ABSTRACT

Title of thesis:	BEING SINGLE IN LATE-LIFE: SINGLE STRAIN, MODERATING RESOURCES, AND DISTRESS

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Using a sample of 532 nonmarried adults over age 65 residing in the District of Columbia and two adjoining Maryland counties, this study examines "single strain"—the strain of not being married or not living with a partner in late-life. First, I consider how social and economic statuses affect exposure of nonmarried elders to single strain. Second, I study how sociodemographic characteristics and psychosocial resources moderate the effect of single strain on mental health. Results of multiple OLS regression analyses indicate that while social statuses influence elders' exposure to single strain, the differential emotional responsiveness of nonmarried older adults to single strain is largely unaffected by their sociodemographic characteristics. In contrast, mastery and self-esteem are powerful moderating resources: Nonmarried elders with high mastery and self-esteem are less adversely affected by single strain than those with lower levels of intrapsychic resources.

BEING SINGLE IN LATE-LIFE: SINGLE STRAIN, MODERATING RESOURCES,
AND DISTRESS

by

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CHAPTER 1. THEORETICAL RATIONALE

Nonmarried individuals differ from their married counterparts in daily routines, living arrangements, social and emotional experiences (Carr and Utz 2002; Kessler and Essex 1982). Singlehood may have pervasive and enduring influence on various aspects of life, including financial resources, social integration, and physical and mental well-being (Weiss 1981; Keith 1986; Ross 1995; Lopata 2000). Yet, though there is ample research of marital relationships and characteristics that contribute to marital satisfaction and well-being of married partners, "less evidence is available on adjustment to singleness *per se*" (Keith 1980:302).

This study examines how the strain of singlehood—not being married or not living with an intimate partner in late-life ("single strain")—affects mental well-being of older adults. Using data from a subsample of nonmarried individuals 65 years and older, I examine the exposure and vulnerability to single strain. First, I look at the social distribution of single strain to document the ways that the structural location of an individual may influence his or her *exposure* to this chronic stressor. For example, does the level of single strain vary by education, income, and employment status among older adults? Do women and blacks report higher levels of single strain than men and whites? Second, I examine the differential *susceptibility* (or vulnerability) of nonmarried elders to single strain with respect to its effects on depression and anxiety, net of sociodemographic factors. I also examine if three crucial psychosocial resources—mastery, self-esteem, and social support—moderate the hypothesized adverse effects of single strain on elders' mental health. Finally, I discuss the findings in the broader socio-

structural context of exposure and vulnerability to chronic strains associated with being single in late-life.

1.1. Conceptualization of Single Strain

Single strain is conceptualized as experiences, emotions, and cognitions generated specifically by *"aloneness"* of older singles.[1] Given that late-life is associated with relinquishing important social roles, being nonmarried may be particularly conducive to social isolation of elders. Weiss (1981) argues that older men and women are especially susceptible to the loss of supportive and intimate social ties and, therefore, to *loneliness*. Single individuals lack social and emotional benefits that are provided by supportive marital relationships—affection, intimacy, shared experiences, instrumental assistance. Individuals with no partner report the lowest levels of emotional support and are more likely to be socially isolated. Moreover, unmarried older adults may feel vulnerable and lonely without interpersonal bonds, which "help create a stabilizing sense of security, belonging and direction" (Ross 1995:130).

These unfavorable aspects of being alone have been described in the literature and are conceptually related to single strain. However, single strain—as it is conceptualized and measured in this study—has not been explicitly examined in prior research. Though not all currently unmarried people experience single strain, the potential chronicity of single strain in late-life makes it worth examining.

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[1] The participants examined in my analysis are not married or cohabiting, but whether they are involved in other types of romantic relationships is not known. Therefore, the focus of this study is on the absence of a shared household with an intimate partner.

1.1.1. Threat to the Self-Concept

Single strain associated with the absence of a primary intimate relationship in late-life is important as a chronic stressor that could threaten the self-concept of older adults and make them more vulnerable to emotional distress (Staples 1981). Given that an individual's identity and the sense of self are largely based on social attachments and derived from social interactions, eventful and chronic stressors that disrupt or damage relationships with other people could have deleterious consequences for the self-concept, in particular, self-esteem and the sense of mastery (Thoits 1999). Gubrium (1975) suggests that nonmarried older adults may have difficulty constructing their social identities and self-presentations because they lack self-evaluation and self-validation which arise from interpersonal expectations and routines of the close, intimate relationship in marriage. A person who is not married and, consequently, finds himself or herself outside the social context of established family life may perceive that "being with married couples only intensifies his or her feelings of marginality, of having no valid place" (Weiss 1981:157).

