Differential Impact of Multiple Levels of Productive Activity Engagement on Psychological Well-Being in Middle and Later Life

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Purpose: This study tested the effect of multiple levels of engagement in the productive roles of paid work, volunteering, and caregiving on midlife and older adults’ psychological well-being. Methods: Using cross-sectional data from a sample of 330 adults aged 50 and older (largely white, women, and educated), a treatment effects model was employed to test the impact of four levels of engagement (not involved and low, medium, and high engagement) on psychological well-being. Results: Those involved in work or volunteer activities who were high in engagement reported greater psychological well-being than those who were not involved, whereas those who were low or medium in engagement reported lower well-being than those not involved. A different pattern emerged for caregiving; midlevels of engagement were associated with higher well-being compared with the noninvolved, whereas low and high levels of engagement were associated with lower well-being. Implications: Findings suggest that one’s experience of an activity plays an important role in the extent to which involvement is associated with positive outcomes. Recommendations for enhancing role quality to promote psychological well-being in middle and later life are discussed.

Key Words: Productive aging, Work (after retirement, occupation), Volunteerism and Civic engagement, Caregiving—formal

Although productive activities have been central to research on psychological well-being in middle and later life (Morrow-Howell, Hinterlong, & Sherraden, 2001), the nature and experience of older adults’ involvements are not well understood. To the extent that participation in productive roles contributes to healthy and vital aging, a full account of such enrichment effects depend on a more nuanced understanding of older adults’ subjective experiences within these roles. Psychological engagement refers to the experience of connecting on a deep and meaningful level with a role (Kahn, 1990). Although there is a well-developed body of knowledge on engagement within paid work (Christian, Garza, & Slaughter, 2011), little is known about what engagement looks and feels like in other later life roles (e.g., volunteering and caregiving) and how engagement in these roles relates to overall psychological well-being.

This study examines the experiences of today’s midlife and older adults in three productive roles:
paid work, volunteering, and unpaid caregiving (i.e., care for ill or disabled adults) by empirically testing the effect of four levels of engagement (not involved and low, moderate, and high engagement) on psychological well-being among adults aged 50 and older. In doing so, we advance the notion that there are multiple levels of activity engagement and these various levels of engagement can have a differential impact on outcomes for midlife and older adults.

**Theoretical and Empirical Framework**

**Role Occupancy and Psychological Well-Being**

Not only are our identities intimately tied to what we “do” (i.e., our activities and the roles we perform), but overall psychological well-being is also tied to what we “do” as well. In role identity theory, the self is comprised of a collection of identities, each of which is based on occupying a particular role (Stryker, 1968). An identity can be defined as one’s answer(s) to the question “who are you?” (Desrochers, Andreassi, & Thompson, 2004; Stryker, 1968; Stryker & Burke, 2000). Individuals actively define their role identities by attaching personal meaning to the role, committing to it, and integrating it into their self-concept. Because role identities such as parent, volunteer, spouse, or student are believed to provide individuals with a sense of meaning and purpose, behavioral guidance, greater access to resources, and a supportive social network, it is argued that psychological well-being is enhanced by occupying such roles (Barnett & Hyde, 2001; Sieber, 1974; Thoits, 1983). The productive aging framework puts forth that occupying productive roles—or roles that produce goods or services, whether paid or not, like employment, caregiving, or volunteering (Herzog, Kahn, Morgan, Jackson, & Antonucci, 1989)—in later life is beneficial to the individual and society (O’Reilly & Caro, 1994). Moreover, activity theory (Havighurst & Albrecht, 1953), continuity theory (Atchley, 1989), and the successful aging paradigm (Rowe & Kahn, 1998) all support the contention that continued role involvement contributes to mental health and psychological well-being in later life.

However, bodies of research focused on the effect of work, volunteering, or caregiving on psychological well-being have produced mixed support for the role occupancy perspective among older adults. With regard to paid work, studies using longitudinal data and large, nationally representative data- sets have found that retirement has a negative effect on psychological well-being in later life (Calvo, 2006; Dave, Rashad, & Spasovic, 2008; Gallo, Bradley, Siegel, & Kasl, 2000), whereas others have found no relationship (McGoldrick, 1989; Minkler, 1981; Moen, 1996; Thomas, Benzeval, & Stansfeld, 2005) or a positive relationship (Kasl & Jones, 2000; Mein, Martikainen, Hemingway, Stansfeld, & Marmot, 2003).

With regard to volunteer work, Wheeler, Gorey, & Greenblatt (1998) conducted a meta-analysis of 37 studies (mostly cross-sectional) and found that volunteering significantly improved older adults’ psychological well-being (see also Borgonovi, 2008; Schwartz, Meisenhelder, Ma, & Reed, 2003). Additional support has come from longitudinal studies (Greenfield & Marks, 2004; Morrow-Howell, Hinterlong, Rozario, & Tang, 2003). However, both Van Willigen (2000) and Windsor, Anstey, and Rodgers (2008) found that volunteering had a detrimental effect on well-being, but only when the number of hours volunteered was very high.

Finally, inquiries into the impact of caregiving on psychological well-being in middle or later life have generally found that providing care for an ill or disabled relative or friend has a negative impact on psychological well-being—particularly when the caregiver is providing extensive amounts of care (Pinquart & Sörensen, 2003a, 2003b, 2005, 2006). Some studies, however, have found caregiving to have no effect or a positive effect on aspects of well-being under certain conditions. Using two waves of the National Survey of Families and Households, Marks, Lambert, and Choi (2002) found the transition to caregiving for a child, spouse, or biological parent was associated with an increase in depressive symptoms, whereas providing care to a parent-in-law was not. Also using longitudinal data, Moen, Robison, and Dempster-McClain (1995) found that, among respondents who had held many roles as young adults, those who were currently caregiving had lower levels of mastery, self-esteem, and life satisfaction, and higher depression than noncaregivers, however, among those who had occupied fewer roles as young adults, those who were currently caregiving had higher self-esteem and life satisfaction and lower depression than noncaregivers.

**Role Quality and Psychological Well-Being**

Although the role occupancy argument is consistent with expansionist theory (Barnett & Hyde,
distinguishes between role quality (more important to health, mental, physical, and relationship) than is the number of roles or the amount of time spent in a particular role” (p. 784). This suggests that one’s experience of the roles he or she occupies as positive or negative, as beneficial or burdensome, can differentially affect well-being outcomes. In role theory, for example, role conflict or strain describes a situation where expectations within multiple roles impinge on each other or when there is a discrepancy between the expectations of others (e.g., a boss) and one’s own behaviors (Lynch, 2007). Role overload describes a situation where a person is faced with a set of roles that are too demanding, and role ambiguity, a situation where the expectations for adequate role performance are unclear (Davis, 1996). It is argued that each of these conditions serve as a source of stress and anxiety.

Goffman (1961) distinguishes between role embracement and role distancing, each of which can be tied to role quality. In role embracement, individuals embody their role completely to the point that they are inseparable from it, whereas in role distancing, individuals remove themselves from their role performance psychologically (e.g., feigning excitement). Kahn (1990) applied the notion of role embracement to the work role specifically, stating that individuals seek to protect themselves from being alienated on the one hand, or overwhelmed, on the other, by alternately pulling away from and moving toward their work roles. He coined the terms “personal engagement” and “personal disengagement” to describe these calibrations of “self-in-role.” He defines personal engagement as “the simultaneous employment and expression of a person’s ‘preferred self’ in task behaviors that promote connections to [the] work and to others, personal presence (physical, cognitive, and emotional) and active, full performances” (Kahn, 1990, p. 700). Personal disengagement, conversely, is described as “the uncoupling of selves from … roles … [where] people withdraw and defend themselves physically, cognitively, or emotionally during role performances” (p. 694). Kahn theorizes that we become personally engaged when we feel that it is meaningful and safe to express our full self and when we are psychologically available to do so. He proposes that characteristics of individuals and their roles drive beliefs regarding these three prerequisite conditions.

Schaufeli, Bakker, and Salanova (2006) have operationalized the concept of personal engagement (hereafter engagement) within the role of work as “a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption” (p. 702). Vigor is seen as a state characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and to persist even in the face of difficulties. Dedication refers to being strongly involved in one’s work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. And absorption is characterized by being fully concentrated and happily engrossed in one’s work, whereby time passes quickly and one has difficulties with detaching oneself from work (Schaufeli et al., 2006). Engagement can occur in many settings, however, not just work. For example, one may be engaged at work, or while doing other activities such as gardening, volunteering, or exercising (Alarcon, 2009). Kahn’s theoretical model makes an implicit distinction between involvement and engagement that can be extended for our purposes—it may not be the mere involvement in these activities that holds positive consequences for adults as they age, but the degree to which this involvement is experienced as positive, fulfilling, meaningful, and interesting (engagement).

Empirical research also points to the need to focus on individuals’ subjective role experiences in relation to psychological well-being rather than on role occupancy per se (e.g., Calvo, 2006; McMunn, Nazroo, Wahrendorf, Breeze, & Zaninotto, 2009). With regard to paid work, Calvo (2006) found that working in undesirable jobs—“those that have excessive demands or otherwise cause dissatisfaction” (p. 3)—can negate some of the potentially favorable effects of working in older adulthood. Specifically, although having an undesirable job did not change the favorable effect of paid work on self-rated health and one’s ability to perform activities of daily living, having such a job was harmful for workers’ mood and their survival. Also, McMunn and colleagues (2009) found that workers, volunteers, and caregivers who felt adequately rewarded for their activities had better well-being than those who were not participating in those activities, whereas those who did not feel rewarded did not differ from nonparticipants.

Wahrendorf, von dem Knesebeck, and Siegrist (2006) analyzed data from the 2004 Survey of Health, Ageing and Retirement in Europe (SHARE) and found that although involvement in productive activity was associated with psychological well-being, this association varied according to the experienced reciprocity between efforts spent and rewards received, for both volunteer
work and informal help. Specifically, reciprocal exchange (i.e., balance between perceived effort and perceived reward) was associated with positive well-being, whereas nonreciprocal exchange (i.e., imbalance between perceived effort and perceived reward) was associated with negative well-being. These findings support the argument that “it is the quality of exchange experienced in productive activities that matters for well-being” (p. 71).

The Current Study

Few studies have concurrently tested whether role occupancy or role quality is more strongly related to psychological well-being across multiple productive roles among midlife and older adults (for exceptions, see McMunn et al., 2009; Wahrendorf et al., 2006). This gap may be due in part to difficulties in measuring role quality across diverse roles. This study takes a step toward filling these gaps by exploring the possibility that there are multiple levels of activity engagement and that these various levels of engagement can have a differential impact on outcomes for midlife and older adults. We propose that the concept of engagement can be seen as a proxy for role quality and can be assessed across diverse role types. Using engagement as an indicator of role quality, this study aims to empirically test the effect of four levels of engagement (not involved and low, moderate, and high engagement) on psychological well-being among adults aged 50 and older. We focus on engagement in three productive roles: paid work, volunteering, and caregiving.

Based on the theory and literature reviewed above, two competing hypotheses are proposed. In line with the role occupancy perspective:

H1. Midlife and older adults who are not involved in a given productive role will have poorer psychological well-being than those involved, regardless of the extent to which they are engaged, in the role.

In line with the role quality perspective:

H2. Midlife and older adults who are not involved in a given productive role will have poorer psychological well-being than those who are highly engaged, but better psychological well-being than those who are low in engagement.

Method

Data and Sample

Data for this study were collected as part of the Life & Times in an Aging Society (LTAS) study. Participants were recruited through electronic newsletters announcing a conference on spirituality in the second half of life to be held at a Massachusetts university in 2010. This announcement was distributed widely to university alumni (and in some cases their parents) as well as through departmental listservs. Because the conference was open to the public, forwarding the announcement to others and advertising within one’s community was encouraged. Individuals were invited to complete the 15 min online survey regardless of their participation in the conference and were given the opportunity to enter into a drawing to win one of eight prizes valued at over $100 each. Participants were assured of the anonymity of their responses. The survey asked questions about respondents’ involvement in different activities, their social relationships, ideas about spirituality, beliefs about life, and their demographic characteristics. Approximately 850 people ranging in age from 21 to 83 years completed the survey; a subsample of 330 respondents aged 50–83 years was the focus of the current analyses.

Measures

Psychological Well-Being.—Psychological well-being was measured using two questions: one assessing overall satisfaction with life and one assessing overall mental health on an 11-point scale ranging from 0 (worst) to 10 (best). Responses were averaged to create an overall psychological well-being score (Cronbach’s α = 0.86). Analyses were replicated using each measure individually; findings were substantively identical.

Role Engagement.—We assessed four levels of engagement: not involved and low, medium, and high engagement. First, to assess involvement in each of the three productive activities, respondents were asked if they participate in any of these roles on a regular, weekly basis. Approximately 59% of the sample was involved in paid employment (M = 41 hr/week), 36% in volunteering (M = 8.84 hr/week), and 15% provided care to an adult aged 65 or older (12%) or to an ill or disabled adult family member or friend younger than 65 years (2%; M = 26 hr/week).
Next, one of the goals of the LTAS study was to assess whether the construct of engagement—as defined within the role of work—had promise for being extended or adapted to measure engagement within older adult populations and in other productive roles. Thus, we adapted the Utrecht Work Engagement Scale (UWES; Schaufeli & Bakker, 2003)—the most extensively tested measure (psychometrically and empirically) of all of the engagement measures reviewed for this study (see Matz-Costa, 2011). The vigor, dedication, and absorption dimensions closely resemble the physical, emotional, and cognitive aspects of engagement, described by Kahn (1990). We used the iterative regression-based technique described in Schaufeli and Bakker (2003) to reduce the 17-item work engagement scale and the adapted volunteer and caregiver engagement scales to nine-item scales with three items for each dimension. First, Schaufeli et al. selected the most characteristic item for each dimension based on face value. For vigor this was: “At my work, I feel bursting with energy,” for dedication it was: “I am enthusiastic about my job,” and for absorption it was: “I am immersed in my work.” We used these items’ equivalents as starting points for the volunteer and caregiver scales. Second, the most characteristic item was regressed on the remaining items for the given dimension; the item with the highest β-value was selected as the second item for that dimension. Finally, the sum of these two items was regressed on the remaining items for the dimension; the item with the highest β-value was selected as the third item for that dimension. See Supplementary Table 1 for a list of the final 9 items for each activity.

Scores on our adapted engagement scales could range from a low of 0 to a high of 6, and each scale showed strong inter-item reliability with all Cronbach’s alphas exceeding 0.90. Engagement scores were divided into tertiles, with the lowest tertile representing low, the middle tertile representing medium, and the highest tertile representing high engagement (see Table 1 for tertile range for each role).

**Covariates.**—Factors that could covary with psychological well-being or with engagement levels were included in analyses. Physical health was measured as respondents’ subjective ratings of physical health on a scale ranging from 0 (*worst*) to 10 (*best*). Age was measured in years; total household income on a scale of 1 (<$20,000) to 8 (>=$140,000); in $20,000 increments; education was coded as 1 = graduate degree and 0 = less than graduate degree; marital status was coded as 1 = married or cohabitating and 0 = not married or cohabitating; and gender was coded as 1 = women and 0 = men. Race or ethnicity was not included in analyses as an additional covariate due to lack of variation on this variable (97% of the sample was White). Additionally, to take into account participants’ multiple roles, models included dummy variables representing involvement in the other productive activities. See Table 1 for descriptive statistics for all study variables.

**Data Analysis**

Testing the effect of multiple levels of engagement in the productive roles of paid work, volunteering, and caregiving on older adults’ psychological well-being is complicated by the fact that an individual’s

<table>
<thead>
<tr>
<th>Table 1. Descriptive Characteristics of Study Variables (N = 330)</th>
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<tbody>
<tr>
<td><strong>M (SD) or %</strong></td>
</tr>
<tr>
<td>Well-being</td>
</tr>
<tr>
<td>Physical health</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Household income&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Graduate degree</td>
</tr>
<tr>
<td>Married or cohabitating</td>
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<tr>
<td>Women</td>
</tr>
<tr>
<td>Paid employment engagement level</td>
</tr>
<tr>
<td>Not involved</td>
</tr>
<tr>
<td>Low engagement (score of 1.56–3.89 out of 6)</td>
</tr>
<tr>
<td>Medium engagement (score of 3.89–4.66 out of 6)</td>
</tr>
<tr>
<td>High engagement (score of 4.67–6.00 out of 6)</td>
</tr>
<tr>
<td>Volunteer engagement level</td>
</tr>
<tr>
<td>Not involved</td>
</tr>
<tr>
<td>Low engagement (score of 2.56–4.00 out of 6)</td>
</tr>
<tr>
<td>Medium engagement (score of 4.01–4.89 out of 6)</td>
</tr>
<tr>
<td>High engagement (score of 4.90–6.00 out of 6)</td>
</tr>
<tr>
<td>Caregiving engagement level</td>
</tr>
<tr>
<td>Not involved</td>
</tr>
<tr>
<td>Low engagement (score of 1.89–3.29 out of 6)</td>
</tr>
<tr>
<td>Medium engagement (score of 3.30–4.11 out of 6)</td>
</tr>
<tr>
<td>High engagement (score of 4.12–6.00 out of 6)</td>
</tr>
</tbody>
</table>

<sup>a</sup>On a scale of 1—less than $20,000—to 8—more than $140,000—in $20,000 increments.
involvement or engagement in these activities and psychological well-being may depend on a common set of unobserved factors (e.g., life history or personality characteristics). Lack of attention to such unobserved factors in models can lead to biased estimates because ordinary least squares (OLS) regression estimates rely on the assumption that the regressors are uncorrelated with the error term (Wooldridge, 2002). Although several studies exploring the relationship between productive activity and well-being have acknowledged and addressed the correlated errors issue using longitudinal designs (e.g., Dave et al., 2008), cross-sectional studies on this topic have tended to ignore the issue and just cite it as a study limitation.

Because the effects of all unobserved variables in a given regression model are captured in the error term, any regressors that are correlated with the unobserved factors will end up serving as proxies for these unobserved variables. This is problematic because if a regressor ends up serving as a proxy for those factors, its estimated coefficient cannot be interpreted as the effect of that regressor per se because it also captures part of the effect of the unobserved variables. Consider the psychological well-being of midlife and older adults who are and are not currently working. If those who work are doing so because they have a greater (unobservable) propensity to find employment or be employable (marketable skills, social networks, competency, personality, etc.), then the estimated effect of work on psychological well-being may be overestimated—the propensity to find employment is in the error term of the psychological well-being regression and is correlated with work status.

We statistically assessed and then corrected for the fact that unobserved factors in the error term may be correlated with involvement or engagement level and psychological well-being in our models by fitting a treatment effects model using the mtreatareg package (Deb & Trivedi, 2006) in Stata IC, 11. The treatment effects approach to dealing with correlated errors estimates the model using a two-step procedure (Heckman, 1976). In the first step, a regression predicting the probability of “treatment” (the treatment equation) is specified, with the goal of computing a correction factor: the inverse Mills ratio or \( \lambda \). To test Hypothesis 1, the treatment equation is a logistic regression in which involvement status was the treatment, coded as a binary variable with 1 indicating involvement in the role and 0 indicating no involvement. To test Hypothesis 2, the treatment equation is a multinomial regression with engagement level as the treatment, coded as a four-category nominal-level variable (because we anticipated that level of engagement could affect psychological well-being in a nonordinal manner).

The second regression (the outcome equation) predicts the outcome of interest as a function of the resulting \( \lambda \)'s and the treatment variable(s), controlling for observable covariates. It is usually recommended that there be at least one “extra” explanatory factor in the treatment equation but not the subsequent outcome equation (Ached, 1986)—this is typically referred to as the exclusion restriction. Strictly speaking, this is not necessary, but it helps to “identify” the effect of the treatment on the outcome and makes the estimates more robust. In this case, age was excluded from the OLS portion of the model. Although physical health, gender, total household income, education, marital status, and other role involvement have been linked both to involvement or engagement level (Matz-Costa, 2011) and to psychological well-being (Pinquart & Sörensen, 2003a, 2003b, 2005, 2006), age is likely to be only weakly associated with psychological well-being in a sample aged 50 and older but more strongly associated with engagement level (Herzog et al., 1989; Matz-Costa, 2011). In our case, the outcome equation was computed with OLS estimation since psychological well-being was measured continuously. This method allows us to model the correlation between the “treatment” and the error term in the outcome equation directly, thereby eliminating the omitted variable bias. If \( \lambda \neq 0 \), there is an omitted variable bias, and the estimates from the treatment effects model will be less biased than OLS estimates.

**Results**

Our main findings testing Hypotheses 1 and 2 are presented in the OLS portion of Tables 2 and 3, respectively. We did not find support for Hypothesis 1 for any of the roles, as those involved in paid work or volunteer work did not report greater or poorer psychological well-being than those not involved and those involved in caregiving reported poorer psychological well-being than those not involved.

We did, however, find support for Hypothesis 2 for the roles of work and volunteering and partial support for the caregiving role. Specifically, workers who were low and medium in engagement had significantly poorer psychological well-being compared with nonworkers, whereas workers who were high in engagement had greater psychological well-being.
than nonworkers. The same pattern was found in the volunteer model. A slightly different pattern of results was found for caregivers; caregivers low and high in engagement had significantly poorer psychological well-being compared with noncaregivers, whereas caregivers with medium engagement levels had greater psychological well-being than noncaregivers.

