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Are personality traits across the lifespan sensitive to environmental demands?

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Abstract

Most research on the development of behaviors, attitudes or cognitive abilities across the lifespan suggests high levels of plasticity at all ages. In contrast, personality traits seem to be characterized by high levels of inter- and intraindividual stability across the adult lifespan. This is surprising, given the fact that the kind and intensity of environmental demands, obligations, and stress clearly vary across adulthood. Therefore, the current study examined data from 1,494 men and women between 25 and 74 years with respect to the relations between age, level of environmental demands, and personality. Results indicate a curvilinear relationship between age and important personality traits. In addition, the curvilinear age-personality relationship is explained by age-related individual differences in the level of environmental demands. Findings are discussed with respect to theories about the plasticity of personality traits in response to age-graded environmental demands.

Key words: personality - lifespan development – plasticity – environmental conditions

A number of influential theories on the development of abilities, skills, attitudes, beliefs, identity or perceptions across the lifespan have emphasized the high level of plasticity across the lifespan (Baltes, 1987; Baltes, Reese & Nesselroade, 1977; Willis, 1989; Willis & Baltes, 1980). In the cognitive domain, studies have demonstrated that cognitive trainings can mitigate age-related differences and changes in intellectual functioning (Schaie, 1996). Additionally, highly demanding environmental conditions are related to the maintenance of higher levels of cognitive functioning (Hultsch, Hertzog, Small, & Dixon, 1999), although causal directionality is not clear in this case. In general, from a theoretical and an empirical standpoint, development can be seen as a life-long process that allows for significant psychological change due to plasticity at any age (Baltes, 1987). In particular, interest has risen in the plasticity of personality traits across the lifespan, and the role of life events in shaping personality plasticity (Mroczek & Spiro, 2003; Roberts, 1997; Vaidya, Gray, Haig & Watson, 2002). This paper examined such plasticity in personality traits, specifically focusing on the impact of environmental demands on personality plasticity.

Personality Stability and Change

There is no doubt that personality traits display a great degree of stability over periods of many years (Caspi & Roberts, 1999; Costa & McCrae, 1994, 1997; Roberts & DelVecchio, 2000). In cross-sectional as well as longitudinal and sequential studies, researchers have documented stability in the mean level, rank order, and organization of traits (McCrae & Costa, 1987, 1997; McCrae & Costa, 1990; Pedersen & Reynolds, 1998). However, this stability resides at the level of the sample, and there is empirical evidence for considerable individual differences in traits, even in adulthood (Mroczek & Spiro, 2003; Small, Hertzog, Hultsch & Dixon, 2003). Many people may display trait stability, but in some persons one may observe changes in trait expressions over the adult life span.

Further, it seems that some of this change may be due to environmental demands. Mroczek and Spiro (2003) found that men whose wives had died showed an initial rise in neuroticism after the event, but a rapid rate of change toward lower levels of neuroticism in the years afterward. This indicates that age-graded developmental life events may influence personality traits to some degree, at least for some people. For some individuals, environmental changes (such as increases in work or home demands as people begin to raise children and take on greater job responsibilities at midlife) may trigger person-environment transactions aimed at maintaining the once achieved personality structure (Caspi, 1998). On the other hand, other individuals may respond to such changes with temporary or even permanent changes in levels of personality traits. There are two main reasons to think that such plasticity may occur.

First, the age range included in most studies on mean or rank-order stability does not cover important periods of changes in the areas of marriage, family, or work. If age-related changes are relatively small and curvilinear, they might not be detected by these studies (Baltes & Nesselroade, 1973). Indeed, personality research has so far limited itself to the examination of linear relationships between age and personality, leaving the possibility of curvilinear age-by-personality relationships an open question. Second, the environments of many persons might remain largely stable across long periods of their lifespan (Caspi & Roberts, 1999; Roberts & DelVecchio, 2000). To the degree personality changes are caused by environmental demands, a largely stable environment will not lead to personality changes even if such changes are possible. Personality traits may be changeable by environmental demands, but they may not change for most people due to stable environments. In fact, personality changes across the lifespan do seem to occur when environmental pressures vary. For example, Roberts (1997) documented personality changes in working women between the ages of 27 and 43, and that these were correlated with changes in the work environment. Life

styles and challenging environments have also been associated with personality traits and psychological change (Maas & Kuypers, 1974; Schooler, 1987; 1999). In fact, recent studies have demonstrated that life stress is associated with higher levels of neuroticism and global negative affectivity (Mroczek & Almeida, 2004) and that demands from the work environment are associated with changes in personality traits (Roberts & Chapman, 2001). There is undoubtedly great personality trait continuity over time, but simultaneously, there is evidence of at least some plasticity in traits.

Overall, the research on stability and change in personality traits across the lifespan suggests that although some personality traits might remain largely stable across the lifespan, there might be age-related differences in personality traits that are explained by age-related differences in environmental demands (Roberts, 1997). To the degree that personality changes are related to everyday demands and obligations, and to the degree that these demands have similar effects across people, we would therefore expect that as demands from work or family differ across the lifespan (Martin & Park, 2003; Park et al., 1999) we should observe changes in levels of personality traits. We do not predict that rank-order (correlational) stability is disrupted by environmental demands. Demands tend to increase or decrease at particular periods during the lifespan, and should therefore be related to increases or decreases in levels of traits during these particular periods. It should be noted here that this is a theoretical argument. Statistically, we may demonstrate age differences in personality traits to be related to age differences in environmental demands, but this will not allow to infer the direction of causation.

Environmental Demands

Examining life course trends in environmental demands in two of the most important domains of everyday life, especially family and work (Moen & Wethington, 1999; Whitbourne & Connolly, 1999), a number of studies and sources suggest curvilinear age-by-

demands relationships. For example, family obligations peak in middle-aged adults (30-40 years) who are in good health, have numerous elderly kin and children just moving out and establishing their own families (Hogan, 1987; Rossi & Rossi, 1990). In the same vein, raising children is a typical demand around age 25-40, but rarely so at age 60 (Hogan, 1987). In the work domain, average job demands and work loads increase from age 25 to age 40, then decrease towards age 60 to 70 (Townsend, 2001). It should of course be noted that there might be gender differences in the amounts, the timing, or the responses to environmental loads at midlife (Hultsch, Hertzog, Small, & Dixon, 1999; McDermid, Heilbrun, & DeHaan, 1997; Rossi & Rossi, 1990) that need to be taken into account when examining age-by-demand relationships.

Overall, it seems that family and work demands seem to follow curvilinear rather than linear life course trajectories. If, in fact, age-related differences in environmental demands are related to age differences in personality, we would therefore expect curvilinear relationships between age and everyday demands (Park et al., 1999) as well as between age and personality. Different from a maturation hypothesis assuming linear age-trends, our environmental demand hypothesis assumes a curvilinear age relationship. Specifically, having to pay more attention to work and family obligations at midlife compared to younger and older ages (Townsend, 2001) should lead to differing levels of traits at midlife compared to earlier and later ages. For example, one might expect greater levels of neuroticism due to greater stress and pressure at midlife. Similarly, if people are engaged mainly in their work and family life, friends and social life may suffer, perhaps decreasing levels of extraversion at midlife. In fact, some scholars have argued that midlife is a time where life is “stripped” of everything except work and family, which both demand so much in the middle years (Rossi & Rossi, 1990). Therefore, if personality traits are responsive to age-graded life situation and

environmental demands, we would expect low levels of extraversion at midlife compared to earlier and later ages.

Current Study

These hypotheses run counter to the belief that personality changes are purely maturational changes, and are independent of a person-environment interaction. However, if personality changes are also the result of changes in environmental demands across the lifespan, then it is reasonable to expect curvilinear age-personality relationships. Overall, the goal of this study was to examine whether personality traits across the lifespan are sensitive to age-related differences in environmental demands in the domains of family and work. In addition, we also included control beliefs in our models, because control often predicts the ability to cope with environmental demands (Lachman & Burack, 1993; Lachman, Ziff & Spiro, 1994). People with strong control beliefs may be better able to handle midlife increases in home and work demands, and consequently not experience any personality changes brought about by such demands.

In the current study we tested the assumption of parallel trajectories of environmental demands and personality characteristics by relating both environmental demands and personality traits in a cross-sectional design covering a broad age range, thus including ages with widely differing levels of work and family demands. Based on the literature on middle adult development (e.g., Hogan, 1987; McDermid, Heilbrun, & DeHaan, 1997; Moen, & Wethington, 1999; Rossi & Rossi, 1990), we would expect a peak of demands around the age of 40, and lower demands at younger and older ages, i.e., a curvilinear age-demand relationship with the nadir assumed to be at age 40. In a second step, we will examine age-personality relationships for curvilinear effects. Only if both rather strong assumptions of age-related differences in environmental demands and personality are supported is it reasonable to examine the age-related sensitivity of personality traits to environmental

demands. Therefore, the last step of the analyses will be to relate differences in personality traits across the lifespan to age-related differences in everyday demands and obligations in the domains of work and family. If personality reflects at least in part the environmental demands of individuals across the lifespan, we expect that because levels of environmental demands change across the lifespan, levels of personality traits will show curvilinear age relationships. In other words, we tested whether the age-related variance in personality can be described as a function of environmental demands, as well as control beliefs.

Method

Sample

The data used for this study came from the National Survey of Midlife Development in the United States (MIDUS) collected in 1995. This survey was conducted by the John D. and Catherine T. MacArthur Foundation Network on Successful Midlife Development. The original purpose of the MIDUS was to examine patterns, predictors and consequences of midlife development in the areas of physical health, psychological well-being, and social responsibility. MIDUS respondents are a nationally representative general U.S. population sample of noninstitutionalized persons age 25 to 74, who have telephones. The sample was obtained through random digit dialing, with an oversampling of older respondents and men made to guarantee a good distribution on the cross-classification of age and gender ($N = 3,032$; $N = 1,318$ for men; $N = 1,714$ for women).

MIDUS respondents first participated in a telephone interview that lasted approximately 40 minutes. The response rate for the telephone questionnaire was 70%. Respondents to the telephone survey were then asked to complete two self-administered mail-back questionnaires. The response rate for the mail-back questionnaire was 86.8%. This yielded an overall response rate of 60.8% for both parts of the survey. For the current study, we use data from 900 men ($M = 46.34$ yrs; $SD = 10.92$; range 25-74) and 594 women ($M =$

44.51 yrs; SD = 10.27; range 25-71) with complete data on all variables in the regression equations.

Measures

In order to measure personality, job demands, home demands, carry-over between job and home, and control, we selected several measures for each construct from the MIDUS battery.

Personality traits. Personality traits were measured using multi-item measures of the personality dimensions that make up the five-factor model (Goldberg, 1992). Measures of extraversion, agreeableness, conscientiousness, neuroticism, and openness were created using items culled from various personality scales such as Goldberg's (1992) big-five markers (Lachman & Weaver, 1997). The extraversion, agreeableness, and agency scales each had 5 items, the conscientiousness and neuroticism scales each had 4 items, and the openness scale had 7 items. See Lachman and Weaver (1997) and Mroczek and Kolarz (1998) for more detail on the development of these short personality measures for the MIDUS survey. Cronbach's alpha ranged from .75 to .89 across the six scales.

Job demands. Job demands were measured using three items. One asked the participant whether he or she had been unemployed for all or a significant part of the previous year. A second item asked whether a person had any serious ongoing problems getting along with someone at work in the past year. The final and third item asked whether a person had any other serious ongoing problem at work in the previous year.

Home demands. Home demands were assessed using 3 variables drawn from different sections of the MIDUS questionnaire. The first asked whether one had young children (ages 0 to 6) living at home. The second had participants rate on a 1 to 5 scale how often in the past year they had too many demands made on them at home (from 1 = "all the time" to 5 = "never"). The third asked whether in the past year one took care of an aging parent.

Carry-over between job and home (spillover). Carry-over effects were measured using a short scale of eight items that assess “spillover” between work and family (Eckenroade & Gore, 1990). Four items asked whether demands from work have detrimental carry-over effects onto the home domain. Four items asked about the reverse: home demands spilling over into the work domain. Each of the eight items asked the respondent to rate how often spillover occurs on a 1 to 5 scale where 1 meant “never” and 5 meant “all of the time.”

