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Productive Activities and Agency in Older Age ¹

Successful aging has been described as the maximization of the benefits associated with aging and the minimization of the losses (Baltes & Baltes, 1990). One criterion for aging successfully is the maintenance of good health and well-being late into the life span. It is the thesis of this paper that one pathway to enhanced health and well-being is through involvement in productive activities. Moreover, it is posited that this relationship between productive activities and well-being operates through the bolstering of those aspects of the self that comprise the agentic self-concept and that this process is shaped by social-structural characteristics.

In this chapter, we first will review prior research on older adults' involvement in productive activities and the benefits accrued both to the individual and to society by such involvements. Second, we will outline the hypothesized role of the self-concept in the relationship between productive activities and enhanced well-being. Finally, we will discuss the results of a theoretical model testing our hypotheses.

1 Productive activities

¹ Data used in this chapter were from three separate surveys conducted through the University of Michigan's Survey Research Center (A. Regula Herzog was a co-principal investigator on each project). The data for the American's Changing Lives Survey were collected by James House and colleagues with funding provided by National Institute on Aging grant PO1-AG05561. The data for the Asset and Health Dynamics Among the Oldest Old (AHEAD) Survey were collected by F. Thomas Juster and colleagues with funding provided by National Institute on Aging grant AG09740. The data for the Self Portraits Survey were collected by A. Regula Herzog and Hazel Markus with funding provided by National Institute on Aging grant AG08279.

What is meant by "productive" activities and how are these activities different from other activities? Economists define productive activities as those behaviors that produce valued goods and services. Paid employment is the prototypical such activity; the fact that it is paid provides evidence that it is valued, at least by the person who is willing to pay for it. U.S. national statistics imply the same emphasis when they monitor employment figures, as does public attention when it closely follows trends in these statistics.

It is widely known that most older Americans stop working when they are in their sixties and likewise that sizeable proportions of women do not work outside of the home for much of their lives. Does this mean that older people and women are not productive? Probably not, but this is uncertain because the U.S. does not have good employment-like statistics for other productive activities. Such information can be found, however, in social science research such as data from the American's Changing Lives (ACL) survey. Conducted first in 1986 with a sample of about 3,600 American adults, again in 1989 and most recently in 1994 with the same respondents, this survey was designed to measure, among other things, productive non-work activities among American elders and change therein.

After extensive theoretical work, analysis of existing time budget data and focus group discussions, a number of productive activities (i.e., housework, child care, home maintenance or improvement, volunteer work, informal help to family and friends, assistance to persons who have chronic physical or mental health problems or who experience a sudden problem, and regular and irregular paid work) were selected for examination (Herzog, Kahn, Morgan, Jackson & Antonucci, 1989). All of these activities produce a valued good or service, even if the product is not actually paid for. Deliberately excluded were activities that produce an intangible benefit only to the active person, such as leisure or educational activities, because such a definition would include literally every activity (i.e., napping can be beneficial). The set of chosen productive activities was believed to include most of the major activities that fit the overall definition.

In order to measure such productive activities, respondents in the ACL were presented a list of specific activities. For example, for housework, respondents were queried as to whether or not they participated in such household chores as cooking, grocery shopping, cleaning, laundry, and sewing. Respondents then were asked to estimate the total hours spent on the entire category of housework activities.

Based on these data from the ACL, it was possible to determine the participation rates of respondents in the various productive activities by age groups. These rates were expressed as the percentage of persons in a particular age group who indicated that they had performed a particular category of productive activities (Herzog et al., 1989). Findings demonstrated a pronounced decrease in paid work as age increased paralleled by a similar decrease in child care. Such a decrease in paid work often is used to buttress the expectation of decline in productivity among the elderly. Findings further indicated that the observed decrease in paid work and child care is not mirrored in other productive activities. Participation rates for other activities stay at similar levels throughout the life span with minor decreases - if any - evident only after the age of 65 or even 75. It should be noted, however, that the participation rates did not increase with age either. Thus, there is no indication of sizeable numbers of adults starting to do any of these productive activities in older age.