### Discussion

We tested competing hypotheses regarding the extent to which there is a differential impact of level of engagement—in the productive roles of paid work, volunteering, and caregiving—on midlife and older adults’ psychological well-being. Contrary to the role occupancy perspective, being involved in a productive role was not found to be associated with psychological well-being in this study. In support of the role quality perspective, however, the association between role occupancy and psychological well-being was found to vary according to subjective role experiences such that high engagement levels were associated with positive well-being and low and medium levels with

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**Table 2. Summary of Binary Treatment Effects Model for Involvement Predicting Well-Being (N = 330)**

<table>
<thead>
<tr>
<th></th>
<th>Treatment effects model</th>
<th>OLS model</th>
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<tbody>
<tr>
<td></td>
<td>B (SE)</td>
<td>B (SE)</td>
</tr>
<tr>
<td><strong>Paid employment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.49 (0.25)*</td>
<td>8.61 (0.33)***</td>
</tr>
<tr>
<td>Physical health</td>
<td>0.00 (0.04)</td>
<td>0.47 (0.04)***</td>
</tr>
<tr>
<td>Age</td>
<td>-0.10 (0.01)***</td>
<td>Excluded</td>
</tr>
<tr>
<td>Household income&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.04 (0.04)</td>
<td>0.04 (0.05)</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>0.51 (0.17)**</td>
<td>0.13 (0.19)</td>
</tr>
<tr>
<td>Married or cohabitating</td>
<td>-0.17 (0.19)</td>
<td>-0.20 (0.20)</td>
</tr>
<tr>
<td>Female</td>
<td>-0.28 (0.19)</td>
<td>-0.23 (0.19)</td>
</tr>
<tr>
<td>Paid employment involvement</td>
<td>Treatment variable</td>
<td>-0.20 (0.18)</td>
</tr>
<tr>
<td>Volunteer involvement</td>
<td>-0.57 (0.16)***</td>
<td>0.00 (0.21)</td>
</tr>
<tr>
<td>Caregiving involvement</td>
<td>-0.18 (0.20)</td>
<td>-1.26 (0.37)***</td>
</tr>
<tr>
<td>λ (Inverse Mills ratio)</td>
<td></td>
<td>1.03 (0.24)***</td>
</tr>
<tr>
<td><strong>Volunteering</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.06 (0.24)</td>
<td>11.14 (2.35)***</td>
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<tr>
<td>Physical health</td>
<td>0.06 (0.04)</td>
<td>0.62 (0.15)***</td>
</tr>
<tr>
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<td>-0.05 (0.11)</td>
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<td>Graduate degree</td>
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<td>0.00 (0.42)</td>
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<td>-0.32 (0.48)</td>
</tr>
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<td>Female</td>
<td>-0.07 (0.17)</td>
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</tr>
<tr>
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<td>-0.59 (0.17)***</td>
<td>-1.11 (0.93)</td>
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<tr>
<td>Volunteer involvement</td>
<td>-0.59 (0.17)***</td>
<td>-1.11 (0.93)</td>
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<tr>
<td>Caregiving involvement</td>
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<td>-0.09 (0.49)</td>
</tr>
<tr>
<td>λ (Inverse Mills ratio)</td>
<td></td>
<td>-6.81(4.73)</td>
</tr>
<tr>
<td><strong>Caregiving</strong></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>8.21 (0.46)***</td>
</tr>
<tr>
<td>Physical health</td>
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<td>0.42 (0.07)***</td>
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<tr>
<td>Age</td>
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<td>Excluded</td>
</tr>
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<td>-0.10 (0.08)</td>
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<td>-0.08 (0.28)</td>
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<td>0.56 (0.43)</td>
</tr>
<tr>
<td>Female</td>
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<td>-0.04 (0.31)</td>
</tr>
<tr>
<td>Paid employment involvement</td>
<td>-0.13 (0.20)</td>
<td>0.20 (0.28)</td>
</tr>
<tr>
<td>Volunteer involvement</td>
<td>-0.04 (0.17)</td>
<td>0.01 (0.28)</td>
</tr>
<tr>
<td>Caregiving involvement</td>
<td>Treatment variable</td>
<td>-4.88(2.03)*</td>
</tr>
<tr>
<td>λ (Inverse Mills ratio)</td>
<td></td>
<td>2.83(1.16)*</td>
</tr>
</tbody>
</table>

**Notes:** All continuous variables in model are mean centered. OLS = ordinary least squares.

<sup>a</sup>On a scale of 1—less than $20,000—to 8—more than $140,000, in $20,000 increments.

*p < .05. **p < .01. ***p < .001.
Table 3. Summary of Multinomial Treatment Effects Model for Engagement Predicting Well-Being (N = 330)