Control. As part of the MIDUS survey, participants responded to 8 items that measured generalized control beliefs (Lachman & Weaver, 1998; Wrosch, Heckhausen & Lachman, 2000). These items were developed from Pearlin and Schooler’s (1978) instrument that indexes generalized control beliefs or mastery. Participants rated control on an 11-point scale from 0 = “none” to 10 = “best”. These 8 items assess a person’s feelings of control or mastery over a wide range of life domains (e.g. finances, marriage, work, etc.) and have an alpha of .86 (Lachman & Weaver, 1998). We utilized 4 of these items, corresponding to control belief in the domains of work, health, children, and marriage.

Age. Age is the age of the respondents at the time of measurement in years. Because we wanted to examine the relationship between differing environmental demands and age across the lifespan, we calculated a u-shaped quadratic age function specifying the nadir of the curve at age 40 ($f(x_{age}) = -(x-40)^2$). Ordinarily, linear and quadratic terms are regressed on the variables of interest, allowing the data to determine the shape of the quadratic function. Another procedure for testing a quadratic relationship involves specifying the exact shape of the curve as well as its nadir point. The resulting function is then correlated to the variables of interest.

A significant association between a variable and this quadratic function indicates a significant curvilinear relationship that fits the function that was specified. This method allows for a theory-based test, and makes a strong assumption about the age-related function

because we do not let the software fit a curve on purely empirical grounds. In the present study, positive correlations between the curvilinear age variable and a given personality trait indicated that the values of the trait were lower among those younger and older than 40 and higher at 40. Age 40 was a reasonable nadir point by which to specify the curve because job demands in the MIDUS sample peak at this particular age.

Results

As a first step, we examined the curvilinear relationships between age and the personality traits neuroticism, extraversion, agreeableness, openness, and conscientiousness, using the function specified above. Table 1 depicts the results of the analyses run separately for men and women. As seen in the table, there were significant curvilinear age effects for neuroticism and agreeableness for the men and for neuroticism, agreeableness, and extraversion for the women in the sample. This means that neuroticism peaks at age 40, and that agreeableness nadirs at age 40 (for both genders). Extraversion also nadirs at age 40, but only among women. All other relationships were not significant.

Insert Table 1 about here

In the next step, we examined the relationships between age and neuroticism, extraversion, and agreeableness, the relationships that were significant in at least one of the two subsamples. We conducted regression analyses separately for men and women with the variables for job demands, home demands, carry-over, and control, and the personality traits as dependent measures (Tables 2-6). The results for the regression analyses are from the final models with all respective variables entered in the equation. Table 2 displays the regression results for neuroticism in the male sample. Results suggest that the carry-over of work and family demands and the control variables explain most of the curvilinear age-related variance

in neuroticism.

Insert Table 2 about here

Table 3 displays regressions for neuroticism in the female sample. Results suggest that job demands, home demands, and carry-over of work and family demands explain substantial amounts of the curvilinear age-related variance in neuroticism. Different from the male sample, single indicators from separate demand types contributed to the explained variance.

Insert Table 3 about here

Table 4 displays regressions for extraversion in the female sample. Results suggest that only control over job and health demands contributes to the explanation of the curvilinear age-related variance in extraversion. After entering the demand variables, the age term did not explain any additional variance.

Insert Table 4 about here

Table 5 displays regressions for agreeableness in the male sample. Results suggest that only control over health and marriage or partnership contribute to the explanation of the curvilinear age-related variance in agreeableness. After entering the demand variables, the age term did not explain any additional variance.

Insert Table 5 about here

Table 6 displays the regression results for agreeableness in the female sample. Results suggest that control over health and the carry-over of family and work demands contribute to the explanation of the curvilinear age-related variance in agreeableness. After entering the demand variables, the age term did not explain any additional variance.

Insert Table 6 about here

Overall, we found that nearly all of the peaks or nadirs in personality traits that occur in midlife are explained by family and work demands. The only case where demands did not render the curvilinear age function non-significant was neuroticism among women. In all other cases, family and work demands provided the explanation as to why there was a peak or nadir in a given trait at age 40.