When the number of hours that respondents reported spending on each category of productive activities were summed, age patterns reflecting decreased time in productive activities with increased age were obtained (Herzog et al., 1989). This pattern is mostly due to decreased participation in paid work and child care. In other words, except for time spent on paid work and child care, older adults spend a roughly similar amount of time in productive activities as do younger adults. Also notable is the finding that whereas paid work represents a major proportion of productive involvement in younger ages, this is much less true in older age when other forms of productive activities come to the forefront.

Of course, these age differences - while an appropriate reflection of the productive contributions by those currently old - cannot be used to infer changes that would occur with aging. In order to see how many older adults in fact increase or decrease their productive contribution, longitudinal data are needed. Because data from the ACL study are available for two waves, short-term longitudinal changes over 2 1/2 years can be examined.

Participation rates of respondents aged 65 years and older across two waves of the ACL are shown in

Figure 1. These findings illustrate a great deal of stability over time (lower two sections), but also some indication for stopping an activity, and even for starting one. The latter suggests that a few adults do indeed start productive activities in their later years. Of course, it is unclear whether the report at Wave 2 by older people who started an activity indicates that they

tried the activity for the first time or that they had done it before, just not in the period reported about in the first interview.

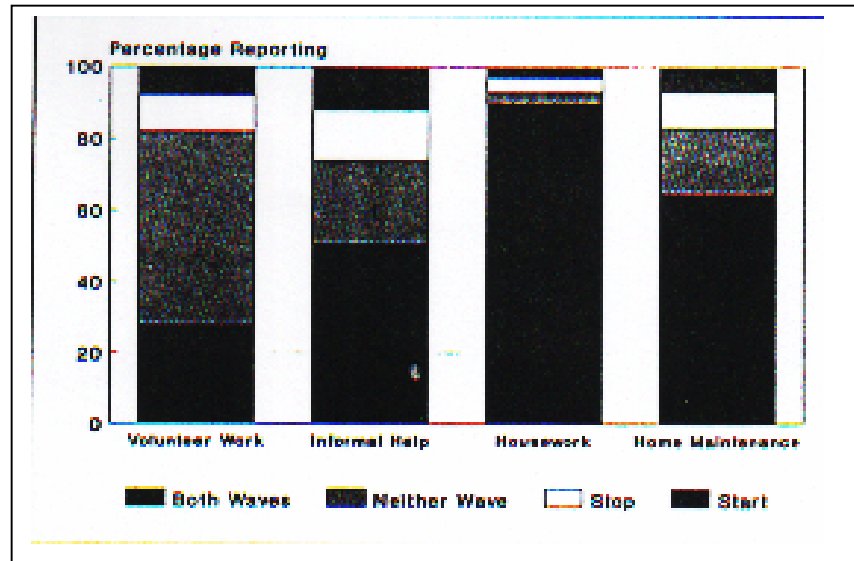


Fig. 1: Stability and Change in Productive Activities of Older Americans Across 2 1/2 Years (ACL data, 1986, 1989)

Data available from a second survey includes some of the productive activities examined in the ACL, and as such, provides an opportunity to replicate the cross-sectional age patterns of participation in productive activities found in the ACL. Such replication is always useful when one deals with relatively small samples of elderly respondents. The Asset and Health Dynamics Among the Oldest Old survey (AHEAD; Hurd, Rodgers, Soldo & Wallace, 1994) was conducted in 1994 with about 7400 persons 70 years old and older nationwide. The measures of productive activities were included only in a special component of the survey with a random subset of 895 respondents. The participation rates for volunteer work, informal help and paid work are presented in Figure 2. These rates are very similar to those obtained in the ACL. That is, higher percentages of older adults were engaged in informal help than in formal volunteer work, and very low

percentages of older adults were involved in paid work. Also, a similar age-related decrease in paid work was noticeable.