Being unmarried also violates standards of traditional gender roles. Expectations for marriage devalue "singleness" and generate negative stereotyping of the unmarried (Stein 1981). Furthermore, the life transitions that nonmarried adults go through may be misunderstood, perceived as ambiguous, and perhaps judged critically (Keith 1986). Therefore, the lack of normative and institutional support for the experiences of nonmarried adults may undermine their personal and social identities, "contributing to feelings of guilt and embarrassment, fear of loneliness, and psychological weariness" (Ward 1981:344).

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Not only are nonmarried elders exposed to the common unfavorable stereotypes of old age per se, but also they may be subject to a special class of negative perceptions and expectations associated with singlehood (Rubinstein 1987). Lopata's (2000) research on widowhood shows that widows are often confronted with negative identity restructuring after spousal loss. A threat to identity may be particularly pronounced among older widows. Traditional American values about family life have made the transition to the widowed status difficult for elders "because of women's high dependence upon being married, being married to a particular husband, and being part of the couple" (Lopata 2000:266).

Many married older women may have anchored important aspects of their identities and definitions of self to their marital relationships. Therefore, when their marriages are disrupted through divorce or death of a spouse, those newly unmarried women may experience profound discontinuity in their lives, often extending beyond the loss of the marital relationship to losses and/or reconstruction of their social relationships and sources of self-validation (Essex and Nam 1987). The absence of the husband after marital disruption can make the restructuring of the self-concept problematic because a close, intimate relationship such as marriage involves various dimensions of the self, and emotional as well as cognitive attachments must be restored and re-organized following a transition to singlehood. Thus, after marital dissolution in late-life (widowhood, in particular), individuals who previously based their selves on the interdependence of everyday experiences combined with interdependence of worldviews are left to work through important identity changes alone (Lopata 2000).

In sum, being alone in late-life can be potentially damaging to the self-concept. First, the sense of *mastery* may decrease because the absence of spousal support can make individuals feel more vulnerable and less in control over the outcomes of their lives. Nonmarried elders might perceive the future as more difficult and threatening, and feel that since they are single, it is harder for them to get help. Second, nonmarried individuals, especially widowed and divorced, whose feelings of self-worth were based to a large extent on their marital attachment can experience lowered *self-esteem* because of the unavailability of marriage as a source of self-validation and the lack of institutional and normative support for their nonmarried role.

1.2. The Stress of Being Single

According to the stress process model (Pearlin 1999; Pearlin 1983), single strain is a chronic stressor that should increase levels of distress. Studies on marital status and mental health have identified a wide range of chronic stressors that accrue to the nonmarried more often than to the married and have deleterious effects on well-being. Among the most powerful strains are economic hardship (Pearlin and Johnson 1977; Gerstel, Riessman, and Rosenfield 1985; Menaghan and Lieberman 1986; Ross 1995), social isolation (Pearlin and Johnson 1977; Gerstel et al. 1985), strains in relationship with adult children (Gerstel et al. 1985), neighborhood stressors (Pearlin 1999), and strains associated with domestic chores and housework (Aseltine and Kessler 1993).

This study focuses on the relationship between single strain and the two major mental health outcomes: depression and anxiety. Depression has been the most widely studied outcome in research on marital status and mental health because it is "an obvious

response to problems in coping, a highly likely consequence of the general state of giving up" (Wheaton 1983:219). Anxiety may be a less dysfunctional response to stress than depression. Anxiety symptoms denote psychosomatic processes, which may be treated as an adaptive activation triggered by heightened environmental conditions (Wheaton 1983).

