

Multiple Roles and Well-being: Sociodemographic and Psychological Moderators

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Abstract Research on multiple roles has supported the enhancement hypothesis, but it is unclear if benefits of multiple role involvement exist across all segments of the population. This study was designed to examine whether the role enhancement hypothesis suits both men and women with varied education levels. A further goal was to determine if perceived control moderates associations between multiple role involvement and well-being. This sample included 2,634 individuals from the Midlife in the United States (MIDUS) survey who occupied up to eight roles each. Psychological well-being was measured in six dimensions (autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance); positive and negative affect were also measured. Results of hierarchical regression analyses supported the role enhancement hypothesis, as greater role involvement was associated with greater well-being; however, the findings suggest that it was only well educated women with multiple roles who showed higher levels of autonomy. Perceived control was also found to moderate some of the obtained linkages.

Keywords Multiple roles · Well-being · Gender · Education · Control

Contemporary women and men are frequently invested in multiple roles. A recent national survey shows that 64% of women and 74% of men aged 25–74 are married, and only 17% do not have children (Marks, Bumpass, & Jun, 2004). In addition, 70% of women and 81.9% of men between the

ages of 20 and 64 are in the labor force (Clark & Weismantle, 2003), and over one-half of women with a newborn child were employed in 1995 (U.S. Bureau of the Census, 1998). The role of elder caregiver is also becoming more common, as women and men in the United States can currently expect to spend more years of their life with one or both parents over the age of 65 than with children under the age of 18 (Watkins, Menken, & Bongaarts, 1987).

The present study was based on a national sample of American women and men in order to examine the association between multiple roles and six dimensions of psychological well-being. Educational standing was a key variable in the study to clarify how position in the social structure might be central to understanding how multiple roles and well-being are linked. In this investigation we also examined how this association was moderated by perceived control, which has been a focus of inquiry as a moderator of social class influences on health and well-being.

Multiple Role Theories

Two theories have been proposed to explain the effects of multiple roles on well-being. The role strain perspective, or scarcity hypothesis, proposes that increased numbers of roles lead to overload and strain, which can translate into negative effects on physical and psychological well-being (Goode, 1960; Marks, 1977). Many researchers have failed to find extensive support for this theory (Adelmann, 1994a, b; Hong & Seltzer, 1995; Jackson, 1997; Menaghan, 1989; Miller, Moen, & Dempster-McClain, 1991; Moen, Dempster-McClain, & Williams, 1989, 1992; Pietromonaco, Manis, & Frohardt-Lane, 1986; Thoits, 1983, 1986).

Siebert (1974) recognized that role accumulation may lead to rewards that outweigh any possible negative effects.

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He theorized that an individual with a wide variety of role partners may be able to compensate for relationship failures by falling back on other relationships. Qualitative analyses have indicated that individuals perceive their role identities as sources of existential meaning, purpose, and behavioral guidance (Simon, 1997), and recent reviews indicate that women and men who fulfill multiple roles, as opposed to few roles, report lower levels of mental and physical health problems and greater levels of subjective well-being (Barnett & Hyde, 2001).

According to the role enhancement perspective, or what Thoits (1983) referred to as the identity accumulation hypothesis, increased numbers of roles enhance an individual's resources, social connections, power, prestige, and emotional gratification (Marks, 1977; Sieber, 1974; Thoits, 1983). This theory has garnered considerable empirical support (Adelmann, 1994a, b; Barnett, Marshall, & Singer, 1992; Hong & Seltzer, 1995; Jackson, 1997; Kikuzawa, 2006; Miller et al., 1991; Moen et al., 1989, 1992; Pietromonaco et al., 1986; Stephens, Franks, & Townsend, 1994; Thoits, 1983, 1986).

For example, in an early review of multiple roles research, Thoits (1986) noted that researchers have typically restricted their analyses to an examination of spouse, parent, and employee roles and ignored other role involvements such as friend, church member, and organization member. Thoits (1983) refined the role enhancement hypothesis by focusing on a larger number of roles (eight) and found that increased numbers of roles were associated with lower levels of psychological distress. A subsequent study provided evidence that increased numbers of roles were associated with lower anxiety and depression for both women and men (Thoits, 1986). The number of role identities held did not account for gender differences in distress.

Jackson (1997) made refinements to the role enhancement hypothesis by providing evidence that the benefits of role involvement vary for different ethnic groups. Greater role occupancy was linked with lower depression and greater happiness among non-Hispanic White and Mexican American men and women, but evidence suggested no such association among African Americans and Puerto Ricans (Jackson, 1997). On the contrary, Cochran, Brown, and McGregor (1999) reported that having more roles was linked with lower depression among both White and African American women. Further refinements were also made by Kikuzawa (2006), who explored cross-cultural differences in role occupancy and found that having more roles was associated with lower depression for American and Japanese women and men. However, the benefit of having each additional role was greater in the US than in Japan (Kikuzawa, 2006).

Adelmann (1994a) sought evidence that the role enhancement hypothesis was applicable to older adults. Links

were found between greater role occupancy and better subjective health, fewer health disabilities, and fewer chronic conditions for both women and men in later life. Further analyses revealed that increased roles were also associated with higher well-being, which was measured in terms of life satisfaction, depression, and self-efficacy (Adelmann, 1994b).

Many researchers have limited their samples to women, and greater role occupancy has been linked with greater self-esteem and job satisfaction for employed women (Pietromonaco et al., 1986). Moen et al. (1989) examined the effect of six roles over 30 years and found that women who occupied more roles tended to live longer than women who occupied fewer roles; subsequent analyses also revealed links with better health outcomes 30 years later (Moen et al., 1992). Based on the same sample, Miller et al. (1991) found that greater role involvement was related to higher life satisfaction and self-esteem for married women. A later study by Hong and Seltzer (1995) illustrated that greater role occupancy was predictive of lower future depression after the researchers controlled for initial levels of depression for caregiving women who occupied up to eight roles. That study included analyses based on both the number of roles occupied and different role combinations, and the evidence suggests that the number of roles held, rather than the specific roles occupied, seems to have a stronger influence on psychological well-being.

Scarcity Versus Enhancement for Whom?

There is some evidence to suggest that men may benefit from involvement in multiple roles as much as women do, although the effect of particular roles may vary by gender. There is little evidence as to whether such findings are applicable to individuals of varied educational status, or if the association between multiple roles and psychological well-being may also be influenced by other intervening processes, such as sense of control.

Gender as a moderator Some studies have shown the association between greater role occupancy and higher psychological well-being and better health to be stronger for men than for women (Adelmann, 1994a, b), whereas others have shown similar associations for women and men (Thoits, 1983, 1986). Note that all of these studies demonstrated that both men and women benefit from involvement in multiple roles.

