

# Relationships Matter in Personality Development: Evidence From an 8-Year Longitudinal Study Across Young Adulthood

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**ABSTRACT** Personality-relationship transactions were investigated in a general population sample of young German adults with three assessments over 8 years. Four general findings were obtained. First, personality development was characterized by substantive individual differences in change. Second, bivariate latent growth models indicated that individual differences in personality change were substantially associated with change in peer and family relationships. Third, forming a partner relationship for the first time moderated the maturation of personality. This finding was replicated over two subsequent time intervals with independent subgroups. Fourth, higher neuroticism and higher sociability predicted which of the singles began a partner relationship during the next 8 years. The results confirm that individual differences in personality development predict and result from life transitions and relationship experiences.

Personality development in young adulthood is characterized by moderate levels of rank-order stability, small but still significant mean-level changes, and substantial individual differences in change. From a life-span perspective, personality traits change more in young adulthood than in any other period of life (Roberts, Walton, & Viechtbauer, 2006). The third decade of life (i.e., ages 20 to 30) has

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been recently coined as “emerging adulthood” (Arnett, 2000), in which people are free to try their hands with relationships, world-views, and lifestyles. The main developmental task in these ages is to choose life paths and to commit to intimate relationships. The premise of our research is that these transitions reflect, first and foremost, relationship transitions, which provide a framework for the study of personality stability *and* change (Lang, Reschke, & Neyer, 2006; Neyer, 2004). We investigated the personality and relationship development of young adults with three assessments over a period of 8 years. The aim was to complement and broaden prior investigations with this sample (Neyer, 1999; Neyer & Asendorpf, 2001), especially regarding three general perspectives that are the focus of this article. We explore first the stability *and* change of personality and relationship experiences in young adults from their mid 20s to their early 30s, and focus explicitly on individual differences in change thus mirroring the diversity of developmental trajectories. Second, we show that individual differences in personality change over 8 years are substantially related to individual differences in change in relationships with peers and family of origin. Third, we study individual patterns of personality change during the normative life transition to partnership. In particular, we show that higher neuroticism predicts the beginning of partner relationships and decreases once relationships are formed.

### **PERSONALITY DEVELOPMENT IN YOUNG ADULTHOOD**

Mean-level change and rank-order stability are two broad aspects of personality development. Two recent meta-analyses have shown that mean-level change mainly takes place in young adulthood (Roberts et al., 2006), and rank-order stability is moderate at best reflecting that personality does not stop changing by age 30 (Roberts & DelVecchio, 2000). It is also now part of our established knowledge that, in accordance with Allport’s (1961) view, personality in young adulthood matures (e.g., Roberts, Caspi, & Moffitt, 2001, Srivastava, John, & Gosling, 2003). Most recently, these maturational trends were interpreted in terms of the *social investment principle*, which states that investments in age-graded social roles are the driving forces (Roberts, Wood, & Smith, 2005): Becoming a reliable partner, a nurturing parent, or a cooperative work mate reflect societal

expectations, which “come along with their own set of expectations and contingencies that promote a reward structure that calls for becoming more socially dominant, agreeable, conscientious and less neurotic” (p. 174). However, these and other studies have also shown that the rank-order stability of personality in young adulthood is moderate, suggesting individual differences in personality traits are still malleable (e.g., Robins, Caspi, & Moffitt, 2002; Trzesniewski, Donnellan, & Robins, 2003; Vaidya, Gray, Haig, & Watson, 2002).

Beyond the traditional view on mean-level and rank-order change, personality development can also be traced back to individual differences in intraindividual change, which is a central tenet of life-span developmental psychology (e.g., Mroczek & Spiro, 2005). The concept of individual differences in change holds that people vary in the direction, the rate, and the time of change. For example, a mean-level decrease in neuroticism does not exclude the possibility that quite a sizeable minority may not follow this trend, but rather increase. Moreover, maturation does not necessarily mean that all individuals of a cohort change at the same time. Even though most people seem to mature between 20 and 30, some may decrease in neuroticism later or earlier than others depending on experiences that initiate personality change. Finally, mean-level stability (e.g., of extraversion) may sometimes even conceal individual differences in change; some individuals may decrease in extraversion, while others increase, thus canceling out each other’s change and resulting in no mean-level change overall. Up to the present time, there exists (to the best of our knowledge) neither a meta-analytic study on individual differences in personality change nor a systematic review of the correlates of individual differences in change. We argue that individual differences in personality development are considerably associated with individual relationship experiences.

### **PERSONALITY-RELATIONSHIP TRANSACTION**

Relationships within one’s social network, such as with a romantic partner, family members, and peers, generate the social context of personality development. In young adulthood, some kinds of relationship, such as with family of origin and with peers, are continued and molded, reflecting the flux and flow in social networks, whereas other relationships, such as with romantic partners and children, are

new and come along with normative life transitions. We expect that the latter kinds of emerging new relationships create a challenge for personality change, whereas the former kinds of ongoing relationships develop in line with personality traits. We base this assumption on the following considerations:

Ongoing relationships and personality co-develop in a corresponding way because people select and evoke relationship experiences that deepen or accentuate their personality traits. Therefore, relationship experiences do not arise randomly and, in turn, contribute to the cumulative stability of personality (Caspi & Roberts, 2001; Fraley & Roberts, 2005; Roberts & Caspi, 2003). Only a few longitudinal studies have addressed the relations of personality and relationship change in adolescence and early adulthood (Asendorpf & van Aken, 2003; Asendorpf & Wilpers, 1998; Branje, van Lieshout, & van Aken, 2004; Neyer & Asendorpf, 2001; Robins et al., 2002). The consistent picture emerging from these studies is that personality effects on change in relationships are more powerful and more frequent than relationship effects on personality change. It should be noted, however, that at least some ongoing relationship influences were reported, such as from relationships with parents or peers (Asendorpf & van Aken, 2003; Branje et al., 2004), from partner relationships (Robins et al., 2002), and from relationships with one's preschool children (Neyer & Asendorpf, 2001).

But how can emerging *new* relationships initiate personality change, given the high levels of continuity so convincingly observed by past research? We expect, in line with the *social investment principle*, that commitments to age-graded social roles as a consequence of normative life transitions can initiate personality change (Roberts et al., 2005). At the same time, we expect that social investments themselves (e.g., the first partner relationship) can be foretold by individual differences in earlier personality traits, as not all individuals of a cohort will engage in this task. For example, young adults in their mid 20s who have not been in a partner relationship before appear much more neurotic and less well adjusted than others (Neyer, 1999). These young singles may indeed select themselves into frustrating experiences that are consistent with their underlying disposition. At the same time, however, these young adults may be motivated to initiate partner relationships that provide security and boost emotional stability. Although we know from many studies that higher levels of neuroticism predict later marital dissatisfaction and

instability (e.g., Donnellan, Larsen-Rife, & Conger, 2005; Karney & Bradbury, 1997; Kelly & Conley, 1987; Robins, Caspi, & Moffitt, 2000), neuroticism may sometimes have a different meaning, particularly before a life transition (Watson & Casillas, 2003). To be sure, these young adults certainly have more negative feelings and worry a lot, but they also look for familiar and safe situations reflecting a possible motivation for seeking security in relationships (Matthews, 2004). Such relationships with a romantic partner may offer a safe haven and create an opportunity for personality change.

How is it possible that personality can change in new relationships? Normative life transitions in emerging and young adulthood come along with profound social experiences in partnership and family. As Caspi and Moffitt (1993) have argued, such expectable and age-graded life transitions have the potential to “catalyze” personality change because they entail strong relationship experiences confronting the individual with new social tasks and behavior expectancies that represent a reward structure for personality maturation. Yet, normative life transitions can also contribute to individual differences or non-normative patterns of personality change because not all individuals undergo a life transition at all, nor do all change in the same manner (Lang et al., 2006; Neyer, 2004; Roberts et al., 2001, 2003, 2006; Robins et al., 2002). We expected that individual differences in personality change would emerge in the context of the transition to a first partner relationship.