Discussion

The goal of this study was to examine whether personality traits across the lifespan are sensitive to age-related differences in environmental demands in the domains of family and work. This was not to challenge the notion of stability of individual differences of traits, but rather to show that age differences in absolute levels of traits could be explained by age-related differences in life circumstances. Different from earlier studies asking if a given trait showed an overall increasing or decreasing trend (Costa & McCrae, 1994; Conley, 1984, 1985), the current study showed the value of detecting peaks and nadirs in these trends.

Consequently, we tested whether environmental demands and personality traits were inter-related in a cross-sectional design covering a broad age range, thus ensuring widely differing age-graded levels of work and family demands. Based on the literature on middle adult development (e.g., Hogan, 1987; McDermid, Heilbrun, & DeHaan, 1997; Moen &

Wethington, 1999; Rossi & Rossi, 1990), we expected peaks or nadirs in traits at the age of 40, when home and work demands peak. We indeed found curvilinear relationships for 3 of 5 “big five” personality traits, although they were gender-specific for extraversion. When we introduced home and work demands as well as control beliefs, the midlife personality curvilinearity disappeared (with the sole exception of the neuroticism peak among women at age 40, which was nonetheless reduced when demands were included in the model). These findings indicate that personality traits are sensitive to age-graded life circumstances. This is important because it outlines potential increases and decreases in trait levels, and shows that such rises and falls might be attributable to midlife peaks in home and work demands.

Further, it is of course conceivable that maturational processes may give rise to curvilinear functions (note the U-shaped functions observed in children’s language development as they grow older), but the fact that we find curvilinear associations between age, environmental demands, and trait level for 3 traits allows us to rule out, to some degree, maturational processes. The curvilinearity we found was more likely the result of changes in environments over time, i.e., environments that change in a curvilinear fashion, such as home and work demands.

The home and work demand and control belief variables that explained the peaks and nadirs in trait levels varied by gender. Among men, carry-over (spillover) and control beliefs over health and work explained the age-40 peak in neuroticism, although among women these variables did not fully explain the age-40 neuroticism peak. Among women, home worries and control beliefs over one’s health and work explained the age-40 nadir in extraversion. Among men, home tasks reducing job time and control over one’s health and marriage explained the age-40 nadir in agreeableness. Finally, among women, home spillover onto job and control beliefs over one’s health explained the age-40 nadir in agreeableness.

An interesting picture emerges from these findings. First, carry-over or spillover of concerns from work into one's homelife and vice-versa appear to increase neuroticism and decrease agreeableness at midlife. Second, control beliefs, especially over one's health, appears to increase neuroticism and decrease extraversion and agreeableness at midlife. Home-work spillover and a sense of control emerge as the key variables that play a role in personality plasticity at midlife. Spillover of worries from work to home and vice-versa can obviously cause distress and perhaps also disruptions in people's ability to regulate themselves, which in turn may lead to the midlife increases in neuroticism and decreases in agreeableness that we observed. Persons experiencing home-work spillover may have their psychological resources so taxed that their ability to regulate emotions or interpersonal relations may become compromised. The environmental demand of home-work spillover may effect people's ability to regulate their negative affect (leading to higher neuroticism) or to regulate their interpersonal relations (leading to lower agreeableness).

Similarly, feeling that one does not have control over one's health, while not an environmental demand per se, may also lead to disruptions in self-regulatory abilities. Lack of control can certainly lead people to change self-regulatory strategies (Wrosch, Heckhausen & Lachman, 2000). This in turn may lead to midlife increases in neuroticism and decreases in agreeableness (as well as decreases in extraversion among midlife women). The causal chain that results in personality plasticity may flow from: 1) environmental demands and decreases in control beliefs, to 2) disruptions in self-regulatory abilities (especially emotional and interpersonal regulation), to 3) increases or decreases in certain personality traits. However, without longitudinal data to model this temporal chain, this explanation remains speculative.