Studies focused on the roles of spouse, parent, and employee have revealed that men and women may experience different outcomes as a result of combining these roles. Simon (1997) found that employed women reported greater exposure to strain from combining work

and parenting roles than employed men did; however, mothers were not more affected than fathers from this strain. Janzen and Muhajarine (2003) reported that Canadian women who combined the roles of spouse, parent, and employee had better self-rated health and a lower likelihood of having a chronic illness than women with fewer roles, while for men, it was only older men with three roles who reported better self-rated health. The results of a cross-cultural study included that women in Finland, men in Estonia, and women and men in the United Kingdom reported the highest levels of life satisfaction when combining all three roles, while men in Finland and women in Estonia did not show this pattern (Schoon, Hansson, & Salmela-Aro, 2005). A study of caregiving found that men who combined the role of caregiver with other family roles experienced a greater level of burden than women who combined these roles (Jutras & Veillux, 1991).

Occupancy of the parental role coupled with the absence of the spousal role may be particularly difficult for women. Menaghan (1989) found that men reported more psychological symptoms when they were unmarried or were simultaneously married, unemployed, parents. Women suffered more symptoms when they were unmarried mothers; employment had more varied effects (Menaghan, 1989). Sachs-Ericsson and Ciarlo (2000) found that having more roles was associated with lower rates of psychiatric disorders for men and women, and that single mothers were particularly vulnerable to psychiatric disorders. Combining the role of single parenthood with employment has also been linked with lower life satisfaction among women in Finland, Estonia, and the UK (Schoon et al., 2005). More researchers need to consider how a wider array of roles may be differentially linked with well-being outcomes for women and men.

Education as a moderator According to Thoits (1982), individuals with more, rather than fewer, years of education are less distressed by undesirable events. Other researchers have reported that educational attainment is negatively associated with distress (Kessler, 1982; Link, Lennon, & Dohrenwend, 1993; Ross & Mirowsky, 1989; Ross & Van Willigen, 1997). It is interesting that some findings suggest that, although greater education is linked with lower distress, distress is reduced more for women than men (Kessler, 1982; Ross & Van Willigen, 1997).

Little research considers how links between role involvement and well-being may vary based on educational attainment. According to Thoits (1987), lower class individuals who have multiple roles may be less likely to be able to negotiate satisfying relationships with role partners, and thus, they may experience more role strain and psychological distress than more highly educated individuals with the same roles. This suggests that

education may work as a moderator of associations between role involvement and well-being. In addition, education may moderate distress differently for women and men. (Kessler, 1982; Ross & Van Willigen, 1997).

Although previous studies of links between role involvement and well-being have included information about educational attainment, it has typically been included as a control variable (Adelmann, 1994a, b; Hong & Seltzer, 1995; Miller et al., 1991; Moen et al., 1989, 1992; Pietromonaco et al., 1986; Thoits, 1983, 1986). The present study includes education as a substantive variable of interest, as individuals with more education may have enhanced well-being because they have greater access to resources, employment, and supportive environments (Ross & Van Willigen, 1997), which allow them to handle multiple roles more effectively.

Perceived control as a moderator Sense of control may be a relevant moderator, given that it has been linked with psychological distress (Ali & Avison, 1997; Mirowsky & Ross, 1986, 1990; Ross & Mirowsky, 1989; Ross & Van Willigen, 1997). In a meta-analysis of 45 studies that focused on cognitive representations of illness, there were significant links between reporting more control over one's illness and having better psychological well-being and lower psychological distress (Hagger & Orbell, 2003).

An individual's perceived sense of control may also be an important link between educational attainment and well-being. Individuals with more education have higher levels of personal control than individuals with lower educational levels (Bird & Ross, 1993; Ross & Mirowsky, 1992). However, other research suggests that links between education, income, and depression are largely explained by the pattern that individuals with a higher sense of control have fewer depressive symptoms (Ross & Mirowsky, 1989). Later work also showed that individuals with higher levels of education have higher perceived control, which is associated with lower levels of emotional and physical distress (Ross & Van Willigen, 1997).

Other evidence suggests that perceived sense of control may be a moderator of links between education and well-being. In analyses of the Midlife in the United States (MIDUS) sample, Lachman and Weaver (1998) found that having high perceived control was beneficial for all socioeconomic groups in terms of links with greater life satisfaction, better perceived health, and lower depression. However, control was found to moderate the association such that lower income groups were afforded a greater benefit by having a high sense of control. Individuals in the lowest income group who had a high sense of control showed levels of well-being comparable with the higher income groups. For higher income groups, well-being was generally high and did not vary much as a function of the level of control (Lachman & Weaver, 1998).

Pertinent to the experience of multiple roles, Christensen, Stephens, and Townsend (1998) found that mastery, or perceived competence and control, in the roles of mother, wife, and caregiver was related to higher psychological well-being, as measured by life satisfaction and depression. They also determined that mastery for each role seemed to have a cumulative effect, such that higher levels of mastery across different roles was associated with higher life satisfaction (Christensen et al., 1998). Mastery in work and family roles has also been investigated as a mediator of associations between stress and rewards in each role and an individual's rating of the importance of the role. As work stress increased, the rated importance of employment decreased through a weakened sense of mastery in the employee role, while as rewards increased, the importance of employment increased through a heightened sense of mastery (Norton, Gupta, Stephens, Martire, & Townsend, 2005).

These findings suggest that perceived control may act as a moderator of links between multiple role involvement and well-being. Furthermore, the results of these studies suggest that perceived control may be particularly important among those who lack high socioeconomic standing, although this possibility has not been assessed in the context of multiple roles, where prior research has also shown a sense of mastery to be a significant factor.

Positive Outcomes in the Multiple Role Experience

Well-being, broadly defined, includes hedonic well-being (evaluations of happiness and life-satisfaction) and eudaimonic well-being (reaching human potential) (Ryan & Deci, 2001). Early role theorists suggested links between role involvement and eudaimonic well-being. "Role requirements give purpose, meaning, direction, and guidance to one's life. The greater the number of identities held, the stronger one's sense of meaningful, guided existence" (Thoits, 1983, p. 175). Empirical investigations of role involvement, however, have focused on relations between role involvement and negative outcomes, such as depression, distress (Adelmann, 1994b; Cochran et al., 1999; Hong & Seltzer, 1995; Kikuzawa, 2006; Martire, Stephens, & Townsend, 2000; Thoits, 1983, 1986), and poor health (Adelmann, 1994a), although some researchers have considered the association between multiple roles and life satisfaction and self-efficacy (Adelmann, 1994b; Martire et al., 2000; Miller et al., 1991; Pietromonaco et al., 1986). Few investigators have considered how multiple role involvement may stimulate human development by enhancing personal growth, goal attainment, life purpose, and connections with other people.

