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Does autonomy increase with age? Comparing the goal motivations of college students and their parents

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Abstract

We found that parents of college students report greater goal-autonomy than their children, consistent with organismic, humanistic, and trait perspectives upon positive aging. Parents also had higher levels of positive affect and lower levels of negative affect than their children. In a second, retrospective test of the age-to-autonomy relationship, parents reported more autonomy now compared to their own former selves, in addition to greater life-satisfaction. Finally, autonomy partially mediated the age-to-SWB effects, in both types of test. Overall, results support the proposal that personality functioning typically improves between the college years and middle age, providing normative SWB benefits.

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1. Introduction

Aging brings increasing physical problems. Most professional athletes can no longer perform at the same level by their mid-thirties, and most people experience

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significant physical declines or troubles by their late 40s or early 50s (Steverink, Westerhof, Bode, & Dittmann-Kohli, 2001). In addition, some cognitive abilities begin to decline by the middle of the lifespan (Wilson et al., 2002). But is it all downhill? Perhaps these negative trends are counteracted by a general upward trend in important personality variables, such as authenticity, integration, life-satisfaction, and wisdom. Certainly most of us would like to believe so! Indeed, the question of whether there is normative positive change in personality has emerged as an important topic in contemporary trait psychology (Costa et al., 2000; Roberts, Caspi, & Moffitt, 2003), as well as within contemporary well-being research (Carstensen & Charles, 1999; Mroczek & Kolarz, 1998) and within the field of positive psychology more generally (Diener & Lucas, 1999; Seligman & Csikszentmihalyi, 2000).

In the current study, we addressed this question by focusing on the issue of *psychological autonomy*. Psychological autonomy is a crucial individual difference and developmental achievement, according to self-determination theory (SDT; Deci & Ryan, 1985, 1991, 2000). To feel self-determined is to feel a full sense of ownership and self-assent regarding one's own motivated behavior, and self-determination is associated with a wide variety of positive outcomes (see Deci & Ryan, 2000, for a review). Autonomy is also an important issue within many other theories of personality development, including Erikson's (1963) lifespan model of ego-identity, Loevinger's stage model of ego-development (Hy & Loevinger, 1998), and Roger's humanistic model of the fully functioning person (Rogers, 1961). Because of autonomy's place in a variety of theories of human development and because of past empirical demonstrations of its beneficial consequences, autonomy seems a worthy construct to employ in order to assess the maturity and quality of personality functioning.

Why might we expect that feelings of autonomy would increase with age? SDT posits that people have a natural impetus to seek out autonomy, because autonomy is an inherent psychological need for all humans (Deci & Ryan, 1985, 2000). Because of this need, over time, we might expect that people find more ways to feel a sense of volition in life. SDT also postulates that people have an inherent "organismic integration process," by which they gradually manage to assimilate the non-internalized parts of themselves into a more coherent whole (Deci & Ryan, 1991). Because of this process, over time, we might expect that people gain the ability to make more self-appropriate choices. Based on this reasoning, and also based on the optimistic humanistic and ego-developmental perspectives discussed above, in the current study we hypothesized that chronological age would be positively associated with psychological autonomy.

Initial support for this hypothesis was provided by Sheldon and Kasser (2001), in a study of the goals, motivation, and well-being of a community sample of adults. Sheldon and Kasser assessed autonomy using SDT's distinction between external, introjected, identified, and intrinsic motivations. According to SDT (Deci & Ryan, 1991, 2000; Ryan & Connell, 1989), these four motivations occupy different positions on a continuum of autonomy. External motivation ("I am doing it because the situation demands it") and introjected motivation ("I am doing it because I am forcing myself to") reflect a relative lack of felt autonomy or volition. In contrast, identified

motivation (“I am doing it because I value it, even if I don’t enjoy it”) and intrinsic motivation (“I am doing it because the experience is inherently interesting or rewarding”) are both defined as autonomous motivations. SDT researchers typically compute a relative autonomy index by subtracting external and introjected motivation from identified and intrinsic motivation (Deci & Ryan, 2000).

Sheldon and Kasser (2001) predicted and found that older participants report more goal autonomy compared to younger participants. In addition, autonomy was among a set of variables that partially mediated the association between chronological age and well-being. A second type of support for the age-to-autonomy hypothesis was provided by Ryff (1995). Specifically, Ryff reported a cross-sectional correlation between age and autonomy, using a somewhat different conception and measure of psychological autonomy. A third type of support was supplied by Sheldon, Kasser, Houser-Marko, Jones, and Turban (in press), who in three studies found that older persons felt more autonomy than young persons in performing important social duties such as voting, tipping, and tax-paying.