Limitations

Our study, while yielding provocative findings, is not without drawbacks and limitations. The biggest caveat involves our lack of longitudinal data. We do not know if the

curvilinearity we observed in neuroticism, extraversion, and agreeableness is due to cohort effects or actual age-graded processes such as the mediator chain described above. Without longitudinal data that follow people through midlife, we cannot know if the effects we found are due to development or cohort.

Another caveat involves causal directionality. It may be that the age-graded increases and decreases in the 3 personality traits existed prior to work-home spillover or changes in control beliefs. The personality changes may have preceded the environmental demands and may well have played a role in causing such demands. We cannot be sure of causal directionality in this cross-sectional design.

Conclusion

In this study we documented curvilinear age-personality relationships in 3 different major personality traits. In and of itself, this is an interesting finding, adding to the literature on changes in absolute levels of personality traits over the lifespan. However, we were able to explain nearly all of these curvilinear relationships via environmental demand and control belief variables. In particular, work-home spillover and health control beliefs were the variables that accounted for the age-personality curvilinearities. The link from environmental demands to personality plasticity is far from clear, but it may involve self-regulatory abilities or the breakdown of such abilities. Future research should explore these potential relationships, and in doing so would tie together concepts from personality, social, health, and developmental psychology, bringing these subdisciplines in closer concert with one another.

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Table 1: Correlations between personality traits and curvilinear age function

Age (Curvilinear)	N	Personality Traits			
		E	O	A	C
Men (N=900)	.10**	-.04	-.02	-.09**	-.01
Women (N=594)	.18***	-.09*	-.07	-.11**	-.06
Mean (SD): Men	2.11 (.62)	3.18 (.55)	3.09 (.49)	3.34 (.52)	3.40 (.42)
Mean (SD): Women	2.32 (.66)	3.23 (.57)	2.98 (.54)	3.59 (.42)	3.49 (.42)

Note: All gender differences between means are significant ($p < .001$) except for extraversion.

N=Neuroticism, E=Extraversion, O=Openness, A=Agreeableness, C=Conscientiousness

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

Table 2: Regression models for neuroticism, male sample (N = 900)

	Model 1	Model 2	Model 3	Model 4	Model 5
Job demands					
Employment status	.017	.020	.051	.043	.038
Problems at work	-.006	.004	.016	.029	.029
Work stress	-.201***	-.177***	-.033	-.028	-.029
Home demands					
Children age 1-6		.035	.007	.014	.018
Many demands		-.172***	-.034	-.019	-.021
Care of aging parent		-.030	-.013	-.002	-.002
Carry-over job/home					
Job reduces home activity			.051	.059	.058
Job makes irritable at home			-.248***	-.242***	-.244***
Job problems distract at home			-.110*	-.114**	-.114**
Job tiredness -> less attn. home			-.026	-.008	-.008
Home worries distract at job			-.144***	-.137**	-.136**
Home makes irritable at job			-.114**	-.103*	-.105*
Home tasks reduce job time			.079*	.072	.072
Home chores ->less sleep f. job			.040	.042	.042
Control					
Control work				-.071*	-.073*
Control relation /w children				.005	.007
Control health				-.073*	-.071*
Control marriage/partner				-.045	-.055
Age					
Curvilinear, quadratic term					.022
R ²	.04	.07	.21	.22	.22

* p < .05 ** p < .01 *** p < .001

Table 3: Regression models for neuroticism, female sample (N = 594)

	Model 1	Model 2	Model 3	Model 4	Model 5
Job demands					
Employment status	.110**	.100*	.149***	.140***	.139***
Problems at work	-.039	-.028	.022	.019	.027
Work stress	-.212***	-.170***	-.079	-.085	-.084
Home demands					
Children age 1-6		.044	.041	.056	.042
Many demands		-.247***	-.139**	-.137**	-.123**
Care of aging parent		-.027	.003	-.002	-.001
Carry-over job/home					
Job reduces home activity			.081	.089	.084
Job makes irritable at home			-.229***	-.224***	-.215***
Job problems distract at home			-.075	-.077	-.075
Job tiredness -> less attn. home			-.020	-.014	-.022
Home worries distract at job			-.133***	-.134**	-.140**
Home makes irritable at job			-.147**	-.138**	-.136**
Home tasks reduce job time			.062	.067	.073
Home chores ->less sleep f. job			.038	.046	.055
Control					
Control work				.022	.023
Control relation /w children				-.068	-.065
Control health				-.039	-.040
Control marriage/partner				-.044	-.047
Age					
Curvilinear, quadratic term					-.097*
R²	.05	.12	.24	.25	.26