There is some evidence to suggest that multiple role involvement is linked with eudaimonic aspects of well-being. Although Burton (1998) only included an assess-

ment of three social roles (employee, spouse, and parent), occupancy of all three roles was linked with the greatest increase in integrative meaning, which was defined as a feeling that one's life had purpose and meaning. Integrative meaning was also identified as a mediator of links between role involvement and psychological distress (Burton, 1998).

The present investigation focused on evaluating links between the cumulative occupancy of up to eight roles (spouse, parent, employee, churchgoer, friend, volunteer, social organization member, and caregiver) and six components of eudaimonic well-being. The intent was to clarify the extent to which multiple roles are associated with the belief that one is growing, developing, and realizing personal potential (personal growth), has goals to live for that make life meaningful (purpose in life), feels positive self-regard about one's self and past life (self-acceptance), has the sense that one can create a surrounding environment suited to personal needs and capacities (environmental mastery), sees oneself as capable of following one's own convictions (autonomy), and has trusting, loving relationships with others (positive relations with others) (Ryff & Keyes, 1995). In addition to these measures, the study also included an assessment of positive affect and negative affect to evaluate comparability with prior findings.

Hypotheses

Based on previous research, it was hypothesized that, as the number of roles increased, eudaimonic well-being and positive affect would increase for both women and men, and negative affect would decrease. To the extent that multiple roles require resources and knowledge to be maximally beneficial for well-being, it was expected that the links between increasing roles and increased well-being would be most evident among those with high education.

The third hypothesis predicted that the relationship between multiple roles and well-being would be moderated by perceived control. Thus, it would be among individuals with high multiple roles who possessed a high sense of control that the pattern of higher eudaimonic well-being, higher positive affect, and lower negative affect would be most strongly evident. Regarding the issue of education, a corollary hypothesis was that the moderating effects of control would be particularly consequential for understanding links between multiple roles and well-being among those with low education. This study was based on a national sample of adult men and women that afforded extensive socioeconomic variability, thereby broadening the focus beyond smaller, less representative samples.

We employed measures of eight roles, thereby allowing us to address the observation by Thoits (1986) that many studies were limited to only the roles of spouse, parent, and

employee. A more rigorous operationalization of multiple roles was also employed. Previously, individuals were often considered to be occupying a role if they indicated ever spending any time performing behavior indicative of the role. This could have led to an inflation of role involvement, as individuals who spent very little time in a role could have been categorized as fulfilling the role. Finally, the focus on positive psychological measures that have not been included in previous multiple roles research also constituted a unique emphasis in the present study.

Method

Sample and procedures

Data were from the Midlife in the United States (MIDUS) survey, which included a 45 min telephone interview and a mailed questionnaire that took approximately 2 h to complete. Participants were recruited between 1994 and 1995 using random-digit dialing. The response rate was 70% for telephone interviews and 87% for the self-administered questionnaires (Keyes, Shmotkin, & Ryff, 2002). The total sample consisted of 3,032 noninstitutionalized, English-speaking women and men between the ages of 25 and 74 years who lived in a household with at least one telephone and resided within the 48 contiguous US states (Brim, Ryff, & Kessler, 2004; Keyes et al., 2002). The present analyses were conducted with 2,634 individuals who completed all necessary information to calculate the multiple role variable. This subset of the total sample included 1,299 men (49.3%) and 1,335 women (50.7%). This subset was also divided by education; 220 participants had less than a high school education (8%), 768 had a high school degree or GED (29%), 836 had some college or a 2-year degree (32%), and 808 had at least a 4-year college degree (31%).

Due to missing data on the multiple role variable, 398 respondents were not included in any analyses. In comparison to the sample used for analyses, the group excluded due to missing data included more women, $t(3,030)=-2.27$, $p<0.05$, more older respondents, $t(3,003)=-8.03$, $p<0.001$, and more individuals with lower educational levels, $t(3,028)=5.54$, $p<0.001$.

Measures

The means and standard deviations for all variables, save gender, are provided in Table 1. With regard to sociodemographic characteristics, gender was coded as man=0, woman=1, and age was included as a continuous variable with a range of 25–74 years. Education was assessed based on responses to a question asking the respondent to indicate their education level from 12 options of increasing

Table 1 Means and standard deviations of variables included in analyses.

Variables	Mean	Standard deviation	Range
Age	47.00	13.13	25–74
Education	6.68	2.46	1–12
Multiple roles	3.86	1.55	0–7.5
Control	5.55	0.97	1–7
Autonomy	16.49	3.31	3–21
Environmental mastery	16.00	3.44	3–21
Personal growth	17.85	3.18	3–21
Positive relations with others	16.01	4.11	3–21
Purpose in life	16.36	3.67	3–21
Self-acceptance	16.46	3.50	3–21
Positive affect	3.37	0.75	1–5
Negative affect	1.57	0.64	1–5

education. After we reversed the order of two responses (three or more years of college, and graduated from a 2-year college or vocational school, or associate's degree) the education variable was treated as a continuous variable with increasing values corresponding to increasing education.

Multiple roles The multiple roles variable was constructed by counting the total number of roles occupied by each individual from among eight roles, including spouse, parent, employee, religious participant, friend, volunteer, social organization member, and caregiver. Although it is difficult to place restrictions on the roles of spouse and parent, the remaining roles are open to discussion of what behaviors, or what levels of behaviors, are adequate to confer upon an individual a role status. Empirical information can guide decisions as to what level of a behavior is necessary to constitute a role. Frequency distributions were examined for questions used to define involvement in each role, and cutoff values were selected that would include approximately 30% of respondents in a role. This restriction narrows the definition of multiple roles so that only those individuals who spent considerable time in a role were considered to occupy the role. After we selected the cutoff values, each role was dichotomized so that a respondent either occupied a role or did not occupy a role based on the requirements necessary for a role status.

The role of *spouse* was determined based on a question that asked if the respondent was married, separated, divorced, widowed, or never married (married=1, any other response=0). Sixty-four percent of respondents indicated they were married. Respondents with any children between infancy and 18 years of age (37.6% of sample) were coded as 1=*parent*, and respondents with no children were coded as 0. Parents who only had adult children (44.9% of sample) were assigned one-half of a role, on the rationale that their responsibilities were not equivalent to those individuals who were parenting younger children.

The role of *employee* was based on whether the respondent was currently working full-time at a job (yes=1, no=0). The role of full-time employee was occupied by 59.7% of respondents. Individuals were awarded one-half of a role if they indicated that they were currently working part-time at a job (yes=0.5, no=0). The role of part-time employee was occupied by 17.9% of respondents.

The cutoff values for the remaining roles were chosen by examining frequency distributions, as explained above. Those coded as 1=*religious participant* (35.6% of sample) reported currently attending religious services at least four times per month; those coded as 0 reported attending religious services less than four times per month. The role of *friend* was based on how often the respondent was in contact with any of their friends through visiting, phone calls, letters, or electronic mail. Those coded as 1 (60.7% of sample) reported that they had contact with a friend at least several times per week; all others were coded 0. Although this cutoff allowed more respondents to occupy the friend role than was allowed for other roles, it seemed too restrictive to categorize individuals in the role of friend only if they had contact with a friend every day, which was the next available response category. The role of *volunteer* was based on four questions about the number of hours per month the respondents did formal volunteer work for various organizations, which included: (1) hospital, nursing home, or other health-care-oriented, (2) school or other youth-related, (3) political organizations or causes, and (4) any other organization, cause, or charity. The number of hours for each service was summed, and respondents were coded as 1 (27.6% of sample) if they currently participated in volunteer work for at least five hours per month; those who volunteered fewer hours were coded as 0. The role of *social organization member* was based on the frequency of attending meetings of four types: (1) religious groups, (2) unions or other professional groups, (3) sports or social groups, and (4) other groups (not including any required by their jobs). The number of times per month for each type was summed, and respondents were coded as 1 (32.3% of sample) if they attended meetings at least four times per month; all others were coded 0. The role of *caregiver* was based on the number of hours per month respondents spent providing unpaid assistance to five different groups of individuals, including: (1) parents or the people who raised them, (2) their in-laws, (3) their grandchildren or grown children, (4) any other family members or close friends, and (5) anyone else (such as neighbors or people at church). The total number of hours was summed across the five groups, and respondents were coded as 1 (28.1% of sample) if they provided such assistance for at least 20 h/month; all others were coded 0.

The multiple roles variable was created by summing the total number of roles each respondent occupied; scores

ranged from 0 to 8.5. However, due to the small number of individuals who occupied eight or more roles, individuals with eight or more roles were combined with those individuals who occupied 7.5 roles for analyses. Thus, the final range was 0 to 7.5.

Perceived control Perceived control was assessed with a scale adapted from Prenda and Lachman (2001). It combined four items that assess personal mastery (e.g., whether or not I am able to get what I want is in my own hands) and eight items that assess perceived constraints (e.g., I have little control over the things that happen to me). Items are rated on a scale that ranges from 1="agree strongly", to 7="disagree strongly". Ratings on both sets of items were reverse scored and the two subscales were averaged so higher scale scores reflect higher standing in each dimension. For the combined control scale, scores on the perceived constraints scale were reversed and then averaged with the mastery scale. Higher scores on the combined scale indicate higher perceived control. Internal consistency of the scale was high ($\alpha=0.85$).

Psychological well-being The six dimensions of well-being include positive relations with others, self-acceptance, autonomy, personal growth, environmental mastery, and purpose in life. Scale definitions are provided in Ryff and Keyes (1995); factor analyses support the six factor structure. Scale intercorrelations were weak to modest and ranged from 0.13 to 0.46. These dimensions of well-being have been shown to have different age and sex trajectories, and the patterns obtained for each outcome have been replicated across different studies with measurement instruments that varied in the number of items used to assess each dimension (Ryff & Keyes, 1995). In MIDUS, each dimension was assessed with three items rated on a scale that ranged from 1="agree strongly", to 7="disagree strongly". Scale scores were summed across the items following the reverse coding of positive items, so that higher scores reflect greater levels of well-being. These scales have moderate internal reliability: $\alpha=0.58$ for positive relations with others; $\alpha=0.59$ for self-acceptance; $\alpha=0.48$ for autonomy; $\alpha=0.55$ for personal growth; $\alpha=0.52$ for environmental mastery; $\alpha=0.36$ for purpose in life. These lower alpha coefficients resulted from the a priori decision to represent the multidimensional structure of the longer well-being scales rather than to maximize internal consistency (see Keyes et al., 2002; Ryff & Keyes, 1995). The short form scales correlated 0.70 to 0.89 with the longer parent scales (Ryff & Keyes, 1995).

Positive affect was measured with six items on which respondents rated how often during the past month they had felt cheerful, in good spirits, extremely happy, calm and peaceful, satisfied, and full of life on a scale that ranged from 1="all of the time" to 5="none of the time" (see

Mroczek & Kolarz, 1998). The scale score was constructed by averaging across the six items and reverse coding so higher scores reflect higher positive affect. This scale exhibits good internal reliability, with an alpha of 0.91.

Negative affect was assessed with six items on which respondents rated how often during the past month they had felt so sad that nothing could cheer them up, nervous, restless or fidgety, hopeless, that everything was an effort, and worthless on a scale that ranged from 1=“all of the time” to 5=“none of the time” (see Kessler, Mickelson, & Williams, 1999). This scale score was constructed by averaging across the items and reverse coding such that higher scores represent higher negative affect. This scale exhibits good internal reliability, with an alpha of 0.87.

Results

Data analysis

Hierarchical multiple regression was used to test the core hypotheses of the study. Separate equations were used for each of eight dependent variables, including the six dimensions of well-being and positive and negative affect. Socio-demographic variables (i.e., gender, age, and educational attainment) were entered in Model 1. The number of roles

occupied was added in Model 2 to test the hypothesis that involvement in greater numbers of roles would significantly and positively predict psychological well-being and positive affect after controlling for sociodemographic variables. Significant negative predictions were hypothesized for negative affect. Interactions between the number of roles occupied and education were inserted in a subsequent step to assess whether the above prediction was restricted only to those with higher educational attainment. Interaction terms were also created with gender to investigate if the association between multiple roles and well-being varied based on respondents' gender. Model 3 addressed the hypothesis that perceived control would moderate associations between the number of roles occupied and well-being, and the interaction between control and the number of roles was entered in Model 4. To test the hypothesis that such moderating effects might be particularly important for those with low educational standing, three-way interactions between education, multiple roles, and perceived control were also evaluated. Interaction terms were also created with gender to investigate if perceived control moderated the interaction between multiple roles and well-being differently based on a respondent's gender. Regression coefficients for *significant effects* across Models 1–4 are reported separately in Tables 2, 3, 4, and 5. Lower-order interactions were included while testing for three-way interactions, but the coefficients are not provided (coeffi-

Table 2 Hierarchical OLS regression coefficients for environmental mastery, purpose in life, positive relations with others, and positive affect.

Variables	Model 1			Model 2		
	<i>b</i>	β	ΔR^2	<i>b</i>	β	ΔR^2
Environmental mastery						
Gender	−0.534 ***	−0.078		−0.385 ***	−0.056	
Age	0.024 ***	0.090		0.027 ***	0.101	
Education	0.136 ***	0.097	0.021 ***	0.128 ***	0.090	
Multiple roles				0.124 **	0.055	0.003 ** ^a
Purpose in life						
Gender	−0.168	−0.023		−0.074	−0.010	
Age	−0.034 ***	−0.123		−0.025 ***	−0.088	
Education	0.352 ***	0.236	0.070 ***	0.331 ***	0.224	
Multiple roles				0.272 ***	0.117	0.014 ***
Positive relations						
Gender	0.641***	0.078		0.696***	0.085	
Age	0.011*	0.037		0.018**	0.055	
Education	0.176***	0.105	0.016***	0.138***	0.082	
Multiple roles				0.508***	0.191	0.036***
Positive affect						
Gender	−0.090 **	−0.060		−0.076 *	−0.051	
Age	0.054 ***	0.096		0.006 ***	0.103	
Education	0.012 *	0.038	0.014 ***	0.013 *	0.043	
Multiple roles				0.065 ***	0.137	0.018 ***

^a The R^2 values presented in Tables 2, 3, and 4 reveal that although multiple role involvement significantly predicts various aspects of psychological well-being, the variability in well-being accounted for by multiple role involvement is relatively small.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$ (two-tailed tests)

Table 3 Hierarchical OLS regression coefficients for significant interactions for autonomy.

Variables	Model 1			Model 2			Model 3			Model 4		
	<i>b</i>	β	ΔR^2	<i>b</i>	β	ΔR^2	<i>b</i>	β	ΔR^2	<i>b</i>	β	ΔR^2
Gender	-0.511 ***	-0.077		-0.492 ***	-0.075		1.419	0.215				
Age	0.031 ***	0.121		0.033 ***	0.127		0.033 ***	0.128				
Education	0.026	0.020	0.022 ***	0.026	0.019		0.185	0.136				
Multiple roles				-0.020	-0.010	0.000	0.317	0.149				
Gender × edu × MRs							0.083 *	0.414	0.003			
Gender	-0.511 ***	-0.077		-0.492 ***	-0.075		-0.292 *	-0.044		2.170	0.329	
Age	0.031 ***	0.121		0.033 ***	0.127		0.038 ***	0.149		0.038 ***	0.149	
Education	0.026	0.020	0.022 ***	0.026	0.019		-0.038	-0.028		-0.039	-0.029	
Multiple roles				-0.020	-0.010	0.000	-0.064	-0.030		0.282	0.132	
Control							1.147 ***	0.336	0.108 ***	1.207 ***	0.353	
Gender × MRs × control										0.210 *	0.797	0.005 **

p*<0.05. *p*<0.01. ****p*<0.001 (two-tailed tests)

cients available upon request). Significant three-way interactions are graphed according to the procedures described by Aiken and West (1991).

For each significant interaction, we used the ARC 1.04 statistical package procedures to check for violations of multiple regression assumptions. For each criterion variable, the distribution of values was negatively skewed (responses were more heavily concentrated in the higher ends of the scale). These skewed distributions resulted in non-constant variance (which was discovered by examination of the non-constant variance plots) and non-normal error distributions (which was discovered by examination of the histograms of residuals and the *q-q* plots of the observed residuals as compared against a normal distribution) for each criterion. These violations may lead to biased standard errors. For each significant interaction, a bootstrap of 10,000 samples was tested. Bootstrapping is a technique in which repeated samples are taken, with replacement, from the original sample and then the data are reanalyzed (Pardoe & Weisberg, 2001). The resulting empirical sampling distribution is used to determine corrected standard errors. In each case, boot-

strapping did not change the results, as the coefficients remained virtually the same, the standard errors changed very little, and the significance of the interactions did not change.

ARC was also used to examine diagnostics and to identify potential outliers. Cases were examined for their leverage, distance, and influence by examination of the scatterplots. Plots of Cooks-D (a measure of influence) were examined closely, as influence is a measure of how much an observation changes an analysis and is a function of both leverage and distance (J. Cohen, P. Cohen, West, & Aiken, 2003). For each significant outcome, cases with a disproportionate influence were removed and analyses were rerun to determine if the significance of the outcome was changed by the high influence cases. Some significant outcomes were influenced by outliers, as indicated in the following summary of results.

Multiple Roles and Well-being

Multiple role involvement significantly and positively predicted environmental mastery, positive relations with

Table 4 Hierarchical OLS regression coefficients for significant interactions for personal growth.

Variables	Model 1			Model 2			Model 3			Model 4		
	<i>b</i>	β	ΔR^2	<i>b</i>	β	ΔR^2	<i>b</i>	β	ΔR^2	<i>b</i>	β	ΔR^2
Gender	-0.059	-0.009		-0.042	-0.007		0.214 *	0.034		0.213 *	0.034	
Age	-0.024 ***	-0.100		-0.022 ***	-0.089		-0.014 **	-0.056		-0.013 **	-0.053	
Education	0.280 ***	0.217	0.057 ***	0.255 ***	0.199		0.172 ***	0.134		-0.254	-0.198	
Multiple roles				0.239 ***	0.119	0.014***	0.182 ***	0.090		-0.521	-0.259	
Control							1.468 ***	0.454	0.197 ***	1.163 **	0.360	
Edu × MRs × control										-0.032 *	-0.957	0.004 *

p<0.05. ***p*<0.01. ****p*<0.001 (two-tailed tests)

Table 5 Hierarchical OLS regression coefficients for significant interactions for negative affect and self-acceptance.

Variables	Model 1			Model 2			Model 3			Model 4		
	<i>b</i>	β	ΔR^2	<i>b</i>	β	ΔR^2	<i>b</i>	β	ΔR^2	<i>b</i>	β	ΔR^2
Negative affect												
Gender	0.129 ***	0.101		0.122 ***	0.096		0.068 ***	0.053		0.070 **	0.055	
Age	-0.006 ***	-0.118		-0.006 ***	-0.126		-0.008 ***	-0.159		-0.008 ***	-0.162	
Education	-0.031 ***	-0.119	0.039 ***	-0.029 ***	-0.110		-0.012 **	-0.048		-0.012 *	-0.046	
Multiple roles				-0.048 ***	-0.117	0.013 ***	-0.037 ***	-0.089		-0.192 ***	-0.468	
Control							-0.298 ***	-0.452	0.195 ***	-0.401 ***	-0.608	
MRSs×control										0.028 ***	0.427	0.012 ***
Self-acceptance												
Gender	-0.444 ***	-0.063		-0.399 **	-0.056		-0.051	-0.007		-0.058	-0.008	
Age	0.012 *	0.046		0.013 *	0.048		0.023 ***	0.084		0.024 ***	0.085	
Education	0.262 ***	0.184	0.044 ***	0.263 ***	0.180		0.152 ***	0.104		0.151 ***	0.104	
Multiple roles				0.309 ***	0.135	0.018 ***	0.231 ***	0.101		0.664 **	0.290	
Control							1.972 ***	0.537	0.276 ***	2.260 ***	0.615	
MRSs×control										-0.078 *	-0.214	0.001*

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$ (two-tailed tests)

others, purpose in life, and positive affect, after we controlled for gender, age, and education (see Table 2). For these outcomes, multiple roles did not interact significantly with any other variables included in the analyses. As role occupancy increased, individuals had a greater experience of effectively managing their lives and surroundings; they demonstrated more trusting, loving relationships with others; they reported a heightened sense of purpose and meaning in their lives; and they reported experiencing more positive emotions.

Multiple roles also significantly predicted all remaining aspects of well-being (excluding autonomy) and negative affect. However, these effects were qualified by various moderating influences, which are described below.¹

Although not the explicit focus of this study, gender differences were found for some well-being outcomes. Women reported more positive relations with others, lower environmental mastery, and lower positive affect than men (see Table 2). Women also had lower autonomy (see Table 3), lower self-acceptance, and more negative affect (see Table 5). However, responsive to the explicit aims of the study, gender was also shown to interact with multiple role occupancy, but only for the outcome of autonomy.

¹ A multiple roles squared term was added to the basic models to test for curvilinearity effects. There were significant quadratic trends for environmental mastery, positive relations with others, self-acceptance, and positive affect. In each case, the linear effect remained significant and was stronger than the curvilinear effect. For the remaining outcomes, the addition of the squared multiple roles term did not change the significance of the linear effects.

Sociodemographic factors and multiple roles

It was hypothesized that those with more education would be better able to handle multiple roles, as higher educational attainment is linked both to the types of roles an individual occupies as well as the resources and skills individuals may have for managing multiple role demands.

A significant gender×education×multiple roles interaction was found for autonomy. The upper portion of Table 3 displays the coefficients for the interaction, and the top of Fig. 1 illustrates the interaction. The data support the hypothesis for women, such that those with a high number of multiple roles and higher levels of education had greater autonomy than those with a higher number of multiple roles and lower levels of education. For men, the interaction was in the opposite direction of what was predicted, as men with a higher number of multiple roles and a lower level of education had greater autonomy than those with a higher number of multiple roles and a higher level of education.

Perceived control and multiple roles

It was hypothesized that control would moderate the association between multiple roles and psychological well-being such that those individuals with a higher number of multiple roles and a higher sense of control would report greater well-being² and less negative affect, and that these moderating effects would be particularly consequential for

² The construct of perceived control may overlap conceptually with the constructs of environmental mastery and autonomy. The correlation between perceived control and environmental mastery is 0.59 and between perceived control and autonomy is 0.33. Correlations between other variables are available upon request.

our understanding of links between multiple roles and well-being among those with lower educational attainment.

A significant gender×multiple roles×control interaction was found for autonomy. The lower portion of Table 3 displays the coefficients for the interaction, and the bottom of Fig. 1 illustrates the interaction. The figure provides support for the guiding hypothesis for women, as the strongest link between increased control and increased autonomy was evident among those with a higher number of multiple roles. For men, the opposite pattern was obtained. That is, it was among men with a lower, rather than a higher, number of multiple roles that the association between control and autonomy was strongest.

A significant education×multiple roles×control interaction was found for personal growth. Table 4 displays the coefficients for the interaction, and Fig. 2 illustrates the interaction. One outlier was discovered when we examined

a plot of Cooks-D, and, after removal of the case, the data were reanalyzed. Figure 2 demonstrates that perceived control has a large main effect, but there are, nonetheless, differences in slope. Thus, sense of control does appear to moderate the link between multiple roles and personal growth, but such effects are most prominent (as predicted) among those with high role involvement but low educational standing, as well as among those with low role involvement, regardless of educational status. As such, high sense of control appears to compensate for the disadvantages of low educational status in the face of high role involvement (as hypothesized), but high sense of control also appears to compensate for low role involvement, regardless of educational status.

There was also a significant multiple roles×control interaction for negative affect. The upper portion of Table 5 displays the coefficients for the interaction, and the top of

Fig. 1 Gender×education×multiple roles interaction for autonomy and gender×multiple roles×control interaction for autonomy.

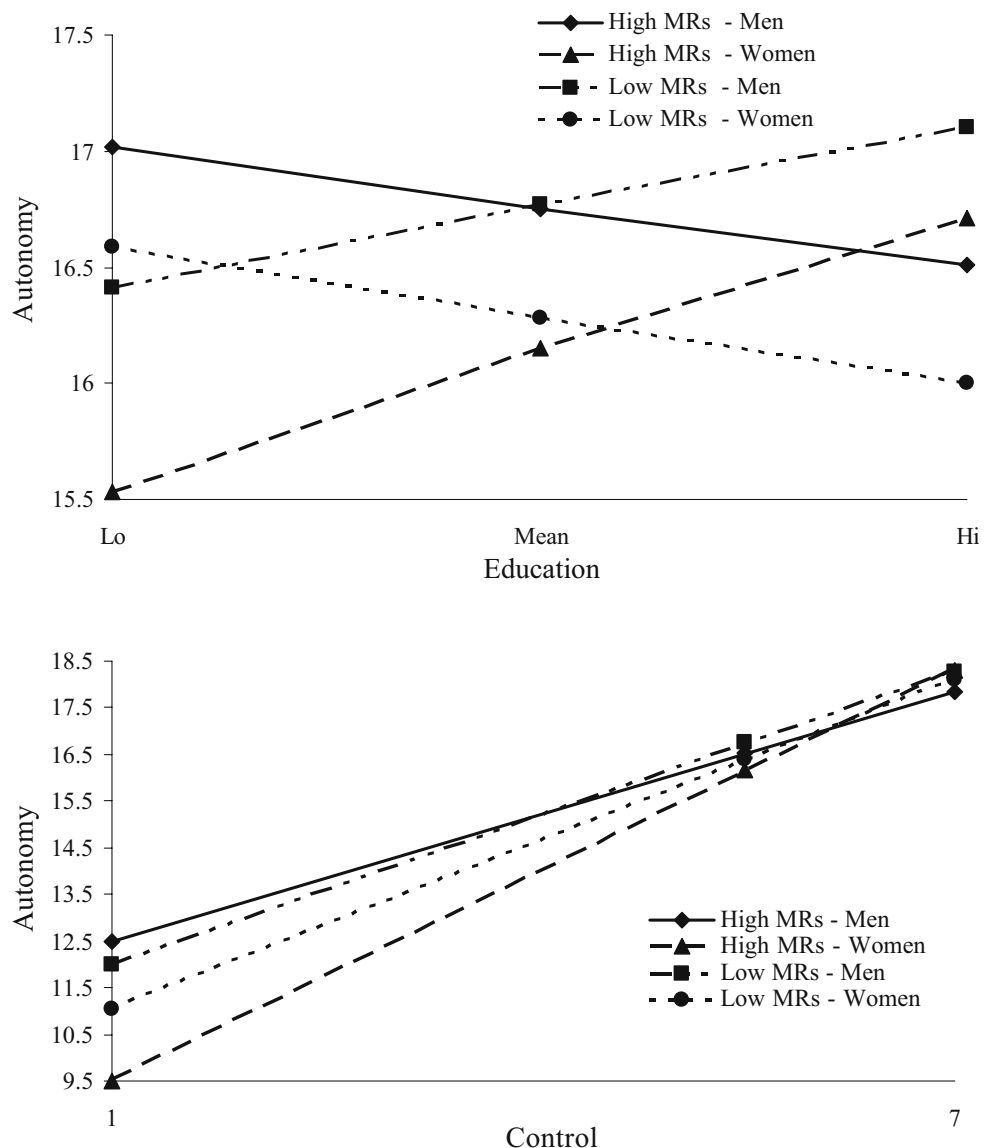


Fig. 2 Education \times multiple roles \times control interaction for personal growth.

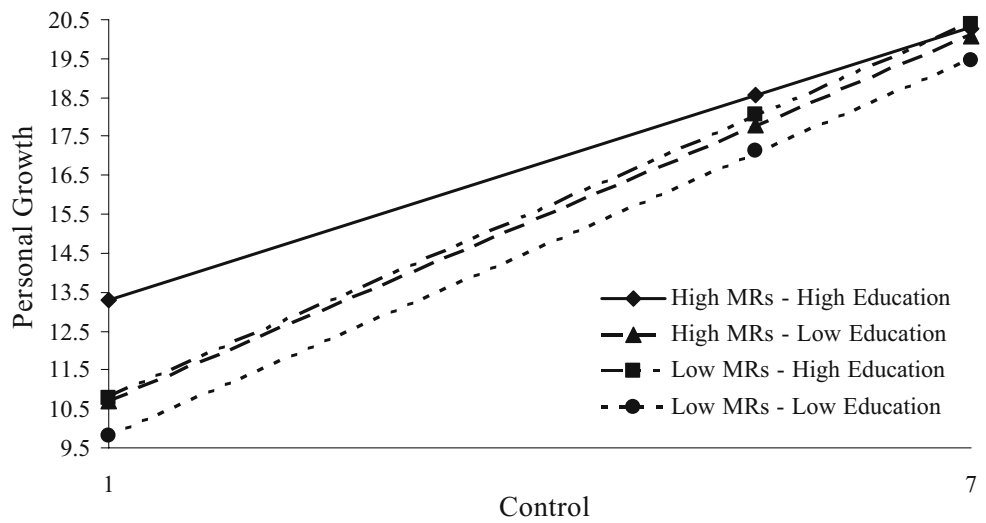


Fig. 3 Multiple roles \times control interactions for negative affect and self-acceptance.

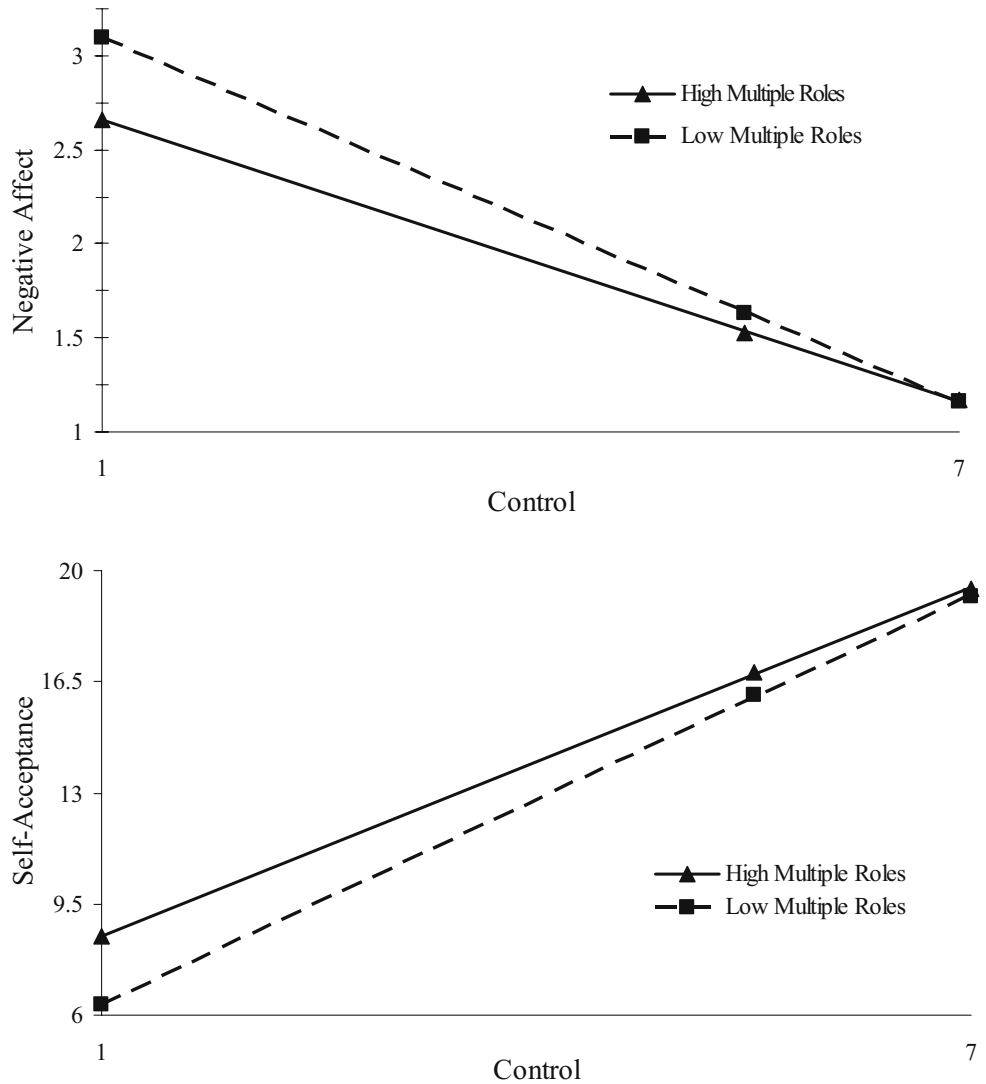


Fig. 3 illustrates the interaction. Although having a lower sense of control is associated with greater negative affect for those with high or low role involvement, the strongest negative association between sense of control and negative affect was found among those with low rather than high role involvement. Overall, the highest reports of negative affect came from individuals (both male and female) who reported both low role involvement and a low sense of control. Such findings indicate that having a greater sense of control may offset the possible disadvantages of having fewer roles.

Finally, there was a significant multiple roles \times control interaction for self-acceptance that resembled the multiple roles \times control interaction for negative affect. The lower portion of Table 5 displays the coefficients for the interaction, and the bottom of Fig. 3 illustrates the interaction. Three outliers were discovered when we examined a plot of Cooks-D, and after removal of these cases, the data were reanalyzed. As above, the strongest positive association between sense of control and self-acceptance was found among those with low role involvement. The increase in self-acceptance associated with higher control was greater among individuals with low role involvement. As noted earlier, this pattern may suggest that having a greater sense of control may offset the possible disadvantages of having fewer roles.

Discussion

This study was designed to investigate the association between multiple roles and psychological well-being in a national sample of adults in the United States. The objective was to investigate a wide array of roles and to assess whether the role enhancement hypothesis is applicable across men and women and for those with varied educational attainment. Sense of control was also investigated as a potential moderator of the associations between multiple roles and well-being, which included eudaimonic measures rather than a focus only on hedonic measures or negative outcomes. The use of more differentiated outcomes facilitates identification of specific areas in which multiple role involvement works together with other variables, such as education.

The general hypothesis was that an increased number of roles would be associated with increased psychological well-being and decreased negative affect. Support for this hypothesis was obtained for each measure except autonomy. For women and men of varied educational status, an increased number of roles was associated with better quality relations with others, a greater sense of effectively managing one's life and surroundings, greater purpose in life, and greater positive affect. These associations provide

further support for the expansion hypothesis and are congruent with previous findings that link multiple roles to increased positive outcomes, such as life satisfaction, happiness, and self-efficacy (Adelmann, 1994b; Jackson, 1997; Martire et al., 2000; Miller et al., 1991; Pietromonaco et al., 1986), and decreased negative outcomes, such as depression, distress, and psychological symptoms (Adelmann, 1994b; Hong & Seltzer, 1995; Jackson, 1997; Martire et al., 2000; Menaghan, 1989; Thoits, 1983, 1986). Increased role involvement was also associated with more positive self-regard, increased feelings of personal growth, and lower negative affect for both women and men, although these effects varied based on how much control and/or education individuals reported.

It was hypothesized that multiple roles would be associated with higher well-being particularly among those with high educational attainment. The rationale was that those with more education may have not only better roles (i.e., higher-paying and more autonomous jobs), but also increased resources (e.g., financial, psychological) for managing the demands of multiple roles. The results provided support for this hypothesis for women, although the effects were targeted on only two aspects of well-being: autonomy and personal growth. High role occupancy was linked with greater autonomy for women as educational level increased. For men, however, the results were in the opposite direction, such that high role occupancy was linked with diminished autonomy as educational level increased.

Interpretation of these effects is challenging. It is possible that women with more education have more resources and skills for managing multiple roles, and thereby feel a heightened sense of autonomy in carrying out their various commitments. Alternatively, women with fewer roles and less education may maintain higher autonomy by focusing their resources on a small number of roles. Women with higher education but fewer roles may, however, feel they have fallen short of expectations shaped by their educational experiences. In other words, they may feel that they should be accomplishing more and this undermines their sense of autonomy. For men, those who are highly educated and have many roles may feel less autonomous because they have diminished flexibility in their schedules as they become more involved in household tasks. All of these possibilities need to be verified with further assessments probing the above ideas.

Education was also implicated in the association between multiple roles and personal growth. Here, however, sense of control moderated the association as well. It was hypothesized that individuals with both high role involvement and high control would have the strongest links to higher well-being and that this would be particularly consequential for individuals with lower educational attain-

ment. The results supported this outcome, but also showed that high sense of control was also more strongly linked with the personal growth of those with low role involvement, regardless of educational standing. Sense of control thus appears to mitigate against the adverse consequences of multiple situations: managing multiple roles despite limited educational attainment, and dealing with limited role involvement (regardless of educational attainment).

There were other outcomes for which control significantly moderated the association between multiple roles and well-being. Women and men showed positive links between increased control and increased autonomy, but these effects were strongest among women with high role involvement, as predicted. It appears that sense of control is even more important for enhanced autonomy for women with high role involvement than it is for men or women with low role involvement. Women with many roles may find it more difficult to experience self-determination when they have little control over their roles. Such effects may be particularly true among women who occupy role combinations that are difficult or stressful, although this interpretation needs to be evaluated empirically.

Perceived control was also a factor in the relation between role involvement and negative affect and self-acceptance. The associations between increased control, decreased negative affect, and increased self-acceptance were stronger for those with low role involvement. These findings point to an unexpected moderating influence: namely, that sense of control may help mitigate the downside of occupying fewer roles, especially in terms of having positive self-regard and less negative affect.

Overall, these findings suggest that, although positive associations exist between role occupancy and positive well-being and lower negative affect, some effects depend on an individual's gender or educational status, and many outcomes are specific to particular dimensions of well-being. Therefore, it is important for future researchers to consider how links between role involvement and well-being differ based on an individual's sociodemographic background and/or personal characteristics, such as sense of control. These findings also point to aspects of psychological functioning that have previously been missing in multiple roles research, such as a sense of personal growth, positive relationships with others, and sense of autonomy. These, as the findings underscore, are differentially related to the experience of occupying multiple roles.

A limitation of the present study is the cross-sectional design. It may be that varied levels of psychological well-being influence the roles in which people engage, or that multiple roles and well-being have a reciprocal relationship. For instance, individuals who have better profiles of positive psychological well-being may pursue more roles because they believe that they are capable of handling the

increased responsibilities and commitments, whereas individuals who have more unfavorable profiles of positive psychological well-being may refrain from the pursuit of multiple roles because they are already challenged by attempts to manage their existing roles effectively. Follow up research is needed with longitudinal data to assess how these associations vary across time as individuals experience changes in their role occupancy.

The present study was also limited by the variables that were available in the MIDUS study. Some of the mediators and moderators of the links between multiple roles and well-being that were suggested in previous research (Barnett & Hyde, 2001) could not be examined because they were not available. In addition, the MIDUS dataset did not have a measure of role quality for all of the roles that were included, so role quality could not be included in the present study. It has been suggested that role quality is a fundamental component of psychological well-being (Barnett & Hyde, 2001; Stephens & Franks, 1999), and the positive association found between multiple role occupancy and psychological well-being may be qualified by links that exist between the quality of each role and psychological well-being. Future researchers should explore potential moderators of the links between multiple role involvement and well-being.

In addition, further studies are needed to examine how different combinations of roles are linked with well-being and how these associations vary by gender. Previous studies have focused on the roles of parent, spouse, and employee, but little attention has been given to additional roles that may work in combination with those roles. It might be hypothesized that a nurturing role such as caregiver, which many individuals assume out of obligation, may more easily be integrated into a woman's role repertoire, while for men, such a role may be incompatible with their current role expectations. A role such as volunteer is pursued by choice and may afford an individual greater psychological benefits than a role such as caregiver, and it might be hypothesized that volunteering provides psychological and physical benefits regardless of gender. Future research needs to investigate roles that provide benefits to individuals as well as explore the mechanisms through which these roles make an impact upon psychological and physical health.

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