Previous research shows that depression and anxiety are common mental health problems for the nonmarried (e.g., Simon 2002; Carr and Utz 2002; Turner, Lloyd, and Roszell 1999; Menaghan and Lieberman 1986; Mirowsky and Ross 1986). Differences among nonmarried groups have also been documented. For example, Pearlin and Johnson (1977) found that among formerly married adults, individuals who have been separated (but not divorced) are the most vulnerable to depression. However, they found no significant difference between divorced and widowed adults. With regard to the never-married, Pearlin and Johnson (1977) found that never-married adults are more depressed than married adults but less depressed than formerly married adults. Overall, the previously-married (widowed and divorced) tend to be more depressed than the never-married (Gubrium 1974). Late-life widowhood also increases anxiety (Archer 1999), especially among those who have been highly dependent on their spouses (Carr et al. 2000). Thus, based on the stress process model and previous research on the deleterious impact of chronic stressors associated with singlehood, I hypothesize that single strain is related positively to both depression and anxiety.

1.2.1. Stress Process Model as a Conceptual Framework

Sociological study of mental health seeks to uncover elements of social life that have deleterious consequences. The stress process model has become a dominant

theoretical paradigm in research on social stress for understanding disparities in physical and mental well-being (Turner and Lloyd 1999; Thoits 1999). According to the stress process model, socio-economic statuses can influence health and well-being through "shaping the contexts of people's lives, the stressors to which they are exposed, and the moderating resources they possess" (Pearlin, 1999:399). Normative social arrangements engender conditions that could damage the physical and emotional health of the incumbents of underprivileged social and economic statuses. People's structural locations are potentially connected to many different aspects of the stress process producing social variation in the exposure and vulnerability to chronic and eventful stressors. Broadly stated, the stress process model posits that individuals in advantaged social-structural positions possess more economic, social, and psychological resources, and those resources buffer the adverse effects of stressors on well-being. Thus, social-structural factors can potentially influence both the amount of a stressor experienced and the extent to which that stressor is detrimental to an individual's mental and physical health (Pearlin 1999; Pearlin et al. 1981).

The three cornerstones of the stress process model are stressors, moderating resources, and outcomes, considered within the broad macrosocial and historical context.

Stressors can appear both as life events and chronic strains related to the enactment of social roles. Chronic stressors usually originate in the institutional roles of people, such as marriage, employment, and parenthood (Pearlin 1999). Stressful events and life conditions are differentially distributed in the population. Members of different population subgroups often vary in terms of their exposure to chronic stressors. Therefore, some life strains are more prevalent among certain traditionally disadvantaged

groups, such as women, nonwhites, and individuals of lower socioeconomic status (SES) (McLeod and Nonnemaker 1999).

Moderating resources are resources that have the ability "to hinder, prevent, or cushion the development of the stress process and its outcomes" (Pearlin 1999:405). Moderating resources typically considered within the stress process model are coping, social support, and the self-concept (especially, mastery and self-esteem). Resources may also play an important role in controlling the process of stress proliferation. Research shows that people exposed to similar stressors do not invariably report comparable negative outcomes (Pearlin and Johnson 1977; Pett and Vaughan-Cole 1986; Almeida and Kessler 1998). This finding may be explained partly because of disparities in moderating resources. Psychosocial resources, such mastery, self-esteem, and social support, can curb the emergence of secondary stressors, thus blocking stress proliferation (Pearlin 1999).

The *outcomes* of the stress process model are the ways in which "social groups manifest stress-related disorder" (Pearlin 1999:412), such as depression, anxiety, and substance abuse.

Eventful and chronic stressors are not static over the life course; therefore, studies based on samples excluding people over 65 or containing small proportions of older respondents may overlook important mental health disparities and gaps between sociodemographic groups that are widening with age (Mirowsky 1995; Miech and Shanahan 2000). This study seeks to extend existing research by focusing on the experiences of nonmarried older adults, including the widowed, the divorced, and the never-married. Many prior studies (e.g., Gerstel, Riessman, and Rosenfeld 1985;

Menaghan and Lieberman 1986; Umberson, Wortman, and Kessler 1992) have either combined different nonmarried categories together (e.g. married vs. nonmarried), or studied one nonmarried group (e.g. divorced vs. married) without comparing different nonmarried statuses to each other (but see Umberson and Williams 1999).

Using the stress process model as a guiding framework, this study considers (1) differential *exposure* to single strain, or how social and economic statuses influence the distribution of single strain among nonmarried elders; (2) differential *vulnerability* to single strain, or how sociodemographic characteristics and psychosocial resources moderate the effects of single strain on depression and anxiety.