## **TWO EMPIRICAL APPROACHES TO PERSONALITY-RELATIONSHIP TRANSACTION**

We investigated personality-relationship transactions with two general approaches. First, we applied *bivariate latent growth curve models* for the study of the over-time relations between individual differences in change of personality and ongoing relationships. Second, we used a prospective design to compare the developmental trajectories of young adults who experienced a normative life transition with those who did not.

Based on a social network approach, we studied the development of a variety of social relationships from the perspective of young adults. Using *bivariate latent growth curve models (LGM)*

we investigated how individual differences in personality development are related to individual differences in relationship experiences with one's family of origin (i.e., parents, siblings, grandparents) and with peers (i.e., friends, colleagues). Family and peer relationships are two broad categories including almost all important relationships (except new ones with a partner which we study in the context of normative transitions outlined below). Relationships with family and with peers are fundamentally distinct on at least three dimensions. First, family relations imply genetic relatedness. Second, family relations are characterized by higher levels of closeness and have a longer relationship history (Neyer & Lang, 2003), whereas peer relationships are characterized by the negotiation of equality and are a context of socialization at least since adolescence (Harris, 1995; Hartup & Stevens, 1997). Third, family and peer relationships are distinct in terms of the likelihood of being deliberately ended, which is close to zero for family relationships but much higher for peer relations.

With the bivariate LGMs, we were able to analyze the concurrent associations of personality and relationships at the first assessment, the correlated change of personality and relationships over 8 years, and the cross-lagged effects of initial personality traits on 8-year change in relationships, and the reverse. For the following reasons, we did not expect a strong pattern of cross-lagged effects: First, past research on personality-relationship transaction over time periods of 4 years or less revealed mostly personality effects not exceeding small effect sizes (Asendorpf & van Aken, 2003; Asendorpf & Wilpers, 1998; Neyer & Asendorpf, 2001), which is why we anticipated even weaker effects over 8 years. Second, the three times of assessment were chosen arbitrarily, which is why it was impossible to fix the beginnings and endings of a unique influence of one factor on change in the other factor. Rather it appeared reasonable to expect substantial amounts of correlated change indicating that over 8 years change in personality was complemented by change in relationship experiences.

Starting with this general premise, we hypothesized the trajectories of family and peer relationships to be substantially associated with neuroticism. Because neuroticism implies proneness to negative social experiences, we expected that increase in perceived insecurity with both kinds of relationship would be associated with increase in neuroticism over 8 years. In addition, we assumed different effects for family and peer relationships. We expected that increases in

family relationship quality would be associated with change in conscientiousness and agreeableness because these traits tap into the committing and almost indissoluble character of these relationships as has been shown by past research (Branje et al., 2004; Jensen-Campbell & Graziano, 2001; Roberts & Bogg, 2004). Regarding peer relationships, we assumed that improved interactions would be related to extraversion and agreeableness. In particular, we expected increase in extraversion would be related to increase in contact with peers and increase in agreeableness would be related to decrease in peer conflict. These expectations tie in with our past findings that these traits predicted improved quality of interaction with peers 4 years later (Neyer & Asendorpf, 2001).

Young adults also differ in the experience of normative life transitions. We used a prospective design to examine the effect of the first partner relationship, and compared personality development of *stable singles* (who remained without a partner relationship) to that of relationship *beginners* (who entered into a partner relationship for the first time). In our prior investigation we observed that the beginners increased in conscientiousness and decreased in neuroticism, whereas there was no change in the personality of stable singles (Neyer & Asendorpf, 2001). With the continuation of the study, we aimed to replicate these effects in participants who experienced this transition later, and to test whether these effects were long-term or reversible. We expected these effects would be replicable and enduring. But more than that, we explored which personality traits foretell whether singles commit to a partner relationship at all. This is a new research question. Up to the present, personality researchers have attempted to predict marital dissatisfaction, separation, and divorce. But far less is known about what traits predict partnership formation in young adulthood.

In our study, we gathered information about (a) personality traits, (b) various kinds of relationship in social networks, and (c) normative life transitions. Our analysis proceeds in four steps. First, we study individual differences in change in personality traits and relationships. Second, we investigate the over-time relations between personality change and the trajectories of ongoing relationships with peers and family of origin. Third, we test prospectively how new emerging relationships contribute to differential patterns of personality change. Fourth, we study how personality traits predict whether singles begin partner relationships.

## METHOD

### Participants

We studied a general population sample of young German adults with three assessments, each 4 years apart, covering a total of 8 years. For most analyses we use the panel data of the participants who took part in each of the three assessments ( $N = 339$ ); for some analyses we use data of all participants of the first ( $N = 637$ ) or the second assessment ( $N = 489$ ).

At the first assessment we targeted participants from a large-scale survey study funded by the Deutsches Jugendinstitut (Bien, 1996). Participants between the age of 18 and 30 years ( $N = 2,002$ ) were contacted by mail and asked to complete questionnaires on personality and relationships. The resulting sample of 637 young adults ( $M$  age = 24.4 years,  $SD = 3.7$ ; 351 females) was largely representative, with the exception of an oversampling of respondents with a high-school diploma (37.2% vs. 28.9% in the population) (see Neyer, 1999).

About 4 years later, 489 respondents participated in a follow-up survey (return rate 76%; 266 females). Mean age was 28.6 years ( $SD = 3.8$ ). We observed no attrition due to personality or to relationship measures,  $t_s(635) < 1.8$ , *ns* (see Neyer & Asendorpf, 2001).

About 8 years after the first assessment, we contacted the Time 2 participants via mail. Respondents were offered 25 € (approximately \$30 US) in return for their participation; 339 participants responded (return rate = 69%, 187 females). Mean age at Time 3 was 32.5 years ( $SD = 4.0$ ). The sample did not differ from the fully representative sample at Time 1, with the exception of a higher proportion of participants with a high school diploma (61%). At Time 3, 283 participants were in a serious relationship (83.5%) and 169 participants were married (50%). We controlled attrition effects by comparing the Time 1 personality scores and various relationship measures between the 339 participants of the panel and the 298 participants who did not take part in the later assessments, and we observed no attrition due to personality or to measures of relationships,  $t_s(635) < 1.5$ , *ns*.

### Measures

#### *Contextual and Biographical Information*

Participants were asked to indicate their sex, age, and their marital, occupational, and educational status. Moreover, they were asked whether they were involved in a serious relationship. At Time 3, we added a short biographical questionnaire, in which respondents indicated the years and months of the beginnings and endings of their past and current partner relationships.

*Personality Measures*

We assessed the Big Five with the German version of the NEO-FFI (Borkenau & Ostendorf, 1993). Due to restricted space of the questionnaire, we did not include the openness scale at Time 1. (Accordingly we are not able to analyze change in openness over 8 years.) We also assessed shyness and sociability as additional sub-facets of extraversion. Shyness and sociability were measured with brief scales (i.e., four and five items, respectively), developed by Asendorpf and Wilpers (1998). General self-esteem was assessed with five items (Marsh & O'Neill, 1984). All items were randomly mixed and presented in a 5-point agreement format rating ranging from 1 (*not at all*) to 5 (*completely*).

*Social Network Inventory*

Social relationships were assessed each time using a social network inventory. Participants were asked to recall those persons who had played an important role in their lives, either positive or negative, and with whom they had had contact at least once during the last 3 months. They were also presented a list with relationship types (e.g., partner, children, parents, siblings, grandparents, friends, colleagues), and were asked to assign each person to one of these relationship categories and to include information on gender and age. Finally, the quality of the relationship with each person was rated on four Likert-type scales: (1) "How often do you have contact with this person?" (0 = *Less than once a month* to 5 = *Every day*); (2) "How close do you feel to this person?" (1 = *Very distant* to 5 = *Very close*); (3) "How often do you have conflicts with this person?" (1 = *Never* to 5 = *Nearly each time we meet*); (4) "Do you feel insecure in this person's presence?" (1 = *Never* to 5 = *Always*).