The present study tested the age-to-autonomy association in a new way, using a sample of college undergraduates and their middle-aged parents. Specifically, we examined whether students’ parents, who are on average three decades older than their children, report greater levels of goal autonomy than do their children. This approach relies on a comparison of older persons to younger persons, who are matched on many important variables (such as genetic similarity, social economic status, home town, and household characteristics). In addition to evaluating the association of age with a relative autonomy variable, we also evaluated the association of age with each of the four types of motivation by itself. We made no predictions concerning which of the four types (i.e., external, introjected, identified, and intrinsic), if any, would be most strongly associated with age.

We also tested the age-to-autonomy hypothesis in a second way, by comparing parents’ present selves to their recollection of their former selves. Specifically, in addition to assessing parents at the present time, we also asked them to recall and rate the autonomy of the goals they pursued when they were their child’s current age. This approach relies on a direct comparison of present and remembered selves, within a middle-aged sample. Would parents report more autonomous reasons for pursuing their goals at present, compared to when they were their child’s age? Although this test was not as strong as the first test because of the possibility of retrospective biases (Ross & Wilson, 2003), we reasoned that finding a convergent pattern of results using the two methodologies would help bolster the case for our primary hypothesis.

1.1. Three supplementary hypotheses

In addition to assessing goal-autonomy we also assessed participants’ positive affect, negative affect, and life-satisfaction, which comprise the three most important facets of subjective well-being (SWB; Diener, 1994). This allowed us to test three supplementary hypotheses. First, we hypothesized that goal-autonomy would be associated with all three forms of SWB. This would be expected given SDT’s claim that autonomy is a psychological need whose satisfaction promotes thriving

(Deci & Ryan, 2000), and also given past research findings (Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001; Sheldon & Kasser, 1995). Second, we hypothesized that chronological age would be associated with at least some forms of SWB (Argyle, 1999; Mroczek & Kolarz, 1998). Specifically, based on past findings on SWB change between youth and middle-age, we hypothesized that age might be negatively associated with negative affect and positively associated with life-satisfaction (Charles, Reynolds, & Gatz, 2001; Mroczek, 2001). Third, we hypothesized that psychological autonomy might mediate any associations between chronological age and the three different SWB variables (Sheldon & Kasser, 2001). In other words, the development of greater autonomy may serve as a dynamic proxy that helps to explain any associations between chronological age and the SWB variables.

2. Methods

2.1. Participants and procedure

The initial sample consisted of 175 students within a social psychology class at the University of Missouri who completed a questionnaire containing current well-being and goal measures in exchange for extra course credit. We also asked students to supply us with their parents' names and addresses, offering additional extra credit for each completed parent survey received. A questionnaire packet was sent to each parent listed (278 in all). This questionnaire asked parents to first rate their current well-being, then list and rate the autonomy of their current goals, then rate their past well-being, then list and rate their past goals.

We received complete data back from 89 mothers and 72 fathers, ranging in age from 39 to 95 (for fathers, mean age = 51 years; for mothers, mean age = 49 years).¹ The majority of fathers had completed college, whereas most mothers had "some college"; the majority of parents were Caucasian, and had an income between \$50,000 and \$100,000; and the majority lived in a town with a population of 150,000 or greater. Data were available from both parents for 62 students, and from at least one parent for 98 students. Of these 98 students, 22 were men and 76 were women; the mean age was 19.66, with a range from 18 to 24. Eighty-three students were Caucasian, four were African-American, six were Asian-American, and four were Hispanic (one did not identify her ethnicity).

2.2. Measures

2.2.1. Subjective well-being

We assessed positive and negative mood using the Positive Affect Negative Affect Schedule (PANAS; Watson, Tellegen, & Clark, 1988), and assessed cognitive

¹ No mothers exceeded the age of 70, but three fathers did. These three fathers also exceeded the sample mean parental age by more than two standard deviations. To focus upon a middle-aged versus college-aged comparison, these three fathers were excluded from the sample.

life-satisfaction using the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). Again, these three constructs represent perhaps the most important facets of SWB (Diener, 1994; Diener & Lucas, 1999). The PANAS consists of 20 mood adjectives, 10 positive (i.e., “excited,” “pleased”) and 10 negative (i.e., “ashamed,” “distressed”). Participants were asked to rate how much they had experienced each mood “in the past month or so” using a 1 (very slightly or not at all) to 5 (extremely) scale. The SWLS asks participants to rate their agreement with 5 items, such as “In most ways, my life is close to my ideal,” using a 1 (strongly disagree) to 5 (strongly agree) scale. As noted above, parents also completed the three well-being measures with reference to their past self, using the same scale, with instructions to rate “to what extent you felt this way, in general, back when you were your child’s age.” α -coefficients for these nine measures ranged from .78 to .91.