1.2.2. Sociodemographic Characteristics

The sociodemographic and economic characteristics considered in this study are categorized in three groups: *ascribed statuses* (gender, race, age); *achieved statuses* (education, income, employment); *family and household statuses* (marital status, living arrangements, the number of children).

Ascribed Statuses. Single strain may vary by gender, race, and age. Research shows that, in general, nonmarried older women and men may be exposed to different stressors. Older unmarried women are particularly disadvantaged in terms of income (Hoffman 1977); therefore, financial strain is the most common secondary stressor among nonmarried older women (Antonucci et al. 2002; Hungerford 2001; Waite 1995; Umberson et al. 1992). Older unmarried women are more likely than unmarried men or couples to have postretirement income levels below the poverty line (Friedman and Sjogren 1981). Moreover, older nonmarried women are also particularly vulnerable to the

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adverse effects of having low income. Umberson et al. (1992) report that financial strain experienced by widows is positively associated with depression, whereas no relationship between these variables is observed for widowed men. Thus, research indicates that late-life singlehood may be a more difficult experience for women than men because of their significantly lower level of income relative to men.

The stress process model would predict that older men are exposed to fewer stressors associated with being single and are less vulnerable to their detrimental effects because of men's privileged location in the social hierarchy relative to women's. Women tend to be exposed to more stressors than men which may contribute to women's higher levels of distress (Gove and Tudor 1973; Bird and Fremont 1991; Almeida and Kessler 1998). Men of older cohorts have accumulated more resources, such as education and income, and have experienced a lifetime of socioeconomic advantage compared to women. Men also tend to have higher levels of mastery and self-esteem (Hughes and Demo 1989; Mirowsky and Ross 1989; Rosenberg 1989), hold more rewarding social roles (Bird and Fremont 1991), and are more likely than women to fulfill aspirations and achieve goals (McLeod and Nonnemaker 1999).

Therefore, based on the stress process model and previous research, it seems plausible to suspect that women will report a higher level of single strain than men, and that the positive relationship between single strain and distress will be stronger among women.

Similar to gender, *race* can influence exposure to stressors (Brown et al. 1999). In general, studies document race-contingent effects in exposure (Schulz et al. 2000; McLeod and Nonnemaker 1999) and vulnerability (Balaswamy and Richardson 2001;

Salahu-Din 1996; Williams, Takeuchi, and Adair 1992) to stressors. With respect to *exposure*, members of racial and ethnic minority groups are more likely than whites to experience poverty and discrimination (Schulz et al. 2000). Poverty, in turn, results in blacks being more likely than whites to live in "economically deprived neighborhoods" (McLeod and Nonnemaker 1999:329). With respect to *vulnerability*, research generally shows that negative effects of stressors are greater among blacks than whites, though this finding may differ depending on sociodemographic characteristics of different samples. More specifically, blacks in rural areas are significantly more depressed than whites even after adjustments for SES, whereas blacks in urban areas do not exhibit greater depressive symptomatology when family income is taken into account (Neff 1984; Linn, Husaini, and Whitten-Stovall 1990). Some researchers found that SES interacts with race to increase symptoms of psychological distress. In particular, race differences in distress are especially manifest among low-income individuals indicating that race has an independent impact on psychological well-being among lower-SES blacks and whites (Kessler and Neighbors 1986). Furthermore, lower-SES blacks are more vulnerable than lower-SES whites to the effects of undesirable life events (Ulbrich, Warheit, and Zimmerman 1989).

Based on this evidence, it seems plausible that blacks experience higher levels of single strain than whites because of blacks' disadvantaged location in the social structure. The positive effect of single strain on distress is expected to be greater among blacks relative to whites.

The nature and configuration of stressors to which individuals are exposed may change with advancing *age*. Certain strains and adversities become increasingly prevalent

in late life. While most strains, such as economic hardship, can be experienced throughout the life cycle, there are specific strains (e.g., difficulties of daily living, physical impairment, and loss of a spouse and generational peers) that accrue disproportionately to older adults. Yet studies typically consider 1) "ageless" adults exposed to the same stressors and reacting to them similarly over the life span, and 2) stressors that can equally accrue to married and nonmarried individuals. The more productive approach seems to study the effects of strains specific to later stages of the life cycle (Miech and Shanahan 2000).

Psychosocial risk factors have a greater impