1999; Robins et al., 1996). Resilients have high levels of all Big Five traits if emotional stability is considered instead of its counterpart neuroticism. Undercontrollers are mostly distinguishable by their particularly low levels of agreeableness and conscientiousness, coupled with high extraversion. Overcontrollers do have high levels of agreeableness and conscientiousness, but are low on extraversion and emotional stability. Several studies used these types to examine personality development in adolescence. Somewhat older studies (van Aken and Dubas, 2004; Akse et al., 2007) found moderate stability of type membership, with about 50% of adolescents remaining in the same personality type across time. This is partly due to the analysis technique (i.e., cluster analysis) used in these studies. Cluster analysis does not account for measurement error or classification inaccuracy. This classification inaccuracy is an important issue, since personality types should not be viewed as a fully categorical variable, such as sex. Instead, they are best viewed as 'fuzzy' categories with somewhat unclear boundaries, or zones of classification uncertainty (Asendorpf et al., 2001). That is, some individuals fall almost perfectly in between being, for example, a Resilient or an Overcontroller. With contemporary techniques to create types, such as latent profile analysis, there are several options to account for this classification inaccuracy (e.g., Vermunt, 2010). Hence, studies using these techniques find much higher stability of personality type membership, with over 70% being classified in the same type across time (Meeus et al., 2011). If adolescents do change from one type to another, they tend to change from the Over- or Undercontroller types to the Resilient type. Specht et al., (2014) mainly found evidence for stability in personality type membership in young adulthood. Only one transition from one type to another occurred more often than would be expected by chance: the transition from Undercontroller to Resilient. This transition pattern and the transition patterns found in other person-centered studies are thus in line with the maturity principle, which suggests

that individuals, on average, become more agreeable, conscientiousness, and emotionally stable (e.g., Klimstra et al., 2009; Roberts et al., 2001).

Studying transitions between types is only one way to approach personality development from a typological perspective. Another way is to use clustering techniques that take development into account when assigning individuals to a certain class. This technique was used in Block's (1971) groundbreaking study on personality development. He distinguished developmental trajectories of personality from junior high school into adulthood. Five male and six female trajectories were distinguished. These were described along a large number of attributes obtained by using a *q*-sort procedure, and a description of these types would therefore be too much for the purpose of this chapter. The key message obtained from the Block (1971) study is that individuals not only differ remarkably in their personality in junior high school, but also in their developmental trajectory thereafter. To give one example, the belated adjusters Block (1971) identified ended up being (almost) as adjusted as the ego resilients, even though they experienced much more turbulence in adolescence. This provides evidence for a developmental phenomenon referred to as equifinality (i.e., ending up in the same way from a different starting point; Cichetti and Rogosch, 1996). More recently, Morizot and LeBlanc (2005) used a similar technique (i.e., longitudinal cluster analysis) to distinguish developmental trajectories from middle adolescence into adulthood. A key finding of this study was that large individual differences in extraversion may come into existence as individuals (i.e., men) enter young adulthood, providing evidence for multifinality (starting at approximately the same point but ending up at different points; Cichetti and Rogosch, 1996). This shows the potential of longitudinal clustering techniques to capture important developmental phenomena.

More recent studies use techniques like Latent Class Growth analysis and General Mixture Modeling (e.g., Nagin, 2005) to provide a more advanced spin on Block's (1971) classification procedure. Using such procedures, Resilients, Undercontrollers, and Overcontrollers have



been replicated as developmental trajectories of personality from childhood into adolescence (de Haan et al., 2013), from early to middle adolescence (Klimstra et al., 2010b), from middle to late adolescence (Luyckx et al., 2014), and from early to late adolescence (Branje et al., 2010). Across studies, these three types remained distinguishable from each other across time but, especially in the study by de Haan et al. (2013), between-type differences on particular traits became larger (for conscientiousness) or smaller (especially for agreeableness). Overall, these studies clearly show the potential for using techniques to classify individuals based on developmental trends in multiple traits simultaneously. Such procedures are more in line with the way personality was originally defined than studies distinguishing different developmental trajectories on single personality traits (e.g., Durbin et al., 2016; Johnson et al., 2007). However, the latter studies are useful for visualizing and quantifying heterogeneity in development.

## **Summary and Future Directions**

In this chapter, we reviewed research on personality development in adolescence and young adulthood. A large number of cross-sectional and longitudinal studies have provided convincing evidence that personality traits undergo important changes during the period of adolescence and early adulthood. We know now that rank-order stability increases as individuals grow older, that mean-levels of personality traits typically increase, and that individuals grow toward a more mature personality profile. Yet, there are important individual differences in the amount of change and stability of personality. We still know little about the conditions, correlates, and consequences of these individual differences. Below, we provide some suggestions regarding future directions that could help to fill this relative gap of knowledge.

A first suggestion is to study personality development in an even more detailed manner. We already reviewed some literature on personality facets underlying broader trait domains,

with, for example, depression and anxiety underlying the domain neuroticism. Recently, evidence has been found for the validity of traits that are even more specific than facets. These traits are called nuances (Möttus et al., 2017). Usually measured with few or single items, nuances represent one of the lowest levels in personality and are much closer to actual behavior than trait domains are. Examples of such nuances are liking parties with many people, making a detailed plan before going on holiday, or liking loud music. The idea that personality traits are hierarchically ordered, and that traits further down than the facet level in the trait hierarchy are also important, is not new (e.g., Eysenck, 1990). Yet, research on personality development tends to overlook the nuance level. It could be that changes at the trait domain level can be traced back to changes (much) lower in the trait hierarchy. Future research considering changes in all levels of the trait hierarchy simultaneously may eventually teach us much about how personality trait development actually comes about.

A second suggestion concerns implementing measurements at various timescales. There is growing consideration of the state level in contemporary models of personality (Fleeson and Jayawickreme, 2015). Such personality states refer to patterns of thinking, feeling, and behaving at a particular moment. Therefore, these states can be measured several times a week or even several times a day. Due to the widespread availability of smartphones, researchers can now ask participants to report either actively (by prompting individuals to report on their behavior, feelings, or thoughts) or passively (by recording their behavior) on their personality states (Wilson et al., 2017). Considering traits and states in one longitudinal design will eventually allow us to trace back the origins of personality development to changing patterns of daily activity.

A third, broader, point is that much of the research that claims to examine personality development is actually examining personality *trait* development. Studying traits in isolation can be useful, but to gain a better understanding of true personality development, the configuration of traits within particular individuals and changes herein need to be studied

over time. Studies examining changes in personality trait profiles across time are by far outnumbered by studies examining change in a trait-by-trait fashion (for exceptions, see for example, Meeus et al., 2011 and Specht et al., 2014). Moreover, research examining longitudinal associations of changes in trait profiles with changes in other variables is scarce. Thus, little is known about the antecedents, correlates, and effects of changes in personality types.

Among the reasons why personality types are underexamined are concerns regarding their replicability and their predictive power (Costa et al., 2002). Regarding replicability, it should be noted that the literature suggests that there are usually at least three types that appear (i.e., Resilients, Undercontrollers, and Overcontrollers) but that sometimes other types are found too (cf., Chapman and Goldberg, 2011). Note that this is partly inherent to the techniques that are used nowadays to identify types. Such techniques (e.g., Latent Profile Analysis) are exploratory in nature and (perhaps therefore) sensitive to the peculiarities of each sample. Thus, different types can be found for several reasons, including method effects (e.g., using self-reports instead of peer-reports, or the other way around), examining a particular part of the population (e.g., only including the higher end of the distribution on conscientiousness as a result of focusing on the higher educated), or using a measure that operationalizes Big Five trait domains in a slightly different manner when compared to the measures that were used in other studies that did find Resilients, Undercontrollers, and Overcontrollers. One way to proceed would be to use latent profile analysis and not get too hung up on replicating the exact three types (and only these types) all the time. Latent profile analysis comes with an additional advantage, as the results of these analyses no longer have to be used in a fully categorical manner. Individuals get relative class assignment, which means that they can, for example, be classified as having a 40% chance of being Resilient and a 60% chance of being an Overcontroller. These chances can be taken into account in follow-up analyses (e.g., Vermunt, 2010), thereby accounting for the fact that

types may be fuzzy instead of truly categorical (Asendorpf et al., 2001). Moreover, this approach potentially addresses the issue of the limited predictive power that is inherent to fully categorical approaches when compared to continuous traits (cf. Asendorpf and Denissen, 2006). Specifically, a recent study using Latent Profile Analysis found clear evidence for an increase in explained variance in outcome variables if relative classification (i.e., classification probabilities) instead of absolute classification (i.e., using a classic categorical distinction) was used (Hadiwijaya et al., 2015). Thus, new data-analytical advancements have opened the door for the possible resurrection of psychological types, such as personality types.

Fourth, much of the work that has been done concerning personality development has relied on quantitative data. To attain a better understanding on the actual processes and experiences that go along with personality development, it would be useful to complement this quantitative data more often with qualitative data. So far, the narrative identity research tradition has done the best job in supplementing quantitative data on personality trait development with qualitative data (for an illustration, see Pals, 2006). However, there appears to be no published research yet on adolescents or young adults that includes multiple measurement occasions of narrative accounts and personality traits. Such research likely provides important insights into how personality development comes about and should therefore be prioritized.

We only provided four possible future directions for the study of adolescent and young adult personality development, but there obviously are many more possible directions. Overall, this chapter shows that our knowledge of personality development has rapidly expanded over the past 15 to 20 years. We know much more about the direction of personality development and individual differences around the general patterns, while our insight into the possible mechanisms, predictors, and consequences of personality development is also growing. Together with the many available possible future directions, this suggests that

research on adolescent and young adult personality development is thriving and will continue to thrive.

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