* p < .05 ** p < .01 *** p < .001

Table 4: Regression models for extraversion, female sample (N = 594)

	Model 1	Model 2	Model 3	Model 4	Model 5
Job demands					
Employment status	-.033	-.031	-.047	-.036	-.035
Problems at work	-.012	-.016	-.038	-.034	-.039
Work stress	-.002	-.020	-.074	-.080	-.081
Home demands					
Children age 1-6		.009	.024	.017	.026
Many demands		.101*	.029	.013	.003
Care of aging parent		.019	.013	.006	.008
Carry-over job/home					
Job reduces home activity			-.074	-.067	-.063
Job makes irritable at home			.064	.033	.027
Job problems distract at home			.070	.062	.060
Job tiredness -> less attn. home			.086	.041	.046
Home worries distract at job			-.057	-.066	-.062
Home makes irritable at job			.067**	.053	.052
Home tasks reduce job time			.074	.066	.062
Home chores ->less sleep f. job			.049	.048	.042
Control					
Control work				.108*	.107*
Control relation /w children				.036	.033
Control health				.144**	.144**
Control marriage/partner				.063	.065
Age					
Curvilinear, quadratic term					.067
R ²	.00	.01	.05	.10	.10

* p < .05 ** p < .01 *** p < .001

Table 5: Regression models for agreeableness, male sample (N = 900)

	Model 1	Model 2	Model 3	Model 4	Model 5
Job demands					
Employment status	.034	.031	.017	.036	.025
Problems at work	.011	.004	-.007	-.026	-.026
Work stress	-.002	-.014	-.072	-.080	-.083
Home demands					
Children age 1-6		-.038	-.022	-.056	-.048
Many demands		.096	.039	.011	.007
Care of aging parent		.014	.009	-.008	-.007
Carry-over job/home					
Job reduces home activity			.078	.071	.070
Job makes irritable at home			.091	.088	.084
Job problems distract at home			.008	.008	.007
Job tiredness -> less attn. home			.002	-.021	-.022
Home worries distract at job			-.061	-.073	-.070
Home makes irritable at job			.056	.032	.029
Home tasks reduce job time			.092*	.092*	.092*
Home chores ->less sleep f. job			-.039	-.038	-.039
Control					
Control work				.061	.057
Control relation /w children				.060	.065
Control health				.103**	.108**
Control marriage/partner				.119**	.117**
Age					
Curvilinear, quadratic term					.044
R²	.00	.01	.04	.08	.08

* p < .05 ** p < .01 *** p < .001

Table 6: Regression models for agreeableness, female sample (N = 594)

	Model 1	Model 2	Model 3	Model 4	Model 5
Job demands					
Employment status	-.008	-.002	-.005	.009	.010
Problems at work	.043	.036	.030	.032	.026
Work stress	-.032	-.042	-.071	-.074	-.074
Home demands					
Children age 1-6		-.064	-.040	-.051	-.040
Many demands		.071	.022	.008	-.003
Care of aging parent		-.016	-.009	-.014	-.012
Carry-over job/home					
Job reduces home activity			.040	.043	.047
Job makes irritable at home			-.040	-.070	-.077
Job problems distract at home			.098	.093	.092
Job tiredness -> less attn. home			-.029	-.063	-.057
Home worries distract at job			-.163**	-.169**	-.165**
Home makes irritable at job			.131*	.114*	.113*
Home tasks reduce job time			.091	.085	.080
Home chores ->less sleep f. job			.080	.073	.066
Control					
Control work				.078	.077
Control relation /w children				.057	.054
Control health				.110*	.111*
Control marriage/partner				.093	.095
Age					
Curvilinear, quadratic term					.077
R ²	.00	.01	.05	.09	.10

* p < .05 ** p < .01 *** p < .001