**RESULTS****Internal Consistency and Intercorrelations of Personality Traits**

The internal consistencies of personality scales were comparable across assessments and were acceptable (ranging from .62 for self-esteem to .83 for neuroticism). Descriptives of personality traits are shown in Table 1. The mean intercorrelations of the NEO-FFI scales ( $m = .39$ , range: .10–.73) were not significantly different from those reported by Borkenau and Ostendorf (1993), and were comparable across the assessments,  $\chi^2 (n = 339, df = 2) < 3.00, ns$ , with the exception of a higher negative correlation between shyness and

sociability at Time 3,  $Chi^2 (n = 339, df = 2) = 8.44, p < .01$ . Shyness and sociability were both related to extraversion. Hierarchical regression analyses showed that shyness accounted for 44%, and sociability for an additional 16% of the variance (Time 1). Also, self-esteem and shyness were related to neuroticism: Shyness accounted for 20%, and self-esteem for an additional 30% of the variance (Time 1).

### Stability and Change of Personality Traits

We estimated univariate latent growth models (LGM; Willett & Sayer, 1994) for each personality trait using Mplus. LGMs examine mean-level change and individual differences in change in one model, controlling for measurement errors. Two latent factors—the latent intercept and the latent slope—represent the initial level and the growth trajectory of a trait. The mean of the intercept indicates the mean trait level of the sample at Time 1, while its variance reflects the amount of individual differences at Time 1. The slope mean describes the amount of change at the sample level, while its variance points to individual differences in the amount of change. The shape of the growth trajectory can be modeled by constraining the path coefficients from the latent slope to the measurement occasions.

**Table 1**  
Means, Standard Deviations, and Stability of Personality Traits

Scale	<i>M</i>			<i>SD</i>			Rank-Order Stability		
	T1	T2	T3	T1	T2	T3	<i>r</i> <sub>12</sub>	<i>r</i> <sub>23</sub>	<i>r</i> <sub>13</sub>
	Big Five								
Neuroticism	2.64	2.59	2.49	0.63	0.64	0.63	<b>.63</b>	<b>.66</b>	<b>.55</b>
Extraversion	3.40	3.40	3.41	0.56	0.55	0.56	<b>.59</b>	<b>.69</b>	<b>.57</b>
Agreeableness	3.66	3.69	3.75	0.46	0.46	0.42	<b>.56</b>	<b>.58</b>	<b>.52</b>
Conscientiousness	3.71	3.85	3.90	0.55	0.56	0.50	<b>.63</b>	<b>.65</b>	<b>.60</b>
	Other Traits								
Shyness	2.60	2.51	2.49	0.85	0.83	0.80	<b>.63</b>	<b>.70</b>	<b>.61</b>
Sociability	3.46	3.46	3.41	0.68	0.64	0.68	<b>.53</b>	<b>.62</b>	<b>.47</b>
Self-esteem	3.91	3.96	4.03	0.66	0.67	0.62	<b>.49</b>	<b>.56</b>	<b>.45</b>

Note:  $N = 339$ .

Significant rank-order stabilities (*rs*) are written in boldface ( $ps < .05$ ).

Based on past research indicating that rates of personality change over shorter time periods are not very high (e.g., Roberts et al., 2006), we decided to use the whole observation period of 8 years as the reference time span, and scaled the growth curve by fixing the path from the latent slope to Time 3 measurement on the value of 1. The scaling permits the path loading at Time 2 to be interpreted in terms of percentages of growth (McArdle & Bell, 2000). In addition, we considered different rates of change by allowing the free estimation of the path from the slope to the Time 2 measurement (Ferrer, Hamagami, & McArdle, 2004). With this approach, we did not test models that assume the same amount of change between two subsequent time periods (i.e., slope coefficients of 0, 0.5, 1), but models that deviate from this pattern (e.g., a curvature of 0, 0.3, 1 indicating that 30% of the overall growth occurs between Time 1 and Time 2 and 70% between Time 2 and Time 3). Thereby, we attempted an empirical approach to represent the shape of the growth curve rather than assuming a priori a definition of curvature (Ferrer & McArdle, 2003). The error variances of the manifest variables were constrained to being equal over time due to reasons of model identification. The fit indices of all models indicated good fit (all RMSEA < .05,  $\chi^2$  between 0.21 and 3.59,  $df = 2$ ), except for agreeableness, conscientiousness, and self-esteem. Inspection of descriptive statistics and modification indices indicated that the assumption of equal error variances over time did not hold for these traits (Willett & Sayer, 1994). Thus, we applied the following two-step approach: First, we constrained the error variances to be equal and estimated the Time 2 path coefficient. Second, we fixed the path to the obtained value and set the error variances free. The  $\chi^2$ -difference test showed that model fit improved significantly ( $\Delta\chi^2 = 3.96$ ,  $\Delta df = 1$  for agreeableness,  $\Delta\chi^2 = 7.41$ ,  $\Delta df = 1$  for conscientiousness,  $\Delta\chi^2 = 6.84$ ,  $\Delta df = 1$  for self-esteem).

The univariate LGM results for personality traits are shown in Table 2. The means of the latent intercepts correspond with the observed means of the traits at Time 1, and the significant variance of intercepts point to the amount of reliable individual differences at Time 1. All traits except extraversion and sociability showed substantial mean-level change over 8 years as reflected by the significant slope means. In addition, all traits showed substantial individual differences in change as represented by the significant slope variances, except agreeableness, which was marginally significant ( $p < .10$ ).

**Table 2**  
Univariate Latent Growth Curve Results for Personality Traits

Scale	Slope Loading at Time 2 <sup>a</sup>	Intercept		Slope	
		<i>M</i>	$\sigma^2$	<i>M</i>	$\sigma^2$
Neuroticism	.50	2.64	<b>.27</b>	–.14	<b>.09</b>
Extraversion	.88	3.40	<b>.22</b>	.02	<b>.08</b>
Agreeableness	.25	3.66	<b>.12</b>	<b>.09</b>	<i>.06</i>
Conscientiousness	.71	3.71	<b>.27</b>	<b>.20</b>	<b>.13</b>
Shyness	.92	2.60	<b>.53</b>	–.10	<b>.13</b>
Sociability	.71	3.46	<b>.30</b>	–.03	<b>.16</b>
Self-esteem	.50	3.90	<b>.25</b>	<b>.13</b>	<b>.15</b>

Note:  $N = 339$ .

Intercept and slope are parameters from the univariate latent growth model (values in boldface are significant at  $p < .05$ , values in italics were significant at  $p < .10$ ).

<sup>a</sup>Slope loadings from the latent personality slope parameter to the personality measure at Time 2; slope loadings at Time 1 = 0, slope loadings at Time 3 = 1.

The slope loadings at Time 2 suggested that—with the exception of neuroticism and self-esteem—change in all traits indeed followed a nonlinear pattern. Change in agreeableness for example, was stronger between Time 2 and Time 3 (indicated by a slope loading  $< .50$ ), whereas change in the other traits was stronger between Time 1 and Time 2 (indicated by slope loadings  $> .50$ ). Neuroticism and self-esteem followed a linear pattern of change (i.e., a uniform pattern of decline in neuroticism and a uniform pattern of increase in self-esteem).

In order to control for age and gender differences, we estimated conditional growth curve models and predicted the intercepts and slopes by age and gender. Gender was significantly related to some intercept parameters reflecting that women had higher initial scores in agreeableness, neuroticism, and sociability and lower scores in self-esteem ( $\beta$ s  $< .24$ ,  $\Delta R^2 < .086$ ). Age was significantly associated with the intercepts of conscientiousness and extraversion ( $\beta$ s  $< .027$ ,  $\Delta R^2 < .038$ ), suggesting that older individuals were initially more conscientious and less extraverted than others. In contrast, age and gender were largely unrelated to the slope parameters, with two exceptions: Changes in conscientiousness ( $\beta = -.018$ ,  $\Delta R^2 = .036$ ) and sociability ( $\beta = -.020$ ,  $\Delta R^2 = .037$ ) were related to age, suggesting that older participants changed less in these traits. Thus apart from

these effects, we ruled out that age and gender differences predicted individual differences in personality change.

