

**This is an electronic reprint of the original article.
This reprint *may differ* from the original in pagination and typographic detail.**

Author(s): Fadjukoff, Päivi; Pulkkinen, Lea

Title: Identity Formation, Personal Control Over Development, and Well-Being

Year: 2006

Version:

Please cite the original version:

Fadjukoff, P., & Pulkkinen, L. (2006). Identity Formation, Personal Control Over Development, and Well-Being. In L. Pulkkinen, J. Kaprio, & R. Rose (Eds.), *Socioemotional development and health from adolescence to adulthood* (pp. 265-285). Cambridge University Press. Cambridge Studies on Child and Adolescent Health. <https://doi.org/10.1017/CBO9780511499784.019>

All material supplied via JYX is protected by copyright and other intellectual property rights, and duplication or sale of all or part of any of the repository collections is not permitted, except that material may be duplicated by you for your research use or educational purposes in electronic or print form. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone who is not an authorised user.

Identity Formation, Personal Control over Development, and Well-Being

Päivi Fadjukoff & Lea Pulkkinen

This paper addresses (1) the development of identity and personal control over development through adulthood; (2) their developmental background in early adolescence; and (3) their associations with adult psychosocial well-being and self-perceptions of health. Personal growth in the areas of identity and personal control over development was relatively stable from age 27 to 42, with earlier levels predicting later levels. Identity achievement was fostered by success in school and by a high occupational status of parents in the family of origin, whereas personal control over development was fostered by school success and the quality of parenting in early adolescence. Identity achievement facilitated psychological and social well-being and generativity, whereas personal control over development strongly contributed to psychological well-being. Physical well-being correlated with psychological well-being but was not directly explained by either of these measures. Person-oriented comparisons confirmed the significance of high diffusion in adult identity in respect to poor developmental background and poor psychosocial well-being in adulthood.

<A> Introduction

Individuals' conceptions of their personal goals have been studied in the psychology literature from different perspectives. In this chapter, the processes and implications of one's orientations and self-definitions were analyzed along two

dimensions: One's sense of identity, and the self-percepts of autonomous control over development. Several researchers (e.g., Archer, 1989; Brandtstädter & Baltes-Götz, 1990; Pulkkinen & Rönkä, 1994) have concluded, on the basis of literature reviews and empirical findings, that adaptive capacities are associated with a clear sense of identity and personal control over development. Although any given cultural and historical context confines the possible alternatives, an individual's developmental pathway is largely a result of intentional choices, based on his or her earlier and current self-definitions and identity (Brandtstädter, 2002).

Careful planning and elaboration of an individual's developmental paths is critical for personal development and the attainment of a high quality of life (Brandtstädter, 2002). We expected one's orientations and self-definitions to play a role in transferring the effects of developmental antecedents to later adjustment in life. The positive implications of favorable family circumstances and good school success have been affirmed in several studies (e.g. Magnusson, 1988; Masten & Coatsworth, 1998; Werner & Smith, 2001). Using the JYLS data, Pulkkinen, Nygren, and Kokko (2002) found that childhood developmental background directly accounted for adult social functioning consisting of external criteria: stability of career line, controlled drinking, and socialization. Even though this factor correlated with psychological functioning comprising self-esteem, psychological well-being, and satisfaction with life, such direct association was not confirmed between childhood antecedents and these internal well-being criteria.

These findings raised a question regarding possible mediators that could explain the connections between developmental background and adult psychological functioning. The role of personal self-definition and goals in the developmental process of psychological functioning was a specific target of the study presented in this chapter.

The purpose of the study was threefold. First, we analyzed personal growth in the dimensions of identity and personal control over development after early adulthood, as well as the interrelatedness of these two dimensions. Secondly, we investigated the implications of favorable family circumstances and good school success in early adolescence for identity achievement and personal control over development in adulthood. Finally, we analyzed whether positive progress in identity achievement or personal control over development contributed to positive outcomes in later personal well-being.

Data on both identity and personal control over development were collected at ages 27, 36, and 42 in the JYLS study, which warranted the comparison of these two measures at each age. The developmental background measures focused on age 14, and adult well-being was measured at age 42. Hence, the longitudinal study extended from early adolescence to middle age in the life span of the participants.

<A> Two Dimensions of Adaptive Psychological Functioning

 Identity Formation from Adolescence to Adulthood

“Identity is a self-structure -- an internal, self-constructed, dynamic organization of drives, abilities, beliefs, and individual history” (Marcia 1980, 159). Identity is generally referred to as a single or overall concept, but different content areas have to be taken into account in empirical research approaches. When first introducing the concept, Erikson (1950; 1968) considered occupational and ideological domains as essential to identity. Marcia (1966) further divided the ideological domain into political and religious identity sub-domains. Later, interpersonal domains were added to the concept

of identity (Grotevant, Thorbecke, & Meyer, 1982). The concept of identity therefore contains both ideological and interpersonal aspects. However, no general agreement now exists about what would constitute a specific set of domains that would comprehensively comprise the concept of identity. Instead, the number and area of identity domains vary slightly within numerous studies and methods. As Marcia (2001) noted, the domains have to be meaningful to the individuals studied and have some variability of choice permitted by the particular culture. An individual's identity formation is not uniform, but can proceed differently across different domain areas.

James Marcia (1966; 1993a) elaborated the concept of identity in his identity status theory, stating that identity develops through four distinct stages: diffusion, foreclosure, moratorium, and achievement. He described these identity statuses in terms of their position on two dichotomic dimensions: exploration and commitment. Usually, identity development proceeds at a different pace in different domains, depending on the individual's interests and environment. In identity diffusion (D), an individual does not have firm commitments, nor is he or she actively trying to form them. For instance, he or she has not made decisions and is not yet concerned about occupational preferences, and is uninterested in ideological matters. In foreclosure (F), commitments are made without an exploratory phase, typically by identifying with parents or with other authorities. A person simply tries to follow the paths and lifestyle of someone he or she looks up to without seriously considering other options. A person actively exploring alternative life choices without having yet committed to any has a moratorium (M) identity during this time. In other words, he or she is actively struggling to commit to, for instance, occupational goals, political stands or intimate relationships. Finally, an identity is achieved (A) when relatively firm commitments are made through a period of exploration. An achieved individual has, for example, deliberately made decisions

concerning his or her occupational preferences and lifestyle after considering several options.

Although the strict view of hierarchically ordered stage sequences to identity statuses has been renounced in further research, there is still a reasonably wide consensus about normal development proceeding in terms of a general diffusion--foreclosure--moratorium--achievement sequence. The identity achievement status is clearly the most developmentally sophisticated status, with diffusion being the least sophisticated, as was postulated in Erikson's theory (e.g., Berzonsky & Adams, 1999; Waterman, 1999).

Identity development research has primarily focused on adolescents, although the process neither begins nor ends during the adolescent years. Having reviewed existing published longitudinal investigations of identity status movements from late adolescence through early adulthood, Kroger (2000) suggested that, by early adulthood, approximately half of the participants in all of these studies had remained foreclosed or diffused across all identity domains. In the present study, we analyzed how identity continued to develop after early adulthood, and whether achievement, reached in either early or later adulthood, was associated with favorable outcomes in individual well-being. Specific interest was also focused on adults with consistent identity diffusion.

The Marcian semi-structured interview was carried out at ages 27, 36, and 42 as a part of the JYLS study. The interview included five domains through these three age stages: religious beliefs, political ideology, occupational career, intimate relationships, and lifestyle. The opening questions were as follows: "Do you have a personal relationship to religion?", "Do you have a political opinion?", "Do you have a conception of your occupational career?", "Do you have an idea of what you expect from a close relationship?", and "Do you have an idea of the lifestyle according to

which you would like to live?” In addition, the participants were asked for each domain about how they had acquired their views, for example, from significant others or by personal exploration. Each participant’s identity status (diffused, moratorium, foreclosed, or achieved) was assessed for each domain using two criteria: the firmness of personal commitment, and the presence (+) or absence (-) of a period of exploration or “crisis.” Using these dimensional categorizations, four identity statuses were defined: diffused (- [or past +] exploration, - commitment); moratorium (+ exploration at the moment, - commitment); foreclosed (- exploration, + commitment); and achievement (+ exploration, + commitment).

The process of identity formation from age 27 to ages 36 and 42 was described in another context (Fadjukoff, Pulkkinen, & Kokko, 2005). Generally, the data implied an increase of commitment with age: There was an increase in foreclosed identity from age 27 to 36, while identity achievement increased between the ages of 36 and 42. However, the findings showed great variability across the identity domains at each age level. Although a developmental pattern following the hypothesized sequence of diffusion-foreclosure-moratorium-achievement was the most frequent trajectory for both men and women in most domains, the most usual pattern of development in political identity was regressive toward diffusion. The rates of stability (remaining in the same status category through three measurement points) varied from 9% to 31%, depending on the domain.

For the present analyses, separate scales for each of the identity statuses were created at each measurement point (at ages 27, 36, and 42) on the basis of the number of domains in which the individual was in a particular status, following the procedure used by Pulkkinen and Rönkä (1994). In a five-domain interview, six-point scales (0 to 5) were produced. If an individual was located in the identity achievement category for two domains, in the foreclosure status for two domains, and in the moratorium status for

one domain, that person received a score of 2 for the Identity Achievement scale, 2 for the Foreclosure scale, 1 for the Moratorium scale, and 0 for the Diffusion scale. Identity Diffusion and Achievement scores were at each age level highly negatively correlated, (from $-.55$ to $-.62$), as could be expected from these statuses representing the opposite ends of the developmental identity continuum.

The correlation coefficients between the identity status scales across the measurement points demonstrated differences in the stability level of identity status scores: The scores in Diffusion and Achievement scales were the most stable (ages 27/36, $r = .38$; 36/42, $r = .53$ for Diffusion; ages 27/36, $r = .26$; 36/42, $r = .43$ for Achievement, $p = .000$ for each). The Moratorium Scale demonstrated no stability between the successive measurement points, and Foreclosure was stable only between ages 36 and 42 ($r = .25$, $p = .000$). These correlations indicated that individuals tended to remain in their relative positions from early to middle adulthood at both poles of the identity status dimension, but the stability through three measurement points was lower in the middle of this axis.

As diffusion and achievement are theoretically the two end points of the identity continuum, and were empirically negatively correlated (at age 27, $r = -.55$, age 36, $r = -.56$, age 42, $r = -.62$, $p = .000$ for all), we formed a new Identity Achievement -- Diffusion (IA-D) scale for identity at each age level, subtracting the number of diffusions (0-5) from the number of achievement-ratings (0-5). The range of the IA-D scores was from -5 to +5. The means were -0.09 at age 27, 0.77 at age 36, and 1.00 at age 42 with a standard deviation of approximately 2.2. There was a significant increase in identity achievement from age 27 to age 36 as confirmed with the paired samples t test, $t(199) = -4.90$, $p = .000$. A gender difference emerged at age 42, when the mean for women (1.26) was higher than that for the men (0.58), $t(241) = 2.19$, $p = .030$.

Cronbach's alpha for this new Identity A-D scale was .71 for age 27, .70 for age 36, and .74 for age 42.

 Personal Control over Development

Marcia (1993b) noted in his review of existing literature that identity achieved individuals believe that they can influence and choose the course of their lives, and are personally responsible of it, whereas the diffuse individuals see that the influential factors of their lives are mainly external of themselves. The moratorium and foreclosed persons stand between these two viewpoints. Therefore, we expected identity development and personal control over development to be interrelated concepts.

The construct of personal control over development has been described by Brandtstädter (1989, p. 96) as "an individual's sense of control over subjectively important areas of personal development." Brandtstädter (1984; 1989) differentiated cognitive, emotional, and behavioral aspects of personal control over development and their interrelationships. In his model, subjective developmental perspectives and control beliefs (cognitive aspect) are linked with more or less active control efforts (behavioral aspect), and emotional states (emotional aspect). The relationship of perceived control over development to aspects of well-being is largely consistent with models of learned helplessness and self-efficacy (Brandtstädter & Baltes-Götz, 1990).

In the JYLS study, a *Personal Control Inventory*, developed by Lea Pulkkinen, was presented to subjects as part of a mailed questionnaire at ages 27, 36, and 42. The inventory consisted of 18 items, based on Brandtstädter's (1984, pp.18-19) model of the structure and interrelationship of cognitive, actional, and emotional orientations; for instance, "I am able to make my goals come true." Responses were provided based on

the following scale: 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. Because the first data were collected in 1986, Brandstädter's (1989) revised model and scales were not available when these items were formulated.

The Personal Control Inventory was divided into five factors by Pulkkinen and Rönkä (1994) using data gathered at age 27. The same factors have later been used by Pulkkinen, Kokkonen, and Mäkiäho (1998): *Self-Confidence* included trust in one's own power and depicted a positive internal control over development, and *Social Support* consisted of thankfulness for social support and satisfaction with one's achievements. The third factor, *Low Self-Worth*, comprised negative moods or depression because of perceived incompetence (negative internal control). The fourth factor, *Accusation of Others*, included attributions of failures to other people (negative external control). And the fifth factor, *Contentment*, covered satisfaction with present achievements without further developmental goals. Construction of the scales, as well as Cronbach's alphas, which ranged from 0.63 to 0.76 at ages 27 and 36, are explained in detail in the above-mentioned studies. At age 42, Cronbach's alphas ranged from 0.67 to 0.77. There were no gender differences in the means or variances of the Personal Control Inventory subscales at any age.

The correlations between the subscale scores across the three measurement points demonstrated stability of personal control dimensions, r varying from .23 to .60, $p = .000$ for each. The mean scores of the subscales for self-confidence ($M = 3.1$), social support ($M = 3.1$), and accusation of others ($M = 2.0$) did not change between ages 27, 36, and 42. The mean scores for low self-worth were 1.97 at age 27, 1.97 at age 36, and 1.88 at age 42. The difference between ages 36 and 42 was confirmed to be significant by the paired samples t test, $t(193) = 2.79$, $p = .006$. Correspondingly, contentment with present achievements increased from the mean score of 2.11 and 2.39

to 2.56. The differences were significant both between ages 27 and 36, $t(193) = -5.43$, $p = .000$, and between ages 36 and 42, $t(193) = -4.21$, $p = .000$.

For the purposes of the present study, a composite Personal Control over Development measure (PCoD) was constructed by averaging the scores of the subscales. This procedure gave equal weight to each dimension, regardless of the number of items covered by the subscale. The scale was first constructed with all five scales, with reversed scales of Low Self-worth, Accusation of Others, and Contentment. However, the reliability testing asserted that using the Contentment scale was problematic in the longitudinal setting: Contentment with present achievements seemed to become more adaptive as the participants grew older, correlating positively with Self-confidence, and negatively with Low Self-worth and Accusation of Others at ages 36 and 42. It also seemed theoretically valid that a person's satisfaction with present achievements without further developmental goals could be dysfunctional early in life, but adaptive later in life. Due to difficulties in interpreting the role of Contentment in the longitudinal setting, it was excluded from the total PCoD scale. The mean of the scale was 3.1 at each age level with a standard deviation of about 0.3. No gender differences emerged in the means of the scale at any age. Cronbach's alphas for the 14 original items of the four subscales included in the PCoD scale were .72 at age 27, .76 at age 36, and .80 at age 42.

 Interrelatedness of Identity and Personal Control over Development

We explored the links between the IA-D scale and the PCoD Scale with a path model using the Lisrel 8.7 program (Jöreskog & Sörbom, 1996). Multigroup analysis was used to discover possible gender differences. After a listwise exclusion of missing

data, the number of participants was 190, of which 100 were women and 90 were men. The Lisrel-model was built by testing alternative models for best fit, using the Maximum Likelihood estimation method. The overall fit of the estimated models was evaluated using a χ^2 test. The requirement of adding a parameter was estimated using modification indices, and the quality of the model was further based on t values (criteria > 1.96) of the single parameters. As it is recommendable to evaluate the model fit based on several fit indices, the root mean square of approximation (RMSEA), goodness of fit (GFI), and comparative fit index (CFI) were used as supplementary fit indices. The χ^2 difference test was used for comparing the alternative models.

The linkages between the three measurement points of each variable were first confirmed as being significant for both women and men. In addition to the connections from age 27 to 36, and age 36 to 42, the χ^2 difference test of the successive models confirmed that a simultaneous connection emerged from age 27 to age 42 on both measures (Figure 1).

< Insert Figure 1 about here >

The tentative path model appeared sufficient without further improvements, with both dimensions continuing to develop fully independently of each other. There was a relatively good fit between the presented model and the data, $\chi^2 (29) = 39.98, p = .084, RMSEA = .064, GFI = .93, CFI = .94$, and there were no gender dependent differences. However, a nearly significant modification index pointed out a possible connection between the IA-D at 36 and PCoD at 42. This connection was freed and proven significant without a gender difference. The fit was improved according to all used indices, $\chi^2 (28) = 35.87, p = .147, RMSEA = .055, GFI = .94, CFI = .96$. The relevance

of this connection was further confirmed by comparing the presented path model (Figure 1) with the first tentative model using the χ^2 difference test, which showed a significant difference between the models, $\chi^2 (1) = 4.11, p = .043$. Hence, a strong sense of identity at age 36 preceded a strong sense of personal control over development at age 42 for both men and women.

<A> Developmental Antecedents and Well-Being in Adulthood

 Variables

Three developmental background measures from age 14 were included in the analysis. The family background information consisted of two variables: the parents' occupational status in the family of origin, and child-centered parenting. In Finnish society, social class distinctions and income differences are small, resulting partly from a highly progressive taxation system. Therefore, the parents' occupational status, largely based on their educational level, was selected as an indicator of the family's social status without taking their income level into consideration. The measure was defined using information from both the father's and mother's occupational status, with the higher occupational status of the two used as an indicator for categorization into 1 = blue collar occupations, 2 = lower white collar occupations, and 3 = higher white collar occupations.

The second family background measure, child-centered parenting (Kokko & Pulkkinen, 2000), was related to family atmosphere and parenting practices. It included good parental relationship, good relationship with the father, maternal support and supervision, and lack of physical punishment. The variable was based on participants=

recollections (measured at age 27) of parenting practices and the home environment at age 14, and formed by computing an averaged score of five dichotomized variables. A separate analysis with a smaller sample has confirmed a good correspondence between recollections at age 27 and prospective data collected at age 14. Thirdly, the individual's own school success was measured by the Grade Point Average (GPA) based on school records. It was noted that school success was related to the parents' occupational status: the higher the status, the higher was the child's GPA, $r = .19, p = .001$. Girls had a better GPA than boys, $t(344) = 8.11, p = .000$.

Adult well-being, defined as participants' perceptions of their psychosocial well-being and physical health, was assessed with several measures at age 42. Gender differences did not emerge in the means of any of these measures.

The Scales of Psychological Well-Being, developed by Ryff (1989), included six components of positive psychological functioning: Self-Acceptance, Personal Growth, Purpose in Life, Positive Relations with Others, Environmental Mastery, and Autonomy. Psychological well-being has been conceptualized broadly in the scales as including people's sense of whether their lives have a purpose, whether they are realizing their given potential, what is the quality of their ties to others, and if they feel in charge of their own lives (Ryff & Keyes, 1995). The short version of the scales consisted of the total of 18 items (3 items per scale) such as "I am quite good at managing the many responsibilities of my daily life," and "Maintaining close relationships has been difficult and frustrating for me" (reversed). The response scale varied from 1 = strongly disagree to 4 = strongly agree. Cronbach alpha for the scale was .75.