2.2.2. Goals

All participants wrote down six current personal goals, defined as projects and concerns that “should be fairly general, concerning where you would ultimately like to go in life. However, they should also be goals that you will at least begin working on in the next couple of months” (Little, 1993). Participants generated one goal in each of six categories: self-acceptance/personal growth, financial/material, intimacy/friendship, societal contribution, popularity/recognition, and physical appearance. These represent highly typical categories in which people strive (Sheldon & Kasser, 1995, 1998).² Later in the questionnaire, parents were asked to generate a “past personal goal” in each of the six categories, “thinking back to the goals you were pursuing when you were your child’s age. What were you trying to do at that stage in your life?”

Next, participants rated each of their goals in terms of four different reasons for striving, using a 1 (not at all) to 5 (very much) scale (Sheldon & Elliot, 1999; Sheldon & Kasser, 1995, 1998, 2001). These reasons included: “because somebody else wants you to or because the situation seems to compel it” (external motivation), “because you would feel ashamed, guilty, or anxious if you didn’t” (introjected motivation), “because you really believe that it’s an important goal to have” (identified motivation), and “because of the enjoyment or stimulation which that goal provides you” (intrinsic motivation). As in our past research (Sheldon & Kasser, 1998, 2001), relative autonomy scores were computed for each participant by summing the identified and intrinsic ratings across the six goals, and subtracting the external and introjected ratings. Higher scores on this index indicate greater autonomy and self-possession, according to our theoretical perspective (Sheldon & Kasser, 1995). Children had scores only on current autonomy ($\alpha = .82$), and parents had scores on both current autonomy ($\alpha = .84$) and past autonomy ($\alpha = .80$).

² There were no age-related effects concerning goal content, and thus content will not be discussed further.

3. Results

3.1. Descriptive results

Table 1 presents means for the current motivation and SWB variables, for the entire sample (i.e., both parents and children). As is typical, participants reported higher levels of positive affect and life-satisfaction than negative affect, and also higher levels of identified and intrinsic than external and introjected motivations. Table 1 also presents correlations among the motivation and SWB variables. Some of these correlations are explicitly discussed below.

3.2. Primary hypothesis tests

To test our primary hypothesis using the present-time data, we regressed participant's relative autonomy at the present time upon participant's chronological age. We controlled for participant gender in this analysis (coded 0 = male, 1 = female), because gender is sometimes found to be associated with autonomy and because there were more mothers than fathers, and more female than male students, within the sample. Chronological age was significant in this analysis ($\beta = .15, p < .05$), as was participant gender ($\beta = .13, p < .05$). In other words, older participants and female participants reported somewhat higher relative autonomy than younger participants and male participants. Inclusion of a product term in a second step of the analysis revealed no interaction between age and gender ($p > .50$). Thus, the association between age and autonomy was not dependent upon participant gender.

We then repeated the above procedure four more times, once for each of the four motivations that comprise the relative autonomy index. No significant main or interaction effects were observed for external and introjected motivations, the two non-autonomous forms of motivation (all $ps > .30$). However, both age and gender were significant for the two autonomous forms of motivation (for identified motivation, age $\beta = .18, p < .05$, and gender $\beta = .16, p < .05$; for intrinsic motivation, age $\beta = .22, p < .05$, and gender $\beta = .17, p < .05$). No age by gender interactions emerged in the latter two analyses (both $ps > .50$).

Table 1
Means and correlations for motivation, well-being, and age variables ($N = 256$)

	Mean	1	2	3	4	5	6	7	8
1. Relative autonomy	3.35								
2. External motivation	2.11	-.68							
3. Introjected motivation	2.51	-.65	.38						
4. Identified motivation	4.13	.51	-.08	.07					
5. Intrinsic motivation	3.84	.56	-.06	.00	.49				
6. Negative affect	2.20	-.19	.15	.21	.03	-.07			
7. Positive affect	3.64	.26	-.06	-.06	.20	.37	-.25		
8. Life-satisfaction	3.54	.22	-.12	-.14	.07	.20	-.34	.34	
9. Age	37.96	.12	.03	-.05	.14	.18	-.27	.21	.07

Note. Correlations of .12 or more are significant at the .05 level.

Table 2

Parent means on motivation and SWB variables, both at the present time and as recalled when at the child's age

	Mothers (<i>N</i> = 89)		Fathers (<i>N</i> = 69)	
	<i>Then</i>	<i>Now</i>	<i>Then</i>	<i>Now</i>
Relative autonomy	3.08	3.69*	2.47	3.22*
External motivation	2.32	2.12	2.50	2.22*
Introjected motivation	2.63	2.59	2.51	2.41
Identified motivation	4.08	4.30*	3.78	4.08*
Intrinsic motivation	3.95	4.09	3.69	3.76
Negative affect	2.11	2.11	1.94	1.97
Positive affect	3.75	3.78	3.84	3.70
Life-satisfaction	3.23	3.63*	2.94	3.48*

* $p < .05$.

Next, we tested the age-to-autonomy hypothesis again, using the parents' retrospective data. Specifically, we conducted two paired-sample *t* tests, one for mothers and one for fathers, comparing the current to the past relative autonomy scores. Table 2 contains these means. Again consistent with our primary hypothesis, both mothers and fathers report feeling more autonomous now, compared to when they were their child's age.

We then repeated the above procedure eight more times, once for each of the four specific motivation variables, for both mothers and fathers. Table 2 contains these results as well. As can be seen, both mothers and fathers feel more identified with their goals at present than in the past. In addition, mothers reported near-significantly greater intrinsic motivation now compared to the past, and fathers reported significantly less external motivation now compared to the past.³

3.3. Supplementary hypothesis tests

Next we tested our three supplementary hypotheses, first using the combined parent–child sample. The first hypothesis was that autonomy would be associated with all three measures of SWB. As can be seen in Table 1, this was the case; relative autonomy was positively associated with positive affect and life-satisfaction, and negatively associated with negative affect. The second supplementary hypothesis was that chronological age would be associated with at least some forms of SWB. As shown in Table 2, correlational analyses revealed that age was positively correlated

³ We also examined gender differences for the 60 paired mothers and fathers, looking at both present and past variables. In 10 paired-sample *t* tests, four effects were significant; fathers were found to have less relative autonomy at their child's age, compared to mothers at their child's age ($p < .05$); less intrinsic motivation than mothers, at both time periods ($p < .05$); and less identified motivation than mothers at their child's age ($p < .05$). These effects are conceptually consistent with the gender differences found in the parent–child comparisons reported above.

with positive affect and negatively correlated with negative affect. However, age was unrelated to life-satisfaction.

Our third supplementary hypothesis was that autonomy would mediate any age-to-SWB effects. We tested this idea separately for the two effects that emerged in the parent–child data (involving positive affect and negative affect), using the procedures outlined by Baron and Kenny (1986). First, relative autonomy was regressed upon age and gender, yielding a B coefficient for age with an associated standard error. Next, positive affect (or negative affect) was regressed upon age, gender, and relative autonomy, yielding a B coefficient for relative autonomy with an associated standard error. These coefficients were then entered into Sobel's (1982) formula. The tests revealed that autonomy significantly mediated the effect of age upon positive affect ($t = 2.06, p < .05$), even though the drop in the age coefficient was small (from $\beta = .22$ to $\beta = .19$). Relative autonomy was near-significant in mediating the age to negative affect effect ($t = 1.86, p = .06$), although the drop in the age coefficient was again small (from $\beta = -.27$ to $\beta = -.22$). Thus, although there was reliable mediation in one case and near-reliable mediation in the other, the mediation was only partial and most of the age-related variation in mood remained.

Finally, we again tested our three supplementary hypotheses, this time using the present and past parent data. Again supporting our first supplementary hypothesis, that relative autonomy would be associated with SWB, both mothers' and fathers' rated autonomy at their child's age was associated with their positive mood and life-satisfaction at that time ($r_s = .37$ and $.29$, respectively, for mothers, both $p_s < .05$; $r_s = .35$ and $.26$ for fathers, respectively, $p_s < .05$). Mothers' relative autonomy at their child's age was negatively correlated with negative affect ($r = -.30, p < .05$), but this association did not reach significance for fathers ($r = -.17, p > .10$).

Support was also found for our second supplementary hypothesis, that age would be associated with at least some forms of SWB, using the retrospective methodology. As can be seen in Table 2, both mothers and fathers report greater life-satisfaction now than when they were their child's age. However, no significant differences were found for positive affect and negative affect.

Finally, we again evaluated our third supplementary hypothesis, that age-related autonomy differences would mediate any age-related SWB differences, using the life-satisfaction variable (the only SWB difference that emerged in the then versus now comparisons). To do this we followed the procedures recently outlined by Judd, Kenny, and McClelland (2001) for evaluating mediation effects in within-subject designs. These authors assert that mediation exists when the mediator predicts the outcome in each of the within-subject conditions (i.e., as shown above, past autonomy predicted past life-satisfaction and present autonomy predicted present life-satisfaction, for both mothers and fathers), and when the difference between the two versions of the mediator predicts the difference between the two versions of the outcome variable, while the sum of the two mediators does not. We found that age-related differences in autonomy significantly mediated the life-satisfaction differences for fathers ($\beta = .43, p < .05$) and nearly significantly mediated the life-satisfaction differences for mothers ($\beta = .18, p < .10$); in neither case was the sum of the two mediators a significant predictor (both $p_s > .49$).

4. Discussion

This study compared a sample of middle-aged persons to a sample of college students (i.e., their own children), in order to test the hypothesis that people develop greater psychological autonomy as they approach middle-age. In addition we tested the hypothesis in a second way, by comparing parents' reports regarding themselves in the present and in the past. The age-to-autonomy hypothesis received support in both types of analysis, in that older participants within the contemporary sample reported greater relative autonomy than younger participants, and parents reported greater relative autonomy now, compared to when they were their child's age. It appears that, more often than not, people learn to strive for more autonomous or self-determined reasons as they grow older (Sheldon & Kasser, 2001). This finding is consistent with other recent data, and also with the optimistic assumptions of Erikson's, Loevinger's, and Rogers' theories of lifelong personality development.

Ancillary analyses revealed that parents report more identified and intrinsic motivation than their children, while not differing from children on external and introjected motivations. Ancillary analyses also revealed that both parents report more identified motivation now compared to when they were their child's age. The fact that the between-subject and within-subject methodologies converged in revealing greater identified motivation for older as compared to younger persons is noteworthy, given that identified motivation is the hallmark of successful internalization of non-enjoyable duties and demands (Deci & Ryan, 2000). The current data suggest that older people better internalize their own goals and personal initiatives, consistent with existential conceptions of psychological maturity (May, 1980).

We also found support for three supplemental hypotheses. First, replicating past results and consistent with SDT's claim that autonomy is a psychological need, autonomy was consistently associated with SWB. Second, chronological age was positively associated with some forms of SWB, and was not negatively associated with any forms of SWB. Specifically, in the parent vs. child comparison age was positively correlated with positive affect, negatively correlated with negative affect, and unrelated to life-satisfaction. In the past parent vs. present parent comparison, present (later) time was positively associated with life-satisfaction and was unrelated to positive and negative affect. Third, there was evidence that autonomy partially mediates the age to SWB effect, in both the contemporary and past versus present analyses. Notably, the reductions in size of the age-to-SWB effects were small, indicating that other factors besides increased autonomy must also be taken into account to explain why middle-aged person are happier than younger ones (Sheldon & Kasser, 2001). Such factors might include age-related changes in wisdom, life-skills, values, personality traits, and/or self-concepts.

4.1. Limitations and future directions

The current study has a number of limitations. First, it only focused on a single sample of middle-aged parents and their college-aged children. Future research could further extend the present findings by adding additional samples and additional

generations, such as grandparents and even great-grandparents. Second, the data were not longitudinal. Longer-term research should evaluate changes in felt autonomy using cross-sequential lifespan studies. If positive personality change is indeed normative for all human beings (Erikson, 1963; Rogers, 1961), then it should manifest for individuals of multiple cohorts, each tracked over several decades. Third, the current results may in part reflect a temporal bias, in which older participants fall greater prey to a tendency to enhance their present selves at the expense of their former selves (Ross & Wilson, 2003). Notably, if such a bias were strongly operative we might expect to see the largest hypothesis-confirmatory effects in the comparison between parents now and parents then, as this type of retrospective self-rating task would seem to give a present-centered self-enhancement motive ample opportunity for expression. The fact that parents' present and former selves did not differ in positive and negative mood helps counter the temporal bias interpretation (Ross & Wilson, 2003). Still, future research could use non-self-report measures of autonomy and well-being, such as peer and family reports or implicit assessment methodologies, to assure that the results are not due to a self-serving bias which afflicts older people more than younger people.

5. Conclusion

In sum, these data again suggest that more often than not, people develop a greater sense of autonomy and psychological well-being as they age (Ryff, 1995; Sheldon & Kasser, 2001). Although physical decline may be normative across the lifespan, compensatory psychological gains may also be normative.

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