<table>
<thead>
<tr>
<th></th>
<th>Paid employment</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low, B (SE)</td>
<td>Medium, B (SE)</td>
<td>High, B (SE)</td>
<td>OLS model B (SE)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.91 (0.70)</td>
<td>0.10 (0.56)</td>
<td>-1.04 (0.62)</td>
<td>8.34 (0.08)***</td>
<td></td>
</tr>
<tr>
<td>Physical health</td>
<td>-0.22 (0.11)</td>
<td>0.00 (0.09)</td>
<td>0.34 (0.12)**</td>
<td>0.52 (0.03)**</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.23 (0.04)***</td>
<td>-0.21 (0.03)***</td>
<td>-0.13 (0.03)***</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>Household incomea</td>
<td>0.01 (0.12)</td>
<td>0.02 (0.10)</td>
<td>0.10 (0.11)</td>
<td>-0.02 (0.01)</td>
<td></td>
</tr>
<tr>
<td>Graduate degree</td>
<td>1.32 (0.49)**</td>
<td>0.54 (0.37)</td>
<td>1.09 (0.43)**</td>
<td>-0.18 (0.05)***</td>
<td></td>
</tr>
<tr>
<td>Maried or cohabitating</td>
<td>-0.09 (0.53)</td>
<td>-0.10 (0.43)</td>
<td>-0.44 (0.45)</td>
<td>-0.06 (0.06)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>-0.81 (0.51)</td>
<td>-0.77 (0.42)</td>
<td>-0.07 (0.47)</td>
<td>-0.38 (0.06)***</td>
<td></td>
</tr>
<tr>
<td>Volunteer involvement</td>
<td>-1.50 (0.47)**</td>
<td>-1.14 (0.37)**</td>
<td>-0.88 (0.39)*</td>
<td>-0.27 (0.05)***</td>
<td></td>
</tr>
<tr>
<td>Caregiving involvement</td>
<td>-0.94 (0.57)</td>
<td>-0.16 (0.44)</td>
<td>0.02 (0.48)</td>
<td>0.02 (0.07)</td>
<td></td>
</tr>
</tbody>
</table>

Engagement Level
Not involved               Reference
Low engagement             -0.44 (0.14)*** |
Medium engagement          -0.88 (0.11)*** |
High engagement            0.60 (0.07)*** |
λ—low engagement           0.42 (0.04)*** |
λ—medium engagement        1.40 (0.03)*** |
λ—high engagement          -0.11 (0.02)*** |

Volunteering
Constant                  -1.03 (0.62)    | -1.48 (0.64)* | -0.97 (0.66) | 8.21 (0.05)*** |
Physical health           -0.01 (0.10)     | 0.14 (0.11)    | 0.29 (0.13)* | 0.45 (0.01)*** |
Age                       -0.09 (0.03)*** | -0.01 (0.03)    | -0.03 (0.03) | Excluded |
Household incomea         -0.20 (0.11)     | 0.04 (0.11)     | -0.05 (0.11) | -0.09 (0.01)*** |
Graduate degree           0.16 (0.42)      | -0.21 (0.41)    | -0.06 (0.44) | -0.36 (0.04)*** |
Married or cohabitating   0.32 (0.48)      | -0.06 (0.47)    | -0.85 (0.48) | -0.13 (0.06)* |
Female                    -0.71 (0.42)     | 0.06 (0.47)     | 0.14 (0.51)  | -0.34 (0.04)*** |
Paid employment in involvement | -0.94 (0.45)* | -0.81 (0.45)    | -1.65 (0.50)*** | 0.18 (0.06)*** |
Caregiving involvement    -1.44 (0.68)*    | 0.40 (0.47)     | 0.49 (0.50)  | 0.07 (0.06) |

Engagement level
Not involved               Reference
Low engagement             -1.21 (0.06)*** |
Medium engagement          -0.19 (0.15) |
High engagement            0.29 (0.05)*** |
λ—low engagement           1.33 (0.01)*** |
λ—medium engagement        0.66 (0.03)*** |
λ—high engagement          -0.24 (0.02)*** |

Caregiving
Constant                  -4.51 (1.10)*** | -3.72 (1.08)*** | -2.49 (0.95)*** | 7.90 (0.09)*** |
Physical health           -0.33 (0.13)**  | 0.39 (0.22)    | 0.15 (0.17)  | 0.44 (0.02)*** |
Age                       -0.10 (0.04)*   | -0.01 (0.05)   | -0.09 (0.05) | Excluded |
Household incomea         -0.13 (0.15)    | -0.28 (0.18)    | 0.02 (0.16)  | 0.05 (0.01)*** |
Graduate degree           0.61 (0.60)     | -0.37 (0.67)    | -0.53 (0.60) | 0.13 (0.05)* |
Married or cohabitating   0.79 (0.67)     | 1.24 (0.80)     | -0.29 (0.69) | -0.48 (0.06)*** |
Female                    0.18 (0.66)     | -0.62 (0.71)    | -0.93 (0.62) | -0.15 (0.08)* |
Paid employment in involvement | 0.38 (0.69) | 0.06 (0.75)     | -0.37 (0.70) | 0.12 (0.05)* |
Volunteer involvement     -0.71 (0.64)    | -1.16 (0.82)    | 0.80 (0.59)  | -0.05 (.5) |

(Table continues on next page)
negative well-being in work and volunteering and medium engagement levels were associated with positive well-being and low and high levels with negative well-being in caregiving.

**Role Occupancy Perspective**

Although the lack of support for the role occupancy perspective in this study runs counter to some of the previous literature, it is consistent with some previous literature as well. With regard to paid work, this finding is consistent with Thomas and colleagues (2005) who found no effect of the transition into retirement on psychological distress when compared with people who changed jobs (see also McGoldrick, 1989; Minkler, 1981; Moen, 1996). Interestingly, when models were not adjusted for treatment-effects (results not shown), being involved in paid work was positively related to psychological well-being; consistent with studies that have found a negative effect of retirement (e.g., Calvo, 2006; Dave et al., 2008; Gallo et al., 2000). Given that the inverse Mills ratio was highly significant in the paid work model, however, we can conclude that there were indeed unobserved factors in the error term that needed to be accounted for and that the OLS estimates adjusted for such factors are less biased than the unadjusted model.

Similarly, we found no association between volunteer work and psychological well-being; however, most previous research has consistently found volunteering to have a positive effect on well-being. These findings did not differ in unadjusted models. One possible explanation is that the current sample may be comprised of those who volunteer at atypically high levels (i.e., those who volunteer “on a regular, weekly basis”; Mean = 8.84 hr/week).

**Role Quality Perspective**

In support of the role quality perspective, across all activities, respondents who were not involved in the role reported greater psychological well-being than those who were involved but low in engagement. Medium engagement in work or volunteering was also associated with lower well-being compared with the well-being of those not involved in the role, whereas high engagement in these roles was associated with greater well-being. These findings were consistent with Wahrendorf and colleagues (2006), who took a very similar approach as this study. For workers and volunteers, those experiencing nonreciprocity (imbalance between perceived effort and perceived reward) reported lower psychological well-being than the noninvolved and those experiencing reciprocity had higher well-being. Further, in the current study, it appears that the effect of occupying the paid work

<table>
<thead>
<tr>
<th>Engagement level</th>
<th>Low, B (SE)</th>
<th>Medium, B (SE)</th>
<th>High, B (SE)</th>
<th>OLS model B (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not involved</td>
<td>Reference</td>
<td>-0.83 (0.09)***</td>
<td>0.51 (0.08)***</td>
<td></td>
</tr>
<tr>
<td>Low engagement</td>
<td>-0.44 (0.09)***</td>
<td>0.98 (0.02)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium engagement</td>
<td>-0.05 (0.02)*</td>
<td>0.98 (0.02)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: All continuous variables in model are mean centered. OLS = ordinary least squares.

Windsor and colleagues (2008) found that at 800 or more hours per year of volunteering, the positive effects began to diminish and that high level volunteers did not differ in their well-being from nonvolunteers. Most large national studies capture volunteer hours at the yearly level; categorizing those with very low levels of volunteer service (e.g., <20 hr/year) and intermittent volunteer service as volunteers. In this study, only those volunteering on a regular weekly basis were considered volunteers.

Finally, we found that caregiving had a negative effect on psychological well-being, which is consistent with much of the literature on caregiving (Pinquart & Sörensen, 2003a, 2003b, 2005, 2006) but inconsistent with the role occupancy perspective.
or volunteer role on psychological well-being was clearly being washed out by the differential levels of engagement that respondents were experiencing within these roles and the opposing effects that they had on psychological well-being. These findings highlight important information about the role that subjective experiences can play in whether or not involvement in volunteer work and/or paid work is beneficial to midlife and older adults.

The caregiving model revealed an interesting pattern as well; psychological well-being was enhanced for individuals who exhibited mid-range levels of engagement compared with noncaregivers, whereas it was worsened for those low and high in engagement compared with noncaregivers. Indeed, the caregiving role is complex and differs in fundamental ways from the more structured and positively rewarded roles of work and volunteering. Some caregivers experience ongoing loss and grief as part of their daily experience (Carmack, 1997), and the literature clearly describes the burdens of caregiving (Pinquart & Sorenson, 2003a), which can lead to burnout (Maslach, 1982). Findings from this study suggest that an optimal level of caregiver engagement may be somewhere in the middle of the engaged-disengaged continuum. This notion is supported by Carmack (1992, 1997) who has emphasized the importance of maintaining a balance between engagement and detachment in caregiving situations (particularly among professional caregivers) in order to maintain positive health and well-being. She suggests that it is possible to become “overinvolved” and that “one extreme of the continuum represents engagement; the other represents detachment … Both extremes represent dysfunctionality; the middle represents functionality.” (Carmack, 1997, p. 140).

Moreover, there is a burgeoning literature on caregiver gains (e.g., Cheng, Lam, Kwok, Ng, & Fung, 2012; Harris, Durkin, Allen, DeCoster, & Burgio, 2011; Kramer, 1997; Noonan & Tennstedt, 1997) that suggests that caregiving experiences often evoke both negative and positive appraisals from caregivers (Chapell & Reid, 2002; Cohen, Colantonio, & Vernich, 2002; Sanders, 2005), however, it is not entirely clear as of yet, whether or how these positive and negative experiences work in tandem to impact psychological well-being. Our findings suggest that the balance between positive and negative appraisals of one’s caregiving role is central, and future research should explore the mechanisms through which the coexistence of these opposing appraisals impact well-being.

Overall, this study indicates that just staying involved in and of itself may not be the key to psychological well-being in middle and later life; instead the level of one’s engagement with paid work, volunteering, and caregiving plays an important role in the extent to which involvement is associated with positive outcomes. Although we found that one’s experience of the roles he or she occupies as positive or negative can differentially affect health and well-being outcomes, many large, nationally representative data sets often lack information about the subjective experience of one’s involvement in a specific role or activity. Therefore, secondary analyses may miss potentially modifiable factors associated with better psychological well-being for older adults involved in productive activity. Future studies that aim to advance understanding of the implications of “productive aging” for individual well-being should aim to take into account the subjective experience (particularly personal engagement) and to further explore in a longitudinal context and in a larger sample whether the findings of this study hold.

Limitations

Although we view our findings as important and feel they make important contributions to the field, there are several limitations. First, the study—conducted as a pilot—is based on a rather atypical sample. Specifically, it is largely female, white (97%), and of moderate-to-high socioeconomic status. Statistical controls were used to minimize the effects of such an atypical sample on the multivariate models (with the exception of race or ethnicity), but the conclusions that can be drawn about individuals from groups unrepresented in this study are limited. In particular, the contribution of socioeconomic status as a function of engagement in activity in those who are older is worthy of further discussion. Socioeconomic status not only plays an important role in the extent to which one has choices about the particular activities in which they are involved, but also one’s subjective experience of the activity (e.g., lower level jobs may be less satisfying, and caregiving in the context of significant resource constraints may exacerbate negative appraisals). A very important direction for future research is to gain an improved understanding of the relationship between meaningful engagement in productive and nonproductive roles and overall physical and mental health outcomes among marginalized subpopulations of...
midlife and older adults (e.g., involuntary workers, low-income adults, racial and ethnic minority groups, blue-collar workers) whose resource constraints may make them at particular risk for low levels of engagement.

A second limitation of this study is that it did not examine subgroup differences in engagement and psychological well-being, such as by gender, age, and other role occupancy (e.g., Do associations between work and psychological well-being differ if individuals are also caregivers?). Future studies should attempt to examine role quality in multiple roles for men and women separately and across various age groups of midlife and older adults (e.g., those in their 50s, 60s, 70s, and 80s). Further, with regard to paid work, this study was not able to adequately determine respondents’ reasons for not working, specifically, whether they were involuntarily unemployed or voluntarily unemployed. Previous research has shown that this distinction can have an important impact on well-being and should be taken into account in future research on the topic.

A third limitation is the cross-sectional nature of our data. Although the treatment effects model helped to deal with the fact that unobserved factors in the error term may be correlated with engagement level and psychological well-being, only longitudinal data can fully disentangle the directionality of the relationships explored here. Finally, although our adapted measures of engagement proved to have adequate psychometric properties (confirmatory factor analysis results are available from the corresponding author upon request), there is still room for improvement. For example, feedback from respondents indicated that some of the item wordings were awkward. We believe this may be due to the difficulty of translating certain concepts in the scale from Dutch to English.

Implications

These analyses have several implications for practice settings with midlife and older adults. In general, analyses suggest that the level of one’s engagement in paid work, volunteer, and caregiving roles matters with regard to the psychological well-being of midlife and older adults. We know from the work engagement literature that several individual and job resources have consistently been shown to positively contribute to engagement levels among employees (Halbesleben, 2010; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). This insight can be extended to other productive roles. Studies have found, for example, that personal resources—such as efficacy beliefs, optimism, hope, self-esteem, and resiliency—are strong predictors of engagement for individuals of all ages (Matz-Costa, 2011; Xanthopoulou et al., 2007). Strategies such as developing signature strengths, expressing gratitude, and nurturing social relationships have been found to be effective for building personal resources (Bakker, Albrecht, & Leiter, 2011). Identifying and working to mitigate those aspects of role environments that contribute to midlife and older adults’ negative beliefs (e.g., through skills training) and working to enhance those that contribute to positive beliefs may also be effective strategies.

Those working with midlife and older adult populations should make an effort to ensure that the role environments that midlife and older adults are operating within are providing the types of resources that these individuals need to be successful and to fully engage psychologically. For example, gerontologists may be in positions to create or design volunteer opportunities for midlife and older adults. In doing so, attention should be paid to creating environments that are challenging, yet provide ample resources, including autonomy, task significance, social support, and continued learning and growth, as these role design features have been found to relate positively to engagement (Halbesleben, 2010; Matz-Costa, 2011).

Within the caregiving role, opportunities for altering role design to optimize healthy levels of engagement (i.e., moderate levels, as this study suggests) maybe a little bit more difficult. Caregiving activities may differ from work and volunteer activities in that they are often socially isolating (many caregivers report a lack of social activities and relationships aside from that with the care recipient), there may be little social recognition for engaging in them, they yield less feedback, and the demands they make cannot be as easily adjusted to one’s skill level or preferences because they are not as freely chosen. Drawing on what we know predicts engagement in other contexts (e.g., work and school), such environments tend to lead to more negative role experiences and thus, lower levels of engagement. Innovative programs like the Cash and Counseling demonstration program, however, have shown that, while it may require more creativity, it is not out of the realm of possibility to alter the nature of the caregiver experience. The Cash and Counseling program changed not only...
the extent to which care receivers had choice and control over how to best meet their own needs, but it allowed for family caregivers to be financially compensated for their efforts and to have more choice and control themselves over which tasks they take on and which tasks they hire someone else to do (Kemper, 2007). These changes may have allowed caregivers to engage just enough in the care of their loved ones—but not too the point where it starts to have ill-effects on their psychological well-being.

Other possibilities for facilitating moderate levels of engagement include making support services like paid in-home nonmedical care, peer mentorships, and support groups more available and affordable to family caregivers and/or providing ongoing education and training to family caregivers. Such provisions could be useful through their respite function and through their effects on overall self-awareness and awareness of self-care needs in particular. Carmack (1997) makes several recommendations to help caregivers to find that “sweet spot” in the engagement/detachment continuum. Specifically she recommends: letting go of the outcome, maintaining consciousness and pragmatism, setting limits and boundaries, self-monitoring degree of involvement, and practicing self-care. Finally, building off of the “caregiver gains” literature, practices that help caregivers to surface and focus on the positive rewards that they reap from caregiving may help to mitigate some of the negative impact of chronic stressors within this role.

In conclusion, today’s midlife and older adults are participating in productive activities more often than did generations past and their participation is expected to increase (Administration on Aging, 2011). Thus, many midlife and older adults are rethinking options for constructing and re-constructing their productive roles (Freedman, 2011). Although research to date is limited on the subjective experience of participation in these roles, it is both timely and important to shed light on these issues as norms change and as gerontologists seek finer-grained understanding of the meaning and experience of “engagement” in relation to psychological well-being in middle and later life. This study represents an important yet incremental step toward that end.

Supplementary Material

Supplementary material can be found at: http://gerontologist.oxfordjournals.org.

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