### Aggregation of Social Network Relationships

The network approach allows studying various relationships on different indicators of relationship qualities. We calculated aggregate measures of relationship quality across two distinct relationship categories, *family* and *peer* relationships. Family relationships included parents, siblings, and grandparents (mean number of family members at Time 2 = 3.6, *SD* = 1.5), while peer relationships were composed of friends and colleagues (mean number of peers at Time 2 = 8.2, *SD* = 5.6). Indicators of relationship quality at Time 2 were consistent for peer (Cronbach's  $\alpha$ : insecurity = .69; closeness = .58; contact = .55; conflict = .52) and family relationships (insecurity = .66; closeness = .66; contact = .62; conflict = .53). Mean levels, standard deviations and rank-order stabilities of all relationship qualities are shown in Table 3. The moderate levels of stability were comparable to those found in other social network studies (e.g., Asendorpf & Wilpers, 1998). Mean correlations over three

**Table 3**  
Means, Standard Deviations, and Stability of Relationship Variables

Scale	<i>M</i>			<i>SD</i>			Rank-Order Stability		
	T1	T2	T3	T1	T2	T3	<i>r</i> <sub>12</sub>	<i>r</i> <sub>23</sub>	<i>r</i> <sub>13</sub>
	Peers								
Insecurity	1.67	1.63	1.64	.61	.58	.57	<b>.34</b>	<b>.43</b>	<b>.37</b>
Closeness	3.29	3.29	3.30	.57	.55	.53	<b>.39</b>	<b>.30</b>	<b>.23</b>
Conflict	1.90	1.89	1.84	.52	.51	.55	<b>.34</b>	<b>.34</b>	<b>.23</b>
Contact	2.97	2.82	2.75	.98	.96	.92	<b>.20</b>	<b>.28</b>	.11
	Family								
Insecurity	1.47	1.47	1.50	.64	.61	.62	<b>.37</b>	<b>.46</b>	<b>.29</b>
Closeness	4.09	4.13	4.08	.75	.74	.75	<b>.38</b>	<b>.49</b>	<b>.41</b>
Conflict	2.43	2.35	2.27	.64	.65	.64	<b>.35</b>	<b>.36</b>	<b>.27</b>
Contact	3.13	2.78	2.50	1.25	1.11	1.16	<b>.51</b>	<b>.55</b>	<b>.40</b>

*Note:* *N* = 300 for Peer relationships, *N* = 310 for Family relationships. Significant rank-order stabilities (*rs*) are written in boldface (*ps* < .05).

measurement occasions between relationship qualities for family and peer relationships were  $r = .14$  for contact,  $r = .15$  for conflict and closeness, and  $r = .44$  for insecurity, indicating that these were conceptually and empirically distinct relationship categories.

### Stability and Change of Peer and Family Relationships

We computed univariate growth models in the same fashion as for the personality traits (Table 4). Fit indices were excellent for all models ( $\chi^2 < 2$ ,  $df = 2$ ,  $RMSEA < .01$ ). At Time 1, all relationship measures were characterized by reliable individual differences (i.e., significant intercept variances). Again, the shape of the growth curves did not follow a linear pattern as reflected by the Time 2 slope loadings. For example, conflict in family relations almost constantly decreased over 8 years, whereas contact with family members and peers decreased more strongly during the first 4 years. The slope loadings of insecurity in peer relationships and closeness in family relationships indicated curvilinear trends (i.e., increases between Time 1 and Time 2 and decreases between Time 2 and Time 3).

**Table 4**  
Univariate Latent Growth Curve Results for Relationships With Peers and Family Members

Relationship measure	Slope Loading at Time 2 <sup>a</sup>	Intercept		Slope	
		<i>M</i>	$\sigma^2$	<i>M</i>	$\sigma^2$
Peer Relationships					
Insecurity	1.15	1.67	<b>.18</b>	-.03	<i>.07</i>
Closeness	.33	3.29	<b>.14</b>	.01	<b>.10</b>
Contact	.78	2.97	<b>.34</b>	-.21	<b>.33</b>
Conflict	.33	1.90	<b>.11</b>	-.06	<b>.13</b>
Family Relationships					
Insecurity	.73	1.47	<b>.21</b>	.01	<b>.17</b>
Closeness	1.13	4.08	<b>.29</b>	.03	<i>.10</i>
Contact	.60	3.16	<b>.98</b>	-.64	<b>.67</b>
Conflict	.54	2.43	<b>.16</b>	-.16	<i>.09</i>

Note:  $N = 310$  (Family),  $N = 300$  (Peers).

Intercept and slope are parameters from the univariate latent growth model (values in boldface are significant at  $p < .05$ , values in italics were significant at  $p < .10$ ).

<sup>a</sup>Slope loadings from the latent relationship slope parameter to the relationship measure at Time 2; slope loadings at Time 1 = 0, slope loadings at Time 3 = 1.

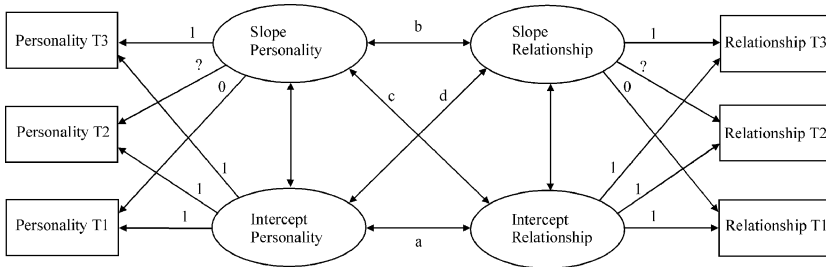
Regarding peer relationships, significant individual differences in change were observed for each relationship quality except insecurity, which was marginally significant ( $p < .10$ ), suggesting that participants differed reliably in their individual trajectories of peer relationship quality. Regarding family relationships, significant individual differences in change were observed for contact and insecurity, whereas closeness and conflict were stable.

Conditional growth models revealed that initial levels and change in contact with peers and family members were partly related to gender and age. We found that women felt closer to their friends, reported less conflict, and more contact with their friends than men ( $\beta s < .178$ ,  $\Delta R^2 < .151$ ). Age accounted for intercept variance in conflict and contact in family relations and contact in peer relationships suggesting that older participants had less conflict with family members and less contact with family and friends ( $\beta s < -.133$ ,  $\Delta R^2 < .261$ ). However, the slope parameters were largely independent of age and gender, with two exceptions: Age predicted a steeper decrease in contact with family of origin ( $\beta = .101$ ,  $\Delta R^2 = .223$ ) and with peers ( $\beta = .049$ ,  $\Delta R^2 = .111$ ). Thus apart from these effects, we ruled out that age and gender differences were related individual differences in relationship change over 8 years.

### Bivariate Latent Growth Curve Models of Change in Personality and Relationships

To test the associations between personality and relationships, we conducted bivariate LGMs that combined two univariate LGMs by relating the growth parameters of two variables (i.e., latent intercepts and latent slopes of personality and relationship experience, see (Figure 1). The Time 2 slope coefficients were fixed to the values obtained in the univariate models.<sup>1</sup> Although we did not attempt to enhance model fit, all 56 models showed good to excellent fit according to  $\chi^2$  ranging from 3.6 to 25.4 with a mean of 12.1 for models with 15 degrees of freedom (i.e.,  $df = 13$  for models with free error

1. We tested whether this procedure artificially improved model fit by gaining 2 degrees of freedom. Neither fit indices nor structural coefficients in the bivariate models differed between models with freely estimated path coefficients and models with path coefficients fixed to the values obtained in the univariate models. With fixed path coefficients we guaranteed the comparability of the univariate and bivariate models.