The Scales of Social Well-Being, constructed by Keyes (1998), consisted of five dimensions of positive social functioning, representing challenges that people face as

social beings, namely social integration, social contribution, social coherence, social actualization, and social acceptance. The measure correlates with anomie, perceived external control, perceived neighborhood quality, as well as with individual's engagement in prosocial community activities (Keyes, 1998). The scale was composed of the mean of 15 items responded on a scale from 1 = strongly disagree to 4 = strongly agree, such as "People who do a favor expect nothing in return," "I feel close to other people in my community," and "I cannot make sense of what's going on in the world" (reversed). Cronbach alpha for this scale was .77.

Generativity, the adult's concern for and commitment to guiding and caring for the next generation, was identified by Erikson (1950) as a key developmental task and precondition of psychological well-being in middle-age. The concept has later been elaborated both theoretically and empirically (see, e.g., McAdams & de St. Aubin, 1998; de St. Aubin, McAdams & Kim, 2004), and its association with well-being has been confirmed. The Generativity Scale developed by Ryff and Heincke (1983) was used in the present study. The scale was composed as a mean of ten questions, such as "I am concerned about providing guidance and direction to younger people," and "The average person does not have the time to be concerned about the welfare of others" (reversed). Responses for each question were given on a scale from 1 = strongly disagree to 4 = strongly agree. Cronbach alpha for the scale was .72.

For assessing physiological health, two measures were used at age 42. Self-rated health was measured by the question, "How would you describe your health now?" with response options ranging from 1 = very good to 5 = very bad. Psychosomatic symptoms were measured as a sum score of 19 items (e.g., headache, trembling hands, muscular pain) taken from the symptom check-list of Aro (1988). The occurrence of each

symptom during the previous six months was rated on a scale from 0 = never to 4 = very often.

The three measures of psychosocial well-being intercorrelated, with the correlation coefficient ranging from .40 to .54, $p = .000$ for all. Also, the two indicators of physical health intercorrelated significantly, $r = .60$, $p = .000$. Psychosomatic symptoms, $r = -.36$, $p = .000$, and poor self-rated health, $r = -.28$, $p = .000$, correlated negatively with psychological well-being, and psychosomatic symptoms were negatively associated with social well-being, $r = -.20$, $p = .002$.

 Antecedents and Outcomes of Identity Achievement

Paths both between developmental background in early adolescence and later identity formation, and between identity formation and later well-being in adulthood, were analyzed with the path model using the Lisrel 8.7 program (Jöreskog & Sörbom, 1996). The model was based on the matrices of polychoric correlations and built by testing alternative models for best fit (Maximum Likelihood). Multigroup modeling was used to mark possible gender differences. Missing data was excluded listwise, and the remaining number of participants was 173; 89 women and 84 men. The estimation procedure and evaluation of the model fit was carried out using the same indices as described for Figure 1.

The model was structured according to the time span: The developmental background variables (school success, parents' occupational status, and child-centered parenting, all at age 14) were set as explanatory variables, and the identity measure (IA-D scale) as well as adult well-being measures (psychological well-being, social well-being, generativity, self-rated health, and psychosomatic symptoms, all at age 42) were

positioned as dependent variables. To confirm the predictive linkages from IA-D to well-being, the model was structured for the IA-D in three ways: 1) Only IA-D at age was included in the model, 2) IA-D at ages 27 and 36 were included, and 3) the whole time span from age 27 to 42 was included in the model. The latter, presented in Figure 2, was considered to be the final model. According to all used fit indices, the proposed model fitted the data well; $\chi^2(97) = 92.42, p = .613, RMSEA = .000, GFI = .91, CFI = .99$. No gender differences emerged.

<Insert Figure 2 about here>

Success at school was not connected with either IA-D at age 27 or any of the well-being measures in the initial model, but was positively associated with identity achievement at age 36 when the latter was included in the model. Higher occupational status of the parents preceded higher levels of IA-D score at age 27, and additionally at age 36 when IA-D at 36 was included. No connections were found between child-centered parenting and the IA-D scale. Nevertheless, a direct association emerged between child-centered parenting at age 14 and psychological well-being in adulthood twenty-eight years later.

Connections between IA-D and well-being at age 42 were found from age 27 onwards. The level of identity achievement reached by early adulthood was particularly predictive of social well-being and generativity in early middle age. Identity scores measured at later ages did not add anything to these connections; the links from IA-D at 27 to social well-being and generativity remained the same in all models. When IA-D at age 36 was included, an additional significant link between IA-D at age 36 and psychological well-being was found. The connection was slightly stronger when

concurrent identity achievement was considered at age 42. IA-D explained 8% of the variance of psychological well-being. No direct associations existed between either IA-D or the developmental background variables and physical health. Psychological well-being was, however, negatively connected to psychosomatic symptoms, which, in turn, correlated with self-rated health. Significant links also emerged between the indicators of psychosocial well-being.

The results suggested that identity achievement in adulthood was associated with the educational and occupational background of both the parents and the individuals themselves, as school success in early adolescence is known to be connected to later educational and occupational levels. In contrast, the quality of parenting was not related to identity achievement. School success and parent's occupational status were indirectly linked to psychosocial well-being via identity achievement: Identity achievement by age 27 enhanced later well-being in individual's relations to others, whereas identity achievement at age 36 contributed to psychological well-being. The concurrent measure of identity achievement added little to these connections.

 Antecedents and Outcomes of Personal Control over Development

Paths between developmental background and personal control over development to adult well-being were also analyzed with a path model using the Lisrel program (Jöreskog & Sörbom, 1996). The model was based on the matrices of polychoric correlations and built by testing alternative models for best fit (Maximum Likelihood), presupposing the associations between the well-being measures to be like those in Figure 2. Multigroup modeling was used to find possible gender differences. Missing data was excluded listwise, and the number of participants in the analysis was 176; 91

women and 85 men. The estimation procedure and evaluation of the model fit was carried out using the same indices as described for Figure 1.

To confirm the predictive linkages from personal control over development to well-being, the initial model was structured using only the PCoD measure at age 27: the developmental antecedents at age 14 were set as explanatory variables, and PCoD at age 27 as well as the five well-being measures at age 42 were positioned as dependent variables. In the second phase, the PCoD at age 36 was added; and in the third model the whole time span including PCoD measures at ages 27, 36, and 42 was included. The third model was considered to be the final model (Figure 3). The fit indices indicated a close fit of the model to the data; $\chi^2(83) = 100.12, p = .097, RMSEA = .049, GFI = .89$ (women), $.91$ (men), $CFI = .96$. No significant gender differences were found in the model.

<Insert Figure 3 about here>

Both child-centered parenting and school success were antecedents of personal control over development at age 27. The PCoD scores measured at later ages were linked to these background variables only indirectly through PCoD at age 27. There were no linkages between the parents' occupational status and the participant's PCoD scores at any age. Neither did the parents' occupational status have any associations with the adult well-being measures. Therefore, the variable was dropped from the model.

In the initial model, PCoD at age 27 directly and significantly explained psychological well-being fifteen years later. When the later PCoD scores were added, this association was indirect, passing through PCoD at age 36. The link from PCoD at

36 to psychological well-being was significant, $\beta = .53, p < .001$, when the PCoD measure at age 42 was not yet included in the model. When PCoD at age 42 was included, independent direct links from PCoD at ages 36 and 42 to psychological well-being emerged. PCoD at 42 was also associated with concurrent self-rated health.

In the presented model, personal control over development solely explained 50% of psychological well-being at age 42, which has to be considered a high explanation rate. Psychological well-being was related to all other well-being measures either directly (social well-being, generativity, psychosomatic symptoms) or indirectly (self-rated health, additional link to generativity). Due to intercorrelations between the indicators of well-being, a high sense of personal control over development was associated with overall well-being at age 42.

<A> Group Comparisons

The variable-oriented approach described above reveals associations on a general level, but does not portray individual development. Therefore, the analyses were supplemented by a person-oriented approach as recommended by Magnusson (e.g., 2001) and Bergman (e.g., 2001). The goal was to compare the antecedents and outcomes of consistent identity diffusion to those of either consistent or increasing achievement.

Identity development is not linear but involves great individual variation. As Adams (Adams, 1999; Berzonsky & Adams, 1999) points out, there are 64 possible patterns for identity development with four status categories, and three measurement points for each domain. Therefore, it was not possible to follow the sequences of each developmental pathway separately in the person-oriented analyses. In line with the

preceding variable-oriented analyses, we contrasted the participants with consistent diffusion across ages 27, 36, and 42 with their counterparts who either had progressed toward identity achievement or had achieved identity status already at age 27 and maintained it until age 42. Hence, we extracted three distinct identity development groups, each consisting of about 10% of the whole sample.

The Drifters. First, we extracted a group of participants with the most consistent diffuse identity throughout the three measurement points in adulthood. Each had a minimum Diffusion score of 2 out of 5 at each age level, yielding to a total Diffusion score from 6 to 12 and a total Achievement score from 0 to 3 (max 15 across three measurements). We named the group “Drifters” based on Josselson’s description (1996) of a similar group of women: “Drifters are without commitments and not struggling to make them, either feeling lost or following impulses of the moment.” This group comprised 19 participants: 7 women and 12 men.

The Achievers had achieved a more mature identity at age 27 than did most of their peers, and remained in the Achievement-category until age 42. These participants had a minimum Achievement score of 2 at each age level, a total Achievement score from 8 to 15, and a total Diffusion score from 0 to 2 (max 15). They had explored and discerned their values and goals in the studied domains during their transition from adolescence to early adulthood, resulting in a well-developed sense of identity. The group included 24 participants, of whom 13 were women, and 11 were men.

The Identity Developers were in the achievement status in few domains at age 27, but had progressed toward a largely achieved sense of identity by the age of 42. Their Achievement score had risen from the level of 0-1 at age 27 to 4-5 at age 42. Hence, this group had clearly progressed in the theoretically hypothesized developmental ladder in their adult years, although not in adolescence as originally expected by the identity

theorists. However, unlike the Drifters, their diffusion scores were low throughout the study. Instead, they had high scores in both moratorium and foreclosure at age 27, after which their achievement score began to rise. This group comprised 19 participants: 9 women and 10 men.

These three groups comprised the total of 62 participants, which was 31.5% of the sample with identity data from all three measurement points. The rest of the participants fell in between these extreme groups, for instance, developing achievement in some domains while staying stable or regressing in others. Their mean in the total Diffusion score was 3.5 (out of 15), and in Moratorium 1.3. Their commitment was frequent: the mean of the total Foreclosure score was 5.5, and 4.6 for Achievement.

Differences between the identity groups in the personal control over development PCoD Scale were studied by one-way ANOVA. Pairwise multiple comparisons were used to test the difference between each pair of means. The grouping effect reached statistical significance only at age 36, $F(2) = 5.43$, $p = .007$, the Drifters scoring lower in PCoD than did the Achievers and Identity Developers.

Differences between the identity groups in the developmental background variables at age 14 were studied by the one-way ANOVA (Table 1). Grouping caused significant effects on school success and parents' occupational status. The Drifters were lower than the Achievers both in school success and in their parents' occupational status, and lower than the Identity Developers in the parents' occupational status. The differences between the groups were explicit: 79% of the Drifters, 43% of the Identity Developers, and 29% of the Achievers had parents in blue-collar occupations. None of the Drifters had parents in higher white-collar occupations, whereas 10% of the Identity Developers and 38% of the Achievers came from this group of families. No group

differences existed in child-centered parenting, which was consistent with the finding that child-centered parenting was not associated with the IA-D scale.

< Insert Table 1 about here >

Group differences also emerged in well-being and health outcomes at age 42 (Table 1). The Drifters had poorer psychological and social well-being and lower scores in generativity than did the Identity Developers and the Achievers in all scales. The Achievers did not differ in any of the well-being measures from the Identity Developers. There were no differences between the groups in self-ratings of physical health.

<A> Conclusion

This paper addresses (1) the development of identity and personal control over development through adulthood; (2) their developmental background in early adolescence; and (3) their associations with adult psychosocial wellbeing and self-perceptions of health. The study demonstrated relatively strong stability in personal growth in the areas of identity and personal control over development, earlier levels predicting later ones. In identity development, general progression toward identity achievement could also be demonstrated. In addition to the intrinsic predictability of these dimensions, the relative strength of identity achievement at age 36 preceded a strong sense of personal control over development at age 42. Even though women scored higher than men in identity achievement at age 42, no gender differences emerged in the path model in stability or interrelatedness of these constructs.

Identity development toward achievement was fostered by a high occupational status of parents in the family of origin and by good school success in early adolescence. There were no connections between child-centered parenting and the identity achievement-diffusion scale in adulthood. Similarly, Meeus (personal communication) found in his preliminary overview of several studies that parent-adolescent relations were generally not associated to identity development. Hence, the identity formation process was more influenced by the external social context than by the quality of personal relationships. In a longitudinal perspective, school success can also be seen as a contextual dimension, as good success typically leads to higher education and social status. In a modern society, school success determines the number of options and the type of choices for later life. Education can be seen as a major “investment” individuals make in their identity (Côté & Levine, 2002). The study also demonstrated that the educational level of the parents, evidenced by their occupational status, was also related to the identity status of their offspring. Contrary to this, the parents’ occupational status had no significant contribution to the formation of personal control over development, and instead was predicted by the quality of parenting and school success. The results suggest that personal control over development was more highly supported by the quality of individual relationships as compared to identity.