The findings from the ACL and the AHEAD surveys suggest that older adults do engage in productive activities and that there is a fair amount of stability in productive activities among the elderly -- those who participate continue to do so, those who do not participate continue not to do so -- but that a few elders do start, some others do stop. Only paid work and child care show pronounced decreases, and both of these activities are functions of normative age-related role changes.

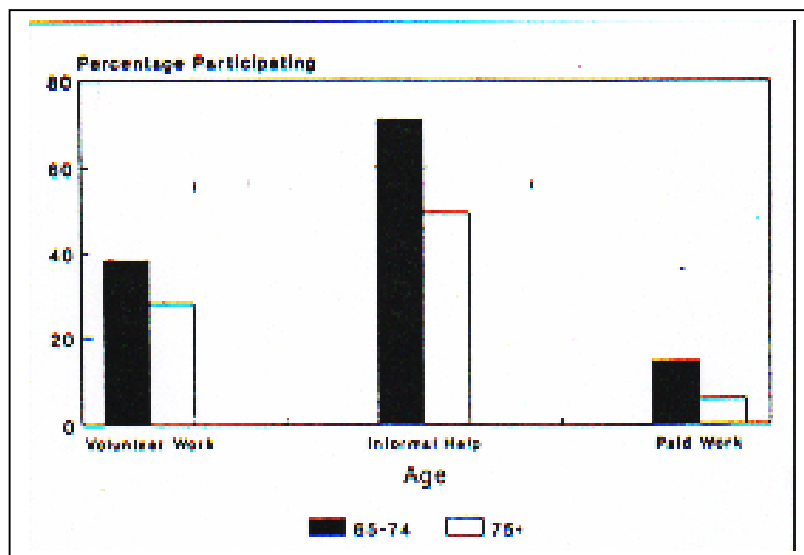


Fig. 2: Older Americans' Participation in Productive Activities. (Note: The AHEAD survey included spouses of age-eligible respondents resulting in approximately 10 percent of respondents being below age 70. As such, the portion of the sample aged 65-69 is not representative of older adults in this age range; AHEAD data, 1994, Module 2)

Can it be determined which older adults are likely to be involved in productive activities of the various kinds? Results from a few investigations are available, but most are small studies without comprehensive assessment of productive activities. One determinant of participation in productive activities in young and middle age is structural or role characteristics: Women spend more time in child care and housework, men more in paid work (Herzog et al., 1989). Married women and men are more likely to be

involved in parenting than are unmarried women and men (Aneshensel, Frerichs & Clark, 1981).

Because the responsibilities of work and of parenting typically are relinquished in older age, associated productive activities of paid work and child care disappear, while other forms of productive activities are maintained. Factors that affect these other productive activities seem to relate to individual preferences and competencies. For example, the general activity level of older peoples' life-styles (Chambre, 1987) or their social and organizational involvement (Herzog & Morgan, 1993) appear to be related to volunteer work, documenting the link to life-style characteristics. Health status is a resource or competency factor that appears related to volunteer work (Chambre, 1987; Glass, Seeman, Herzog, Kahn & Berkman, 1995; Herzog & Morgan, 1993) and to productive involvement more generally defined (Danigelis & McIntosh, 1993). Likewise, educational attainment as another indicator of personal competency or social resources consistently has been found to relate to performance of paid work, volunteer work, and home maintenance (Chambre, 1987; Cutler & Hendricks, 1990; Harris & associates, 1977; Herzog & Morgan, 1993; Lawton, 1983; Morgan, 1986). Finally, as will be returned to later in this paper, personality characteristics have been identified as potential determinants of productive activities. For example, volunteer work was related to an extraverted personality in the ACL (Herzog & Morgan, 1993).

2 Societal significance of productive activities

The recognition of the growing proportion of older adults in American society, in combination with a trend towards earlier retirement ages, has raised concerns from many quarters over an increasing imbalance between growing numbers of older adults who are not working for pay (and hence are presumed unproductive) and shrinking numbers of adults working for pay. At the societal level, this growing "dependency ratio" raises concerns about the viability and funding of Social Security, pensions, and health programs for older adults and about serious labor shortages (U.S. Senate Special Committee on Aging, 1987-88).

This rhetoric stands to be modified by the demonstrated productive contributions of older Americans outside of the regular economy. By doing their own housework and maintaining home and yard, many older adults

save on services that can be costly for those who are unable to perform those activities themselves. By working as volunteers, older adults contribute services that otherwise would have to be paid for by the organizations for which they volunteer. In fact, customary costs for products and services bought in the market are sometimes used to arrive at an actual dollar value of the productive contributions of older adults. Using the ACL it has been estimated that Americans 75 and older contributed 1986 on average about 4.000 dollars, Americans 65 to 74 years old about 10.000 dollars (Herzog & Morgan, 1992).

3 Personal significance of productive activities

The claim that being active and involved in older age is not only good for society but also for the older individuals themselves is almost as old as gerontological research (for reviews of this literature see Larson, 1978; Okun, Stock, Haring & Witter, 1984). Recent research also has demonstrated a link between productive activity and health and well-being (e.g., Garfein & Herzog, 1995; Glass et al., 1995; Krause, Herzog & Baker, 1992). Moreover, Krause et al. (1992) demonstrated that providing informal help to others was related to well-being primarily through increased feelings of personal control. Similarly, it is our contention that productive activities exert an impact on well-being because they are involved in fashioning and maintaining an agentic (e.g., competent, active) identity or self in later life.

The premise that the agentic self represents one link between productive activities and well-being is based on the notion of the self as the manager or negotiator of adaptation within the context of social and individual changes associated with the life span and aging. Other researchers have described self-regulatory processes such as selecting and re-evaluating activities, commitments and goals (e.g., Baltes & Baltes, 1990; Brim, 1988; Brandtst.,dter & Renner, 1990; Schulz, Heckhausen & Locher, 1991), and performing social comparison processes (Heidrich & Ryff, 1993) in order to continue functioning satisfactorily in older age. But where are these processes of adaptation orchestrated and where are their results preserved? It has been suggested that this happens in the self system (Brandtst.,dter & Greve, 1994; Markus & Herzog, 1991).

The self has been described as a repository of self knowledge; the perspective on or story about the self that reflects what an individual has

come to think about, care about, and spend time and energy on; what an individual considers as uniquely his or hers (Markus & Wurf, 1987). The self story also has a history and a future. People hold visions of what might be possible for them in the future and impressions of what they were like in the past (Markus & Nurius, 1986; Markus & Herzog, 1991). The self has been conceived of as consisting of a collection of domain-specific structures of self knowledge called self-schemas (Markus, 1977). Others refer to these structures as salient identities (Stryker, 1986) or core conceptions (Gergen, 1977). Incorporating personal experiences as well as social and cultural expectations and norms, self-schemas are involved in interpreting day-to-day experiences, planning behaviors in pursuit of maintaining current and actualizing possible selves, and regulating affect in protection of the self (Markus & Herzog, 1991). In other words, the self system is a dynamic entity very much involved in actualizing and expressing itself in everyday life and in adapting to some of the encountered constraints.

A recent survey provides information about adults' views of their self through both open-ended descriptions and self-ratings. The Self Portraits survey is a study of a representative sample of nearly 1500 adults aged 30 years and older residing in metropolitan Detroit. The major themes that emerge from respondents' self-descriptions are the social self -- family-oriented, friend, caring, loved - and the moral self - responsible, mature. Almost everyone holds such self schemas. Less uniformly held but still fairly widely endorsed are the agentic self - active, intelligent, competent -- and the societal self - woman or man, ethnic or racial identity (Herzog, 1994).

The self - particularly the agentic self - is expressed through behaviors or activities and, in turn, performed activities actualize and maintain the self. Specific activities are often chosen to validate a current self, to enhance or defend it, or to maintain consistency. The best way of laying claim to a particular self schema is to behave in accordance with it (Cross & Markus, 1990). For example, those with a sense of competence are likely to engage in high occupational efforts and attainments (Andrisani & Nestel, 1976; Mortimer & Lorence, 1981). With respect to productive behaviors, one might speculate that these are particularly critical in bolstering an agentic, competent self because of their active nature and social significance. In support of this hypothesis, Krause et al. (1992) found that volunteer work in the form of informal help to friends and relatives - but not formal volunteer work - was positively related to a sense of control among older adults or

what might be called a competent self. Similarly, Hayward, Hardy, and Chiang (1990) speculate that retirees who return to work after retirement do so because of the centrality of work in their self-concept and their inability to deemphasize this domain of competence after retirement.

The intimate link between self and behaviors has been well recognized (Cross & Markus, 1990). Others also have implicated the central role of human agency in the understanding of behavior when they call for self-regulatory mechanisms. For example, Bandura (1989) refers to human agency when he discusses the hierarchical structure of self-regulatory systems involved in thought processes, motivation, and action. Or Bagozzi (1992), in analyzing the link between attitudes and behaviors, argues for cognitive and emotional self-regulatory mechanisms which broaden current attitude theory to include motivational, social, and decision processes. Both of these formulations seem to refer to a core system that regulates affect, selects goals, and plans behaviors. Such a system appears similar to our conceptualization of the self system.

In the Self Portraits study, in addition to aspects of the self, assessments were made of the frequency with which a set of activities were performed. The productive activities of volunteer work, informal help to others, home maintenance, grocery shopping and housework were included in the set, but were measured in terms of stylized frequencies (i.e., ranging from "almost never" to "very often") rather than in terms of hours as in the ACL and the AHEAD studies. In Table 1, correlation coefficients among these five productive activities and five aspects of the agentic self are presented for the respondents aged 65 and older ($n = 679$). These coefficients generally support our assertion that productive activities are associated with the agentic self of older Americans.

Table 1: Correlation Coefficients Among Productive Activities and Aspects of an Agentic Self of Older Americans

Activities	Active	Hardworking	Competent	Competitive	Independent
volunteer work	.26***	.10**	.08*	.14***	.04
informal help	.37***	.25***	.14***	.14***	.12***
home maintenance	.25***	.33***	.08*	.11**	.04
housework	.16***	.17***	-.02	-.02	.11**
grocery shopping	.26***	.17***	.12**	.11***	.09*

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

Because of its dynamic, adaptive nature, the well-functioning self is expected to bear a relationship to well-being. Here it is important to note that well-being is likely to be a function of a society's or cultural group's shared sense of what it means to "be well" or to live the "good" or the "appropriate" life. From studies in cultural psychology and anthropology, it is evident that cultural groups diverge in their views of the good life and the good person or self (Diener & Diener, 1995; Markus & Kitayama, 1994).

In individualist North America, a key element of the collective cultural framework is a set of beliefs about the self. These beliefs concern ways of being: what a self is and what to do to realize a good one. Such understandings are not merely a metaphysical backdrop. Rather, they configure the nature of the fit between the individual and the cultural environment and give form to the adaptive task. To be a "good" American, it is necessary to be an independent, self-contained, masterful entity who is in control of one's actions, someone who works, who produces, who is agentic (Markus & Kitayama, 1991; Weisz, Rothbaum & Blackburn, 1984).

The roots of this cultural frame are complex--they include the Judeo-Christian notion of the individual soul, the English legal tradition of free will, industrial capitalism, the Protestant work ethic, and the pervading notion of gaining control over the environment. And in fact, selves that reflect and embody these notions have good mental health outcomes (cf. Taylor & Brown, 1988). American culture often has been characterized as a "can do" society in which trying to solve problems, fix things, or take action is important. Very recently, this view of how to live life shows up in exhortations in the popular media to "just do it" or to stay active "because if you rest, you rust."

In the Self Portraits study two aspects of the self were found to be related to well-being, the breadth and richness of the self and the agency of the self. First, the number of currently held self schemas was positively related to indicators of well-being including both mental and physical health (Franks, 1994). Moreover, the relationship between the number of current self schemas and well-being was mediated by satisfaction with the self. These findings imply that the breadth of current self knowledge is important for well-being, a finding that is consistent with the work of others (Linville, 1987; Thoits, 1983, 1986).

Second, the kinds of self schemas that seemed to be most influential in the relationship with well-being were schemas related to activity, competence, and agency - the self schema of 'active,' of 'independent,' of

'intelligent' (Franks, 1994; Holmberg, 1994). This finding is consistent with research in cultural psychology identifying what should be contained in the self of a person in American society (Markus & Kitayama, 1991). It also is consistent with research that demonstrates a positive relationship between a sense of control - also called self-efficacy, mastery, self-directedness, and related to what have been termed here agentic self schemas - and health and well-being (for review of this literature see Rowe & Kahn, 1987). In summary, our own findings and those of others suggest that a rich, complex self imbued with agency is an important ingredient of well-being.

4 Social structural aspects of activities and self making

While individuals hold a broad range of individualized self schemas and to some extent engage in behaviors consistent with those schemas, the schemas and their relevant behaviors are fashioned from available experiences and images. Social experiences and expectations, in turn, are conditioned by social groups and stratifications in our society. In other words, how individuals conceive of themselves and the behaviors that they display in accordance with this self-knowledge is importantly conditioned by the social environment in which they live, by the experiences that the social environment affords them and the expectations that the environment casts upon them. Bandura (1989) refers to this as triadic reciprocal causation and what is meant is that the exercise of agency or self-influence takes place within existing environmental constraints. In addition, Kohn (1989) has explicitly called for an examination of how personality and behavior are conditioned by people's position in the larger social structure.

Age is one particular example of a social-structural characteristic. Other examples include gender, race, and socioeconomic status. The strongest social-structural correlate of the self and behaviors identified thus far in the Self Portraits data is educational attainment, that is, how much schooling individuals have obtained. Individuals with more than a high school education were more likely to hold almost any of the self schemas investigated than were individuals with less than a high school education, with the exception of the societal selves of man or woman, and of racial or ethnic group. This educational difference was particularly notable for

agentic aspects of the self. For example, whereas among individuals with less than a high school education less than half hold a self schema of active, among individuals with more than a high school education three-quarters hold an active self schema. Other investigators have also documented the relationship between education or social class and indicators of an agentic self (Kohn & Schooler, 1983). In addition, educational attainment has been found to be one of the major predictors of formal volunteer work and informal help to others (Herzog & Morgan, 1992; Krause et al., 1992).

An impressive body of research demonstrates a link between education and well-being, particularly mortality and physical health, but also depression (for reviews see Adler, Boyce, Chesney, Folkman & Syme, 1993; Adler et al., 1994; Berkman, 1988; Thorslund & Lundberg, 1994). Findings from the ACL have shown that education moderates the course of aging and health (House, Kessler & Herzog, 1990; House et al., 1994). Among persons with high formal educational attainment, the onset of health problems appears to be postponed until rather late in life, while such problems appear much earlier in life among persons with little formal education. These cross-sectional findings are confirmed by recently reported longitudinal findings from the MacArthur studies of successful aging (Seeman, 1994): Even among a very healthy group of older adults, those less educated are more likely to decline in physical and cognitive functioning over a two-year period than those with more education. To summarize, it appears that the highly educated display what has come to be referred to as successful aging - i.e., the maintenance of good health into old age (Rowe & Kahn, 1987).

In other work (House et al., 1992), this beneficial effect of educational attainment has been explained by showing that differential exposure to several risk factors to health including a general sense of self-efficacy, in part, accounts for the different aging patterns displayed by the educational subgroups. Such an explanation is consistent with the theoretical notion put forth here, namely, that the more educated are performing more preventive health and productive behaviors in support of better developed and adapted self schemas of health and competence, and that this mechanism might account for the healthier aging of the more highly educated. What allows the better educated individuals to develop richer and more agentic self systems and the behavioral strategies that support these self systems is a critical issue. Education clearly increases the opportunities and resources individuals have to fulfill the cultural imperative and to realize the "good

self" of being active, competent, and agentic. It may be that the more educated can learn more about themselves and identify empowering strategies. It may also be the case that the power that accompanies becoming more highly educated allows these individuals to define what actually counts in society. These are important research issues for future inquiries. What we wish to suggest is that higher educational attainment is associated with a richer and more agentic self system and related behaviors and that this form of "self making" is involved in the more successful aging of highly educated individuals.

5 Conclusion: Putting it all together

Thus far, several activities that older Americans perform to help others or to benefit their own family's household have been described. In contrast to the common rhetoric about older people being unproductive, evidence has been offered to suggest that older people do contribute in many ways except through the standard form of productivity - paid employment. It also has been argued that such productive contributions are good for society but equally good for the older individuals themselves. It has been posited that these individual benefits derive at least in part from the opportunity to express and maintain agentic selves and identities through productive endeavors and from the positive relationship between these selves and health and psychological well-being. Finally, it has been argued that educational attainment importantly influences this process by facilitating more frequent productive activities, thereby allowing more and better developed agentic self schemas, and ultimately by producing better well-being and health.

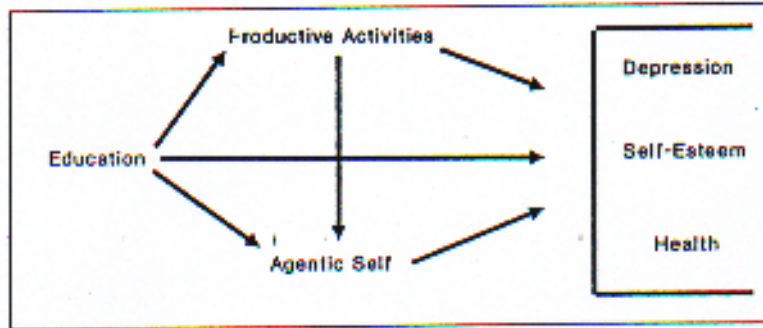


Fig. 3: A Theoretical Model of Education, Productive Activities, Agentic Self and Well-being.

Graphically, this process might be depicted as shown in Figure 3. Such a theoretical statement can be empirically estimated by means of structural equation modeling. Of course, with nonexperimental and cross-sectional data as in the Self Portraits study, the causal direction of these linkages cannot be confirmed, but tests of the extent to which the data are consistent with our hypotheses can be conducted.

Table 2: Measurement Model for Productive Activities and Agentic Self

Item description	factor loadings*
Productive activities	
1. How often do you do volunteer work?	.33
2. How often do you spend time helping out family or friends?	.55
3. How often do you work in the yard, or do home or car maintenance?	.47
4. How often do you do housework in your own home?	.30
5. How often do you run errands or shop for groceries?	.51
Agentic self-schemas	
1. active	.73
2. hardworking	.46
3. competent	.42
4. competitive	.29
5. independent	.34

* Completely standardized factor loadings. The fourth-listed item for the first latent construct and the first-listed item for the second was constrained to 1.0 in the unstandardized solution.

Using LISREL 8 (Jöreskog & Sorbom, 1993), the model was estimated for the agentic self and productive activities of respondents aged 65 and older in the Self Portraits study. Education was measured through one question assessing the number of years of schooling completed. Productive activities and agentic self were each represented by five indicators (factor loadings shown in Tab. 2). Depression, self-esteem and physical health were used as separate indices of well-being. Depression had eight indicators taken from the Center for Epidemiological Studies-Depression scale (CES-D; Radloff, 1977). Self-esteem had four indicators derived from the Rosenberg self-esteem scale (Rosenberg, 1965). Physical health had three indicators consisting of a rating of current health, a rating of the extent to which daily activities are limited by health, and the number of ten self-reported disease conditions.

The model demonstrated an adequate fit to the data (e.g., Chi square (282 df) = 749.20; GFI = .92; CFI = .88). Presented in Table 3 are the standardized direct, indirect, and total effects estimated from the foregoing model. Direct effects represent the relationship of one variable to another with no intervening variables. Indirect effects represent the relationship of one variable to another operating through other variables in the model. Finally, total effects represent the entire relationship of one variable to another, including the direct as well as the indirect effects (Bollen, 1989).

Table 3: Direct, Indirect and Total Effects Among the Model Variables (Standardized Regression Estimate)

		Direct Effects	Indirect Effects	Total Effects
Productive Activities				
(1)	Education	.23***		.23***
Agentic self				
(2)	Education	.15**	.17***	.32***
(3)	Productive activities	.75***		.75***
Depression				
(4)	Education	-.14**	-.11***	-.25***
(5)	Productive activities	-.22	-.13	-.35***
(6)	Agentic self	-.18		-.18

Self-esteem				
(7)	Education	.03	.17***	.20***
(8)	Productive activities	-.40	.63**	.23**
(9)	Agentic self	.83***		.83***
Health				
(10)	Education	.12**	.18***	.30***
(11)	Productive activities	.37**	.22**	.59**
(12)	Agentic self	.29**		.29**

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

Starting with the core of the theoretical model, a strong relationship between productive activities and the agentic self is evident (line 3), confirming the hypothesized link. Moving to well-being, the agentic self has a direct relationship to self-esteem and to health (lines 9 and 12), but not to depression (line 6; the relationship is in the expected direction but does not reach statistical significance). Productive activities has a significant total effect on all well-being variables (lines 5, 8, and 11); for self-esteem and health, the indirect component through the agentic self is significant, and for health the direct effect also is significant. This latter finding suggests that being engaged in productive activities is beneficial to health for reasons beyond the bolstering of an agentic self-concept.

In terms of the associations between education, productive activities, the agentic self and well-being, several significant paths are notable. As hypothesized, those respondents with higher educational attainment appear to engage in more frequent productive activities (line 1), which facilitates the development of an agentic self (line 3) and thereby enhances mental and physical health (lines 6, 9, and 12). In fact, in a reduced model when only these paths were estimated, the fit to the data was nearly as good as that of the less restricted model (Chi-square (289 df) = 792.69; GFI = .92; CFI = .87).

In addition to these expected paths, part of the education effect impacts well-being more directly, either through productive activities alone, or through an agentic self alone, or without operating through either one of them. In other words, more educated older Americans fare better than less educated ones. Some of this link can be explained by the fact that (a) the more educated older adults are more likely to be productively engaged, more likely to hold an agentic self-concept, and thus have better well-being; (b) the more educated are more likely to be productively engaged and thus

have better well-being; (c) the more educated are more likely to hold an agentic self-concept and thus have better well-being; and (d) the more educated just simply have better well-being.

Because these findings are based on cross-sectional data, they may also reflect the opposite causal direction. That is, it also is possible that healthier older adults fashion more agentic selves than those who are less healthy and that older adults who hold more agentic selves engage in more frequent productive activities than those who hold fewer agentic selves. The data cannot help to establish the direction of causation. The model rests on theoretical grounds and the data appear reasonably consistent with the theory.

In future research, we will continue to examine the links between education, activities, the self, and well-being. Although the model demonstrated an acceptable fit for productive activities and an agentic self, it remains to be tested whether this model is specific to productive activities and the agentic self or is more generally applicable to a broader set of activities and/or to other aspects of the self. For example, does involvement in productive activities bolster other aspects of self such as being involved in family or being loved? As another example, can an agentic self-concept be bolstered by activities other than those examined here (e.g., travel, activities with friends).

Clearly, more work is needed to better understand the ways in which good health and well-being can be maintained later into life. In this chapter, we have sought to advance as one important component of successful aging, the sustaining of one's positive view of the self by means of productive activities. To this end, we have reviewed prior research demonstrating several productive activities performed by older Americans and the benefit such activities provide to both the society at large and the older individuals themselves. We further have illustrated that the bolstering of the agentic self is one link through which engagement in these productive activities can lead to greater health and happiness in older age.

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