**Figure 1**

Bivariate latent growth model of personality and relationships. Latent variables are indicated by circles and manifest variables by rectangles. Time 2 slope loadings were freely estimated. Intercept-intercept correlations (*a*) refer to concurrent relations between personality and relationships; slope-slope correlations (*b*) refer to correlated change; intercept-slope correlations refer to relationship effects on individual differences in personality change (*c*) and personality effects on individual differences in relationship change (*d*).

variances), RMSEA ranging between .00 and .05, and CFI between .95 and 1.00. Four different effects were tested simultaneously in one model: (a) concurrent relations of personality traits with relationship measures at Time 1 (intercept-intercept correlations); (b) correlated change of personality and relationship experiences reflecting whether and to what extent individual differences in personality change went hand in hand with individual differences in relationship change (slope-slope correlations); (c) cross-lagged relations indicating whether and how initial relationship quality at Time 1 predicted change in personality (intercept-slope correlations); (d) cross-lagged relations of initial personality traits with change in relationships (intercept-slope correlations). Because we tested 56 models, we fixed the *p*-level at .01, in order to avoid false positive findings due to Type I error (Table 5). The overall pattern of results met our expectations. Most significant relationships were found in terms of concurrent relations and correlated change and only one direct effect of personality on relationship change occurred. Despite the similarities in the pattern of significant relationships, family and peer relationships differed in the effects of specific trait-relationship combinations.

### *Family Relationships*

From the bivariate LGMs of family relationships and personality traits, we identified eight concurrent relations, two instances of

**Table 5**

**Concurrent Relations and Correlated Change of Personality Traits With Qualities of Peer and Family Relationships**

	Concurrent Relations (path a) <sup>a</sup>				Correlated Change (path b) <sup>a</sup>										
	Insecurity	Closeness	Conflict	Contact	Insecurity	Closeness	Conflict	Contact							
	Peers	Family	Peers	Family	Peers	Family	Peers	Family							
Neuroticism	<b>.41</b>	<b>.51</b>	-.17	.13	<b>.40</b>	-.08	.03	<b>.55</b>	<b>.82</b>	-.41	-.19	.25	.52	-.59	.12
Extraversion	-.28	-.22	<b>.36</b>	-.08	-.10	.04	-.10	-.41	-.42	.13	.38	.07	-.09	.16	-.14
Conscientiousness	-.33	-.12	.02	<b>.27</b>	-.14	-.26	-.07	-.30	-.22	.04	.24	-.10	-.31	.09	-.12
Agreeableness	-.20	-.08	<b>.25</b>	.07	-.20	-.37	.19	-.04	.01	-.06	.31	.03	-.36	-.22	.33
Shyness	<b>.33</b>	.22	-.24	-.16	-.01	.20	.08	.15	<b>.70</b>	.35	-.18	-.27	-.01	.64	.29
Sociability	-.18	-.12	<b>.26</b>	.14	.09	-.03	.01	-.08	-.26	-.23	.03	.44	-.00	-.01	-.07
Self-esteem	-.41	-.44	<b>.26</b>	<b>.29</b>	-.08	-.40	-.13	-.07	-.16	-.44	.33	.08	.15	.01	.09
	Relationship—Personality Change (path c) <sup>a</sup>				Personality—Relationship Change (path d) <sup>a</sup>										
Neuroticism	-.10	.28	.29	.22	-.05	-.17	.27	-.02	-.07	-.25	.19	-.07	-.23	-.47	-.09
Extraversion	.23	.23	-.19	-.21	.04	.14	-.07	.09	.10	.15	-.10	-.19	.00	.13	.06
Conscientiousness	.06	.09	-.03	-.21	.13	.21	-.03	.04	.16	-.02	.03	-.28	.12	.26	.21
Agreeableness	-.03	-.14	-.18	-.01	.18	.16	-.24	.16	.20	.05	-.09	.12	.19	.29	-.31
Shyness	.35	-.01	.21	.21	.14	-.15	-.22	-.02	-.12	-.07	.02	.11	-.00	-.29	-.26
Sociability	.23	.05	-.10	-.26	-.04	-.01	.08	-.08	.10	.02	-.03	-.11	.05	-.01	.05
Self-esteem	.11	.30	-.26	-.33	-.08	.14	-.01	.06	-.16	.15	-.24	.01	.08	.41	.27

Note: N = 310 (Family relationships), N = 300 (Peer relationships) Significant coefficients are typed in boldface (ps < .01).

<sup>a</sup>Structural coefficients refer to the paths in Figure 1.

correlated change, and one correlation between initial personality scores and later relationship change (Table 5). The concurrent relations indicated that relationship experiences with family members were indeed correlates of basic personality traits. That is, with the exception of extraversion and its sub-facets (i.e., shyness and sociability), individual differences in each personality trait were substantially related to relationship experiences. Beyond concurrent relations, we found that individual differences in change in insecurity with family members were substantially related to change in neuroticism and self-esteem reflecting that the differential decrease in insecurity was accompanied by increasing emotional stability (i.e., decrease of neuroticism, and increase of self-esteem). Whereas we did not find any relationship effect on personality change, we observed one personality effect on relationship change, suggesting that higher initial levels of neuroticism were associated with lower rates of decrease in conflict over the next 8 years.

### *Peer Relationships*

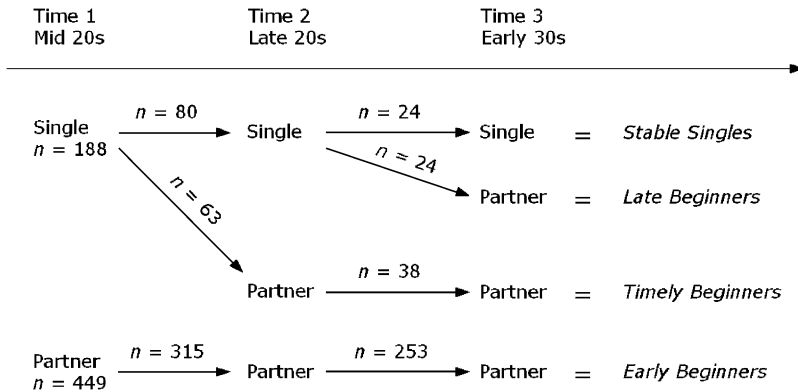
We found 11 concurrent relations and 3 instances of correlated change, but we did not observe any cross-lagged correlation (Table 5). At the cross-sectional level, individual differences in peer relationship were substantially related to individual differences in each personality trait. Thus, unlike family relationships, peer relationships were also related to extraversion and its sub-facets, sociability and shyness. Over 8 years, decreases in neuroticism and shyness were both associated with substantial decrease in insecurity in the presence of peers, and decrease of neuroticism was associated with increase in peer contact.

### **Normative Relationship Transitions and Personality Change**

To test transition effects on personality change, we corrected personality measures at each assessment for age and gender differences (i.e., with multiple regression procedures). With this procedure, we ensured that the estimated transition effects on personality development were independent of age and gender differences at Time 1.

### *Transition to Partnership*

To study the effects of the first partnership we used a prospective design (Figure 2), and identified four different groups of participants:



**Figure 2**

Prospective design of the transition to the first partner relationship.

*stable singles* (participants who remained single over all the 8 years), *timely beginners* (participants who entered into a partnership between Time 1 and Time 2), *late beginners* (participants who entered into a partnership between Time 2 and Time 3), *early beginners* (participants who had already been in a relationship at Time 1).<sup>2</sup> Due to panel attrition, the sample sizes of the groups decreased from Time 1 to Time 3. Of the 188 single participants at Time 1, 143 (70%) and 86 (46%) participants responded at Time 2 and Time 3, respectively. Of the 449 participants who had been in a serious relationship at Time 1, 315 (70%) and 253 (56%) responded at Time 2 and Time 3, respectively. We carefully analyzed attrition for each subgroup by comparing the personality traits between responders and non-responders at the preceding assessment, and did not observe any differences,  $ts < 1.2$ , *ns*. Thus, we considered the ultimate groups of stable singles ( $n = 24$ ), late beginners ( $n = 24$ ), timely beginners ( $n = 38$ ) as representative of the starting group of singles ( $n = 188$ ), and early beginners ( $n = 253$ ) as representative of the starting group of participants in a partner relationship ( $n = 449$ ). At the beginning of

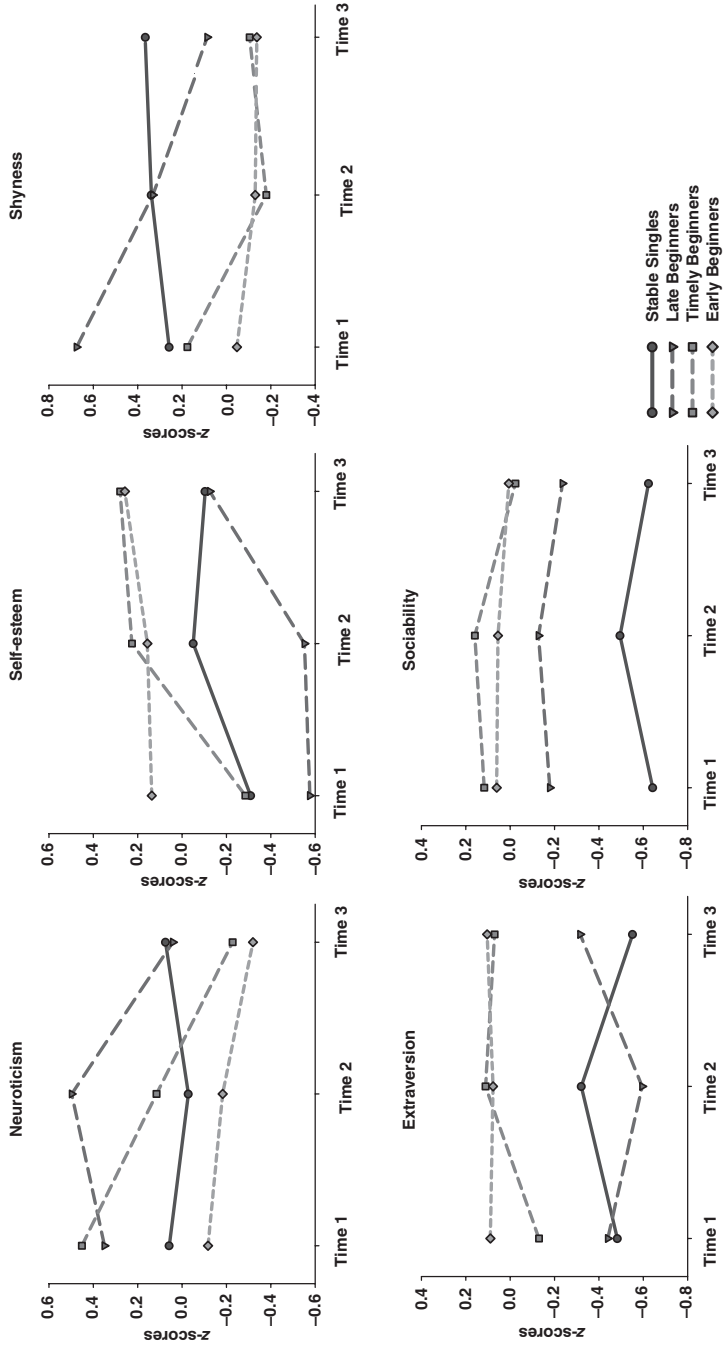
2. With respect to the early and timely beginners, we did not differentiate between those who remained with the same partner and those who had a different or no partner at a subsequent assessment because with this analysis we were only interested in the effect of beginning a serious partner relationship, not in the effect of separation or partner change. Nevertheless we studied the effects of change in partnership status in a separate analysis to be discussed later.

the study, the singles reported a less socially desirable personality profile, with higher levels of neuroticism,  $t(635) = 4.68$ ,  $p < .001$ ,  $d = .40$ , and shyness,  $t(635) = 3.64$ ,  $p < .001$ ,  $d = .31$ , and lower levels of self-esteem,  $t(635) = 5.18$ ,  $p < .001$ ,  $d = .44$ , conscientiousness,  $t(635) = 2.82$ ,  $p < .01$ ,  $d = .24$ , and extraversion,  $t(635) = 2.36$ ,  $p < .05$ ,  $d = .20$ . Agreeableness and sociability were comparable between the groups,  $t(635) < 1.10$ , *ns*.

As in our previous investigation, we analyzed the effects of the first partnership by comparing personality change of the stable singles and the beginners. We used analyses of covariance (ANCOVAs) to predict a specific personality trait by group membership while controlling for individual differences in the given trait at the preceding assessment (see Neyer & Asendorpf, 2001, for a detailed description). We compared 80 stable singles and 63 beginners after Time 2 and observed that the transition to a first partner relationship was associated with significant decreases in neuroticism,  $F(1, 143) = 6.95$ ,  $p < .01$ ,  $\eta^2 = .05$ , and shyness,  $F(1, 143) = 7.47$ ,  $p < .01$ ,  $\eta^2 = .05$ , and significant increases in extraversion,  $F(1, 143) = 8.36$ ,  $p < .01$ ,  $\eta^2 = .06$ , self-esteem,  $F(1, 143) = 6.09$ ,  $p < .05$ ,  $\eta^2 = .04$ , and conscientiousness,  $F(1, 143) = 7.37$ ,  $p < .01$ ,  $\eta^2 = .05$ .<sup>3</sup> With the third assessment we were able to replicate the analyses with independent subsamples and compare the trajectories of stable singles ( $n = 24$ ) and late beginners ( $n = 24$ ). Results showed that emerging partnerships between the second and third assessment were once more associated with decreases in neuroticism,  $F(1, 48) = 3.15$ ,  $p < .08$ ,  $\eta^2 = .07$ , and shyness,  $F(1, 48) = 1.96$ ,  $p < .16$ ,  $\eta^2 = .04$ , and increases in extraversion,  $F(1, 48) = 3.38$ ,  $p < .07$ ,  $\eta^2 = .07$ , and self-esteem,  $F(1, 48) = 2.79$ ,  $p < .10$ ,  $\eta^2 = .06$ . Change in conscientiousness was unrelated to the transition,  $F(1, 48) < 1$ . Thus with one exception, the transition effects during the first time interval were replicated during the second interval with comparable effect sizes ( $\eta^2 > .04$ ), despite the fact that due to small sample sizes, alpha levels were less strict ( $ps < .16$ ).

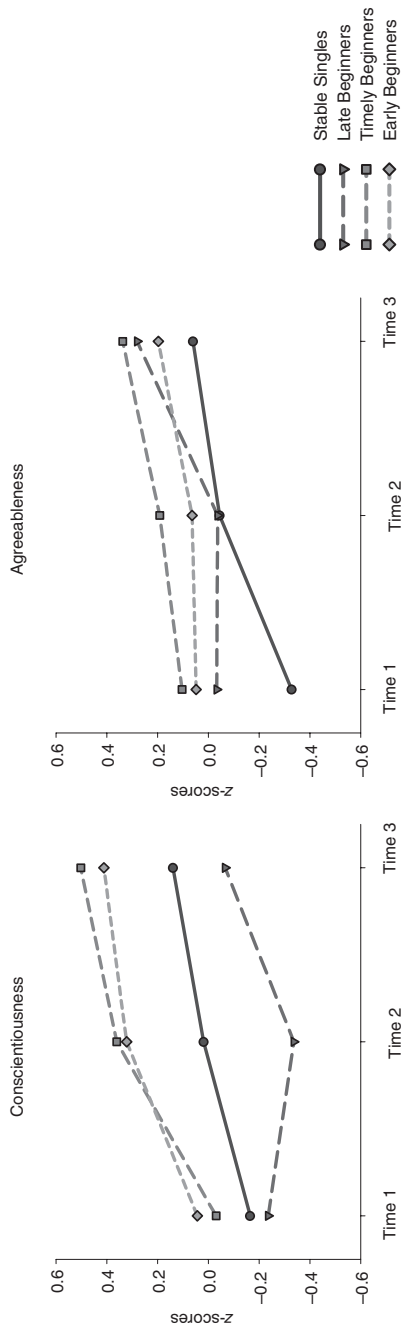
The trajectories of mean level changes of the panel sample ( $n = 339$ ) are illustrated in Figure 3. Whereas the neuroticism of the timely beginners decreased during the first and the second time interval, the neuroticism of the late beginners decreased markedly during the second interval. Thus neuroticism started to decrease

3. These effects were reported by Neyer and Asendorpf (2001, p. 1197).



**Figure 3**

Mean level change in personality traits in stable singles, late beginners, timely beginners, and early beginners (panel sample  $N = 339$ ).



**Figure 3 Continued**

when singles entered into a partner relationship for the first time, whereas neuroticism remained fairly stable in the stable singles and in the early beginners. This pattern was also observed for related traits. During transition, the timely beginners and the late beginners increased in self-esteem and decreased in shyness. In contrast, self-esteem and shyness were fairly stable in stable singles and in early beginners.

Extraversion increased during transition in timely beginners and in late beginners. Again, no change appeared in intervals without transition. The stable singles' extraversion increased slightly during the first but decreased during the second interval, whereas the early beginners' extraversion did not change. Sociability remained fairly stable in each group. Conscientiousness increased substantially during transition (i.e., during the first interval in timely beginners and during the second interval in late beginners). However, it also increased in the two other groups; hence, we cannot fully attribute the change to the relationship experiences during transition. Agreeableness tended to increase slightly in each group.

*Who finds a partner?* We used personality traits at Time 1 to predict which of the 86 singles (i.e., 24 stable singles vs. 62 timely and late beginners) entered into a first partner relationship over the next 8 years. Using logistic regression, the best-fitting model (73.3% correct classifications,  $-2 \log\text{-likelihood} = 90.19$ , Pseudo  $R^2 = .18$ ) indicated that sociability (Odds ratio  $B = 3.09$ ,  $p < .01$ ) and neuroticism (Odds ratio  $B = 2.69$ ,  $p < .05$ ) predicted the emergence of partner relationships. Thus, if a single at Time 1 had scored 1  $SD$  higher in sociability (or neuroticism) as compared with other singles, he or she was 3.09 times (or 2.69 times) more likely to begin the first serious partner relationship within the next 8 years.

Inspection of the  $z$ -scores at Time 1 (standardized using the distribution of the Time 1 representative sample,  $n = 637$ ) indicated that the beginners displayed average levels of sociability ( $M = .00$ ,  $SD = 1.10$ ), whereas the stable singles scored more than half a standard deviation below ( $M = -.64$ ,  $SD = 1.20$ ),  $t(84) = 2.36$ ,  $p < .02$ ,  $d = .51$ . Regarding neuroticism, the beginners were higher than average ( $M = .41$ ,  $SD = 1.20$ ), whereas the stable singles were average ( $M = .06$ ,  $SD = .94$ ),  $t(84) = 1.25$ ,  $ns$ ,  $d = .27$ ). These differences suggested that compared with other young adults, the stable singles viewed themselves as highly unsociable, but emotionally quite stable (see also Figure 3).

*Partnership Instability*

The group of early beginners ( $n = 253$ ) consisted of two subgroups: those who were continuously involved in a relationship with the same partner ( $n = 142$ , *stable partners*), and those who ended their relationship and reported a different or no partner at a subsequent assessment ( $n = 111$ , *changers*). At Time 1, the stable partners and changers were comparable in each personality trait,  $t_s(251) < 1.3$ , *ns*. Over time, the trajectories of change were also comparable,  $F_s < 2$ , with one exception. Changers became more extraverted, while stable partners did not change,  $F(1, 253) = 3.82$ ,  $p < .05$ ,  $\eta^2 = .02$ .

**DISCUSSION**

We investigated personality-relationship transactions in young adults from their mid 20s to their early 30s. This period of life represents the passage from emerging to young adulthood, when people typically make choices of life paths and commitments to intimate relationships. Our study demonstrates that personality development at this age is characterized by individual differences in change, which are substantially associated with life transitions and relationship experiences. Three major results paint a differentiated picture of personality-relationship transaction. First, individual differences in personality change were related to change in two relationship categories, family and peer relations, supporting the assumption of correspondence between personality and relationship development. Second, the transition to the first serious partner relationship moderated the maturation of personality. This effect was replicated over two subsequent time intervals with independent subgroups. Third, higher neuroticism and higher sociability at about age 24 predicted whether singles entered into a first partnership during the following 8 years.

**STABILITY AND CHANGE OF PERSONALITY AND RELATIONSHIPS**

The general pattern of mean-level change (e.g., increases in conscientiousness, agreeableness, and self-esteem, and decreases in neuroticism and shyness) indicated the maturation of personality, as was suggested by Allport (1961) and also reported in past research (e.g.,

Roberts et al., 2001, 2003, 2006; Robins et al., 2001; Srivastava et al., 2003; Vaidya et al., 2002). The maturation of personality reflects general changes during the transition from emerging to young adulthood (Arnett, 2000). Because emerging adults may still have the opportunity to explore a variety of possible life purposes in relationships and worldviews, they may show considerable levels of emotional instability. As young adults, however, many have started taking on the enduring responsibilities that are normative in adulthood and require a certain degree of emotional stability, social reliability, and maturity. At the same time, we observed individual differences in change in each trait (except agreeableness) indicating that participants differed reliably in their individual rates of change. Interestingly, we even observed individual differences in change in extraversion and sociability, although these traits did not change at the mean level. Our conclusion from the growth curve analyses differs, therefore, from what one would expect from the traditional view on mean-level and rank-order change: Personality development in young adulthood is characterized by individual patterns of change because young adults differ in timing and rate of maturation.

Social relationships changed in a way typical for the passage from emerging to young adulthood. Relationships with family members and peers decreased in terms of contact frequency, possibly because a majority of our participants pursued to engage in a partner relationship and to build up one's own family. And indeed, after the 8 years, more and more participants had engaged in partner relationships, reflecting the fact that investments in age-graded social roles are indeed normative in young adulthood. Nevertheless, 7% of our participants had not experienced any partner relationship, suggesting that diverse patterns of lifestyle and relationship development exist throughout young adulthood. Despite these changes, the average level of emotional closeness with family of origin remained unchanged, which is consistent with past research (e.g., Aquilino, 1999; Rossi & Rossi, 1990). At the same time, the individual trajectories of family and peer relationships differed markedly. For example, even though peer relationships did not change at the mean level (with one exception), almost each relationship quality was characterized by individual differences in change reflecting the diversity of relationships at the transition from emerging to young adulthood. We found this diversity makes a difference in personality development, and studied personality-relationship transactions in two ways. First, we related individual

differences in personality change to individual differences in change of relationship experiences. Second, we used a prospective design and showed how differential personality maturation was affected by individual differences in the transition to the first partnership.

### **PERSONALITY CHANGE IS ASSOCIATED WITH CHANGE IN PEER AND FAMILY RELATIONSHIPS**

We used bivariate latent growth models to study how differences in personality change were related to change in peer and family relationships. As expected, we observed concurrent associations and a certain amount of correlated change, whereas we found only one cross-lagged effect of personality on later relationship change. Three main results can be summarized. First, substantial concurrent associations between personality and relationship measures reflected that personality-relationship fits had already been established at the beginning of our study; that is, a person's relationships can be viewed as correlates of her basic personality traits. In particular, the positive qualities of relationships were consistently related with nearly every personality trait suggesting that better-adjusted young adults maintained relationships that were characterized by higher levels of closeness and lower levels of insecurity and conflict.

Second, personality change over 8 years went hand in hand with relationship change. Correlated change is a kind of personality-relationship transaction through which the cumulative stability of both personality and relationships may come about. In particular, young adults who, over 8 years, experienced a decrease in insecurity with peers or family members decreased more than others in neuroticism and related traits, that is to say, self-esteem and shyness. In addition, a differential increase in neuroticism was related to decreases in contact with peers. It also appeared that correlated change occurred beyond the initial personality-relationship fit (e.g., regarding the associations of relationship insecurity with neuroticism). That is, less neurotic participants had probably selected relationships where they felt less insecure and more comfortable. Over the next 8 years, however, they became even less neurotic to the extent that relationship insecurity decreased further. This transaction, of course, also points toward the other direction, suggesting that young adults higher in neuroticism than others select insecure relationships that, over time, lead to increasing neuroticism and relationship insecurity. Our

findings suggest that both personality and relationships may continue to co-develop into later stages of adulthood.

Third, as expected, cross-lagged relations were generally not detected, with one notable exception: higher initial levels of neuroticism predicted less decline in family conflict. That is, the general decline of family conflict that we had observed from the univariate LGMs was decelerated in those individuals who started with higher initial levels of neuroticism. That we observed one personality effect but no relationship effect indeed fits with our prior conclusion that personality effects in general have primacy over relationship effects (Neyer & Asendorpf, 2001). Having said this, we believe the pattern of our present findings is more meaningful for the following reasons: First, because the three times of assessment were chosen arbitrarily, it was impossible to fix the beginning and ending of a unique influence of one factor on change in the other factor. Therefore, it appeared reasonable to interpret the observed amounts of correlated change as results of continuous personality-relationship transaction. Second, we aggregated relationship measures across similar kinds of relationship to get more consistent relationship measures as compared to our previous approach based on single relationships. Thus the personality and relationship measures were comparably reliable, leading to more robust findings. Third, we applied a more rigorous approach of bivariate LGM compared to multiple regressions used in our past research. We were able to simultaneously identify growth or decline in personality and relationships, as well as the over-time relations between the growths of both variables (Ferrer & McArdle, 2003). Our present results thus complement rather than contradict past findings because of the different level of aggregation, methodology, and time horizon. The only other study to date that has used a LGM approach for the study of personality-relationship transaction in adolescent-parent relationships yielded a similar pattern of results, with substantial concurrent relations, substantial correlated change, and very few cross-lagged relations (Branje et al., 2004).

### **PERSONALITY MATURATION IS ASSOCIATED WITH RELATIONSHIP TRANSITIONS**

We had expected relationship effects on personality change during the transition to the first partner relationships. And, indeed, this transition was associated with decreases in neuroticism and shyness,

and increases in extraversion and self-esteem. These results were replicated across the two 4-year intervals with different subsamples, suggesting individual patterns of personality maturation: Some participants underwent this transition earlier than others, and quite a sizeable minority of participants (7%) did not enter a partner relationship at all. The effect sizes were generally small, but two things should be borne in mind. First, it is generally difficult to detect interaction effects in longitudinal studies with heterogeneous samples, and, second, it is even more difficult to replicate them (Ahadi & Diener, 1989; McClelland & Judd, 1993; Prentice & Miller, 1992). We did both, and now have strong evidence that personality maturation in young adulthood is associated with forming the first partnership. Partner relationships are reciprocal attachment relationships, providing emotional security for both partners. In accordance with the *social investment principle* we conclude that the secure base of a stable and reliable partner relationship can be regarded as a reward structure reducing neuroticism and promoting psychosocial maturity.

The first partner relationship had a long-lasting effect on personality maturation of the timely beginners (i.e., participants who underwent the transition between the first and the second assessment). For example, entering into a partner relationship for the first time induced a lasting decrease in neuroticism. This conclusion is additionally supported by our observations that separating from, or changing, a partner was not associated with personality change, with one exception: partner change went hand in hand with increase in extraversion. In sum, we therefore confidently repeat our previous conclusion that, on average, “engaging in a serious partnership is a game you can only win” (Neyer & Asendorpf, 2001, p. 1200). Still, this heartwarming conclusion pertains to a period early in adulthood, and does not exclude the possibility that partner change or separation have different effects at different ages. Our replicated findings speak against the essentialist view on personality development proposed by McCrae and colleagues (2000), and we conclude that environmental influences on differential personality development in young adulthood emerge in the context of beginning partner relationships.

### **WHO FINDS A PARTNER?**

We predicted, based on the personality traits sociability and neuroticism assessed at the beginning of the study, which of the current

singles entered into their first serious relationships during the next 8 years. Specifically, the singles scoring one standard deviation higher in sociability than others were three times more likely to begin a partner relationship. And even more interestingly, higher rather than lower neuroticism was beneficial for finding a partner. Singles, one standard deviation higher in neuroticism than others, were also nearly three times more likely to engage in a partner relationship later on. In other words, higher neuroticism and higher sociability seems to motivate finding a partner. What are the psychological implications of this finding? Imagine a group of singles in their mid 20s being invited to a blind-date party. Two predictions can be made based on our results: On the one hand, the more neurotic and sociable singles would arrive on time, maybe a little bit earlier, because they would be highly motivated for social contact, yet, at the same time anxious and insecure. At the party, however, they would have some difficulties in getting in touch with others. On the other hand, what would be expected from the unsociable, less neurotic singles? They simply would not come because they feel relaxed given their generalized indifference towards social relationships.

We do not argue that higher neuroticism in young adulthood is “adaptive.” On the contrary, we contend that young adults’ higher neuroticism—paired with sociability—may reflect a motivational disposition longing for change in terms of searching a partner. Neuroticism is associated with being concerned with relationships and being alert to social situations. Thus it is likely that young adults high in neuroticism scan their environment carefully, are more apt to analyze their thoughts and feelings, and are more likely to discuss them with other people (Watson & Casillas, 2003). These singles probably need more time. In the end, however, they may well succeed, and neuroticism will decline. We do not downplay the long-term detrimental effects of neuroticism on relationship outcomes that have been so frequently reported. We rather argue that neuroticism in young adults may have positive side effects because it is probably associated with a stronger social motivation and a higher need for emotional closeness and attachment.

In comparison, unsociability appears to be associated with a generalized indifference towards relationships. We argue that unsociability (rather than increased neuroticism) may foretell a developmental path into adulthood so frequently reported in the literature, indicating that staying single, and being unmarried, is in

the long run associated with a risk of enduring unhappiness, a lack of social support, and reduced mental health (e.g., Horwitz, White, & Howell-White, 1996; Lucas, Clark, Georgellis, & Diener, 2003; Waite, 1995), impaired physical health status (e.g., Juster & Suzman, 1995), and reduced longevity (e.g., Hu & Goldmann, 1990). Our hypothesis that in young adulthood unsociability is a risk factor for later maladaptive development cannot be tested with our data, but we believe that it is worth being addressed by future research.

### **LIMITATIONS**

There are also some caveats that need to be considered. First, our study was quasi-experimental. Thus the evidence of causal links between personality and relationships is not conclusive, despite our longitudinal approach. A second caveat is related to the use of self-report measures. Thus, possible effects of social desirability and response sets cannot be ruled out, despite the replication of findings across measurements points. A third caveat pertains to the relatively large time intervals of 4 years between the assessments, which is why we necessarily were confined to the prediction, rather than the explanation, of stability and change. In addition, the patterns of change we identified with latent growth models reflect the trajectories in our sample and need to be replicated with other samples using more than three measurement points. Fourth, we used single-item measures for different aspects of the quality of relationship in the social network. Previous research has shown that social network items have sufficient retest reliability (see Asendorpf & Wilpers, 1998), and we derived consistent indices for the affective and structural features of peer and family relationships. Fifth, the relationship transition analyses relied on groups of decreasing size thus questioning the generalizability of the observed effects. This weakness was compensated for by the prospective study of an initially representative sample, which allowed controlling each transition group for attrition effects. We ruled out differential attrition.

### **CONCLUSIONS**

Our study has three implications for the understanding of personality development. First, personality development cannot be fully

understood without considering person-environment transactions, and the mechanisms of personality change cannot be studied without considering relationship contexts that accompany change. Second, personality change in young adulthood is likely to emerge in the context of transitions associated with the partner relationship. Third, our findings point to the importance of considering more precisely the meaning of certain traits for specific relationship outcomes, and vice versa. For example, not only did neuroticism predict the beginning of a partner relationship and change in response to the first partnership experience, but neuroticism was also consistently related to emotional ups and downs in relationships with peers and family of origin. We hope that future research builds upon our findings and continues the study of personality-relationship transaction into middle and old age, with a specific focus on particular traits and particular relationships.

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