Personal control over development and identity achievement-diffusion were both shown to be antecedents of psychological well-being at age 42, and higher sense of personal control and identity achievement in preceding adulthood promoted more favorable well-being outcomes in middle age at age 42. There was, however, a large difference in the amount of variance of psychological well-being explained -- Personal control over development accounted for 50% of well-being, and identity achievement only for 8%.

Psychological well-being emerged as a central element in well-being, having strong links to social well-being, generativity, and to psychosomatic symptoms, which, in turn, correlated with self-rated health. In addition to the indirect association through psychological well-being, personal control over development was directly associated with simultaneous self-rated health at age 42. Identity development, instead, anticipated later social well-being and generativity from age 27, well before the age of 42, thus demonstrating how optimal identity development can facilitate an individual's integration in his or her social contexts. Hence, a developmental linkage between the psychosocial stages of identity and generativity (see, e.g., Erikson, 1950; Marcia, 2002) was validated.

An elaboration carried out with smaller extreme identity groups confirmed the findings obtained with a variable-oriented approach. The subgroup with the most consistent identity diffusion, the Drifters, had the lowest school success, and none of them had parents in higher white collar occupations; a conspicuous contrast to the other groups, the Achievers and the Identity Developers. The Drifters also scored lower than the others in Personal control over development at age 36. The Drifters had poorer outcomes than the Identity Developers and Achievers in psychological and social well-being, and in generativity. Hence, it seems that the children who have weak school success and parents with lower educational and occupational status are at risk of staying diffuse in their identity development, which may also influence their later well-being. However, the group of Identity Achievers did not differ in developmental background or adult well-being from the Identity Developer group, demonstrating that early onset of identity achievement was not essential for favorable implications in adulthood.

References

- Adams, G. R. (1999). *The objective measure of ego identity status: A manual on theory and test construction*. Department of Family Relations and Applied Nutrition, University of Guelph. Guelph, Ontario, Canada.
- Archer, S. L. (1989). Gender differences in identity development: issues of process, domain and timing. *Journal of Adolescence*, *12*, 117-138.
- Aro, H. (1988). *Stress, development and psychosomatic symptoms in adolescence*. Acta Universitatis Tamperensis ser A, vol. 242. Tampere: University of Tampere.
- Bergman, L. R. (2001). A person approach in research on adolescence: Some methodological challenges. *Journal of Adolescent Research*, *16*, 28-53.
- Berzonsky, M. D. & Adams, G. R. (1999). Re-evaluating the identity status paradigm: still useful after 35 years. Commentary. *Developmental Review*, *19*, 557-590.
- Brandtstädter, J. (1984). Personal and social control over development: Some implications of an action perspective in life-span developmental psychology. In P.B. Baltes & O.G. Brim, Jr. (Eds.), *Life-span development and behavior* (Vol. 6, pp. 1-32). San Diego, CA: Academic Press.
- Brandtstädter, J. (1989). Personal self-regulation of development: Cross-sequential analyses of development-related control beliefs and emotions. *Developmental Psychology*, *25*, 96-108.
- Brandtstädter, J. & Baltes-Götz, B. (1990). Personal control over development and quality of life perspectives in adulthood. In P. B. Baltes & M. M. Baltes (Eds.) *Successful aging: Perspectives from behavioural sciences* (pp. 197-224). Cambridge, UK: Cambridge University Press.

- Brandtstädter, J. (2002). Searching for paths to successful development and aging: Integrating developmental and action-theoretical perspectives. In L. Pulkkinen & A. Caspi (Eds.), *Paths to Successful Development* (pp. 380-402). Cambridge, UK: Cambridge University Press.
- Côté, J. E., & Levine, C. G. (2002). *Identity formation, agency, and culture. A social psychological synthesis*. Mahwah, NJ: Lawrence Erlbaum Associates.
- de St. Aubin, E., McAdams, D. P., & Kim, T.-C. (2004) *The Generative Society: Caring for Future Generations*. Washington, US: American Psychological Association.
- Erikson, E. H. (1950). *Childhood and Society*. New York: Norton.
- Erikson, E. H. (1968). *Identity, Youth and Crisis*. New York: Norton.
- Fadjukoff, P., Pulkkinen, L. & Kokko, K. (2005). Identity Processes in Adulthood: Diverging Domains. *Identity: An International Journal of Theory and Research*, 5, 1-20.
- Grotevant, H.D., Thorbecke, W. & Meyer, M.L. (1982). An extension of Marcia's Identity Status Interview into the interpersonal domain. *Journal of Research in Personality*, 28, 436-452.
- Jöreskog, K.G., & Sörbom, D. (1996). *Lisrel 8: User's reference guide*. Chicago, IL: Scientific Software International.
- Josselson, R. (1996). *Revising herself: The story of women's identity from college to midlife*. New York: Oxford University Press.
- Keyes, C. L. M. (1998). Social well-being. *Social Psychology Quarterly*, 61, 121-140.
- Kokko, K. & Pulkkinen, L. (2000). Aggression in childhood and long-term unemployment in adulthood. A cycle of maladaptation and some predictive factors. *Developmental Psychology*, 36, 463-472.

- Kroger, J. (2000). *Identity development: Adolescence through adulthood*. Thousand Oaks: Sage Publications.
- Magnusson, D. (1988). *Individual development from an interactional perspective: Longitudinal study in paths through life* (Vol. 1). Hillsdale, NJ: Erlbaum.
- Magnusson, D. (2001). The holistic-interactionistic paradigm: Some directions for empirical developmental research. *European Psychologist*, 6, 153-162.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3, 551-558.
- Marcia, J. E. (1980). Identity in adolescence. In J. Adelson (Ed.), *Handbook of adolescent psychology* (pp. 159-187). New York: John Wiley & Sons.
- Marcia, J. E. (1993a). The ego identity status approach to ego identity. In J.E. Marcia, A.S. Waterman, D.R. Matteson, S.L. Archer & J.L. Orlofsky (Eds.), *Ego identity: A handbook for psychosocial research*. (pp. 3-21). New York: Springer-Verlag.
- Marcia, J. E. (1993b). The status of the statuses: Research review. In J.E. Marcia, A.S. Waterman, D.R. Matteson, S.L. Archer & J.L. Orlofsky (Eds.), *Ego identity: a handbook for psychosocial research*. (pp. 23-40). New York: Springer-Verlag.
- Marcia, J.E. (2001). A commentary on Seth Schwartz's review on identity theory and research. *Identity: An International Journal of Theory and Research*, 1, 59-65.
- Marcia, J.E. (2002). Identity and psychosocial development in adulthood. *Identity: An International Journal of Theory and Research*, 2, 7-28.
- Masten, A. S. & Coatsworth, J. D. (1998). The development of competence in favorable and unfavourable environments: Lessons from research on successful children. *American Psychologist*, 53, 205-220.

- McAdams, D. P.; de St Aubin, E. (1998). *Generativity and adult development: How and why we care for the next generation* (Eds.) Washington, DC: American Psychological Association.
- Pulkkinen, L., Kokkonen, M. & Mäkiäho, A. (1998). Positive Affectivity, Self-Mastery, and a Sense of Failure as Predictors of Self-Assessed Health. *European Psychologist, 3*, 133-142.
- Pulkkinen, L., Nygren, H., & Kokko, K. (2002). Successful development: Childhood antecedents of adaptive psychosocial functioning in adulthood. *Journal of Adult Development, 9*, 251-265.
- Pulkkinen, L. & Rönkä, A. (1994). Personal control over development, identity formation, and future orientation as components of life orientation: a developmental approach. *Developmental Psychology, 2*, 260-271.
- Ryff, C. D. (1989). Happiness is everything or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069-1081.
- Ryff, C. D. & Heincke, S. G. (1983). Subjective organization of personality in adulthood and aging. *Journal of Personality and Social Psychology, 44*, 807-816.
- Ryff, C. D. & Keyes, C. L. M. (1995). The structure of psychological well-being. *Journal of Personality and Social Psychology, 69*, 719-727.
- Waterman, A. S. (1999). Commentary. Identity, the identity statuses, and identity status development: A contemporary statement. *Developmental Review, 19*, 591-621.
- Werner, E. E. & Smith, R. S. (2001). *Journeys from childhood to midlife: Risk, resilience, and recovery*. New York: Cornell University Press.

Table 1. Means of developmental antecedents at age 14 and well-being outcomes at age 42 in three distinctive identity development groups, One-Way Analysis of Variance

	Identity			F	p	Group differences
	Drifters	Developers	Achievers			
	N=19 1	N=19 2	N=24 3			
<hr/>						
Developmental background						
School Success (GPA)	6.96	7.50	7.65	4.231	.019	3 > 1
Parents' occupational status	1.21	1.68	2.08	8.798	.000	2, 3 > 1
Child-centered parenting	.402	.516	.488	1.165	.319	n.s.
Well-being outcomes						
Poor self-rated health	2.11	2.11	2.13	0.005	.995	n.s.
Psychosomatic symptoms	1.59	1.51	1.49	0.672	.514	n.s.
Psychological well-being	2.88	3.19	3.20	7.102	.002	2, 3 > 1
				12.42		2, 3 > 1
Social well-being	2.53	2.91	3.00	7	.000	
Generativity	2.91	3.35	3.28	9.942	.000	2, 3 > 1
<hr/>						

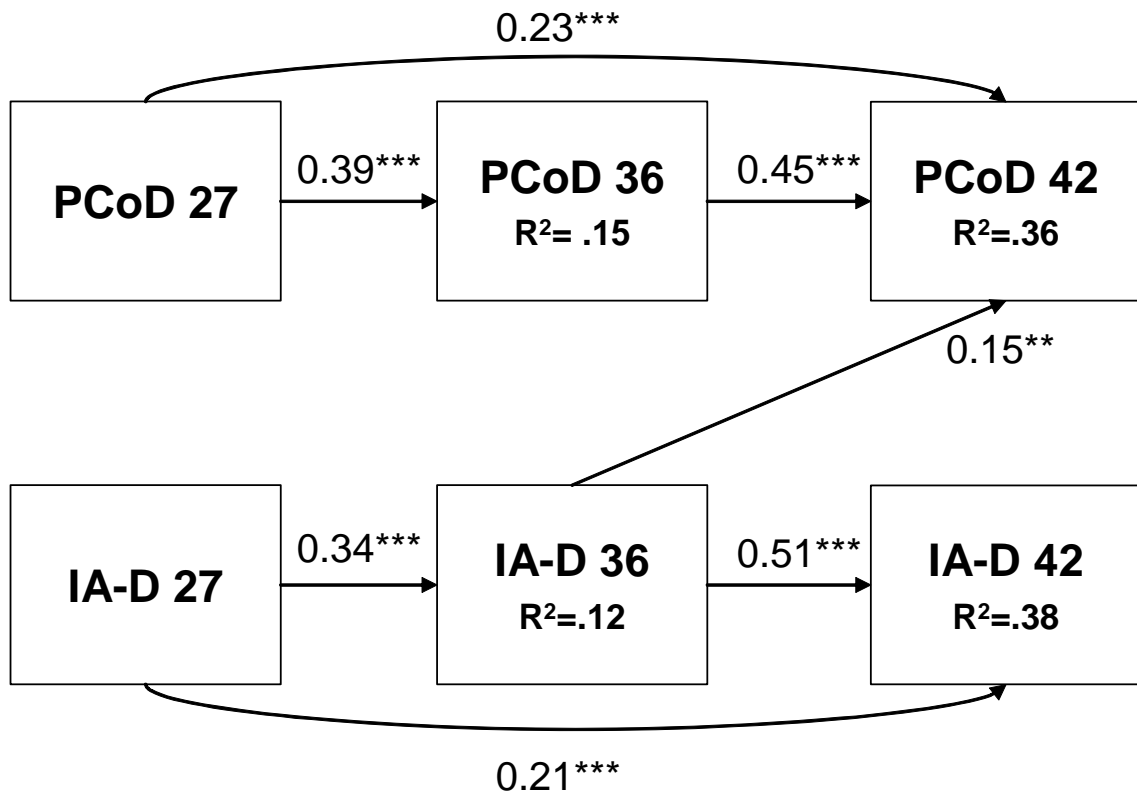


Figure 1.

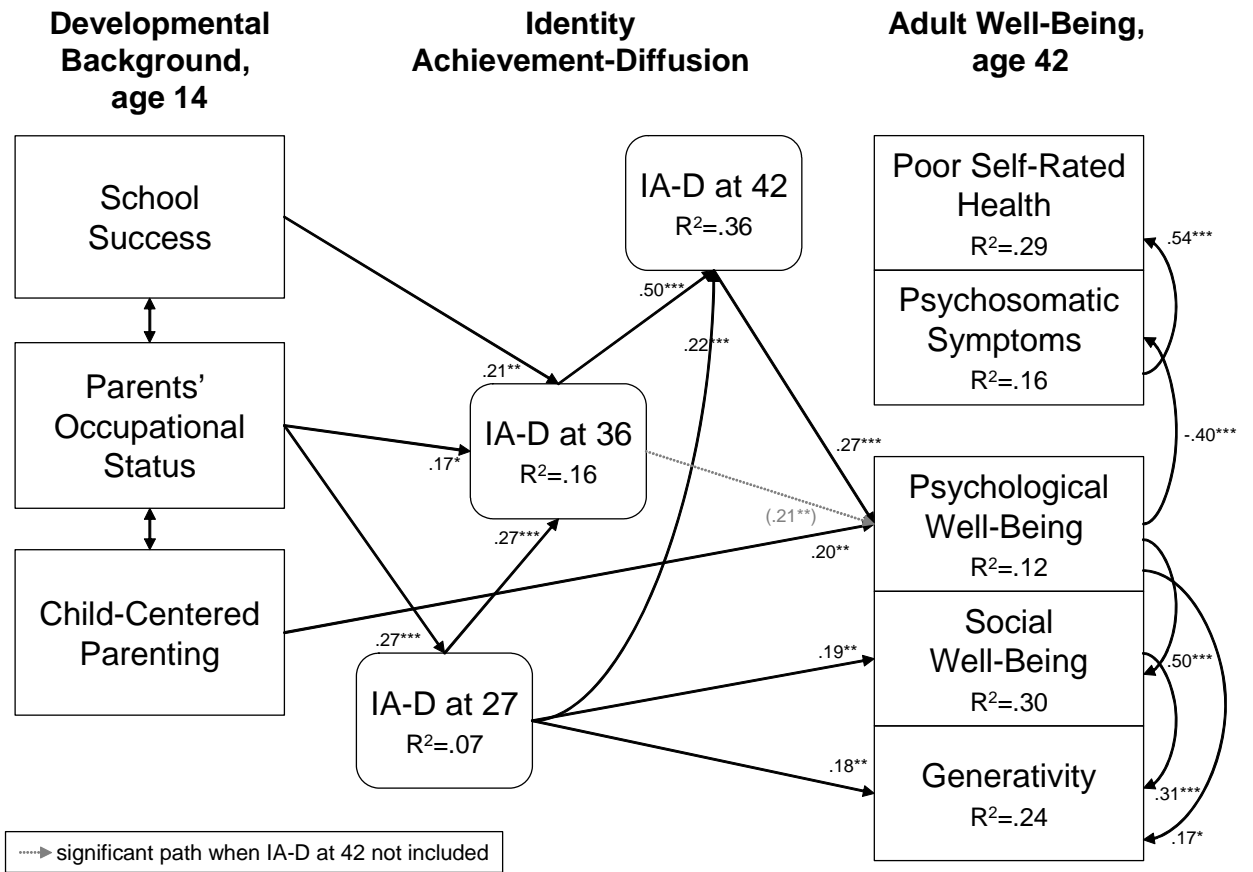


Figure 2.

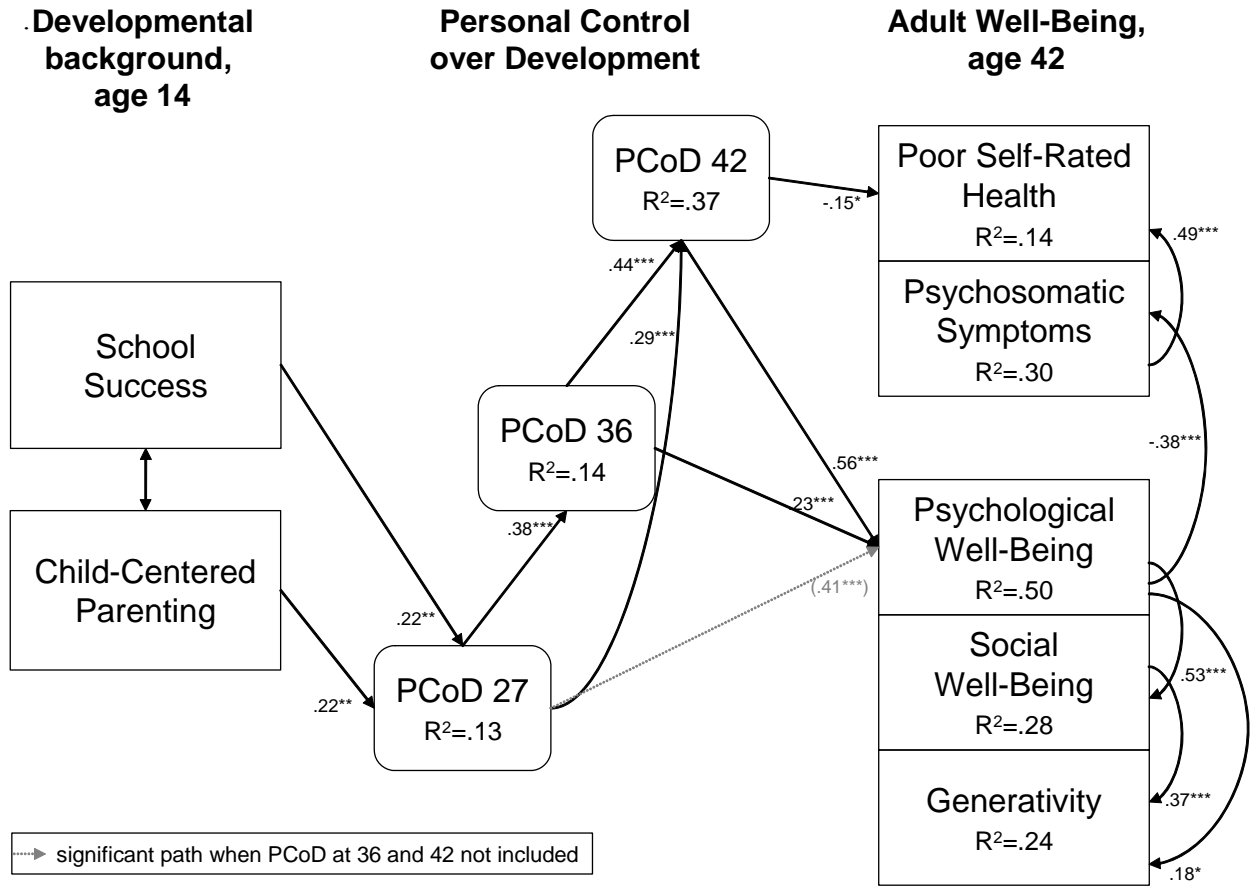


Figure 3.

FIGURE CAPTIONS

Figure 1.

A path model for Identity Achievement-Diffusion scale (IA-D) and Personal Control over Development scale (PCoD) at ages 27, 36, and 42, and their interactions tested across gender. R^2 = explanation rate.

Figure 2.

A path model for developmental antecedents of identity achievement and adult well-being tested across gender. R^2 = explanation rate.

Figure 3.

A path model for developmental antecedents of personal control over development and adult well-being tested across gender. R^2 = explanation rate.

Key words:

identity, identity achievement, identity diffusion; personal control over development; well-being, psychological well-being, social well-being, generativity, self-rated health, psychosomatic symptoms; developmental background, school success, child-centered parenting, parents' occupational status; path models, person-oriented approach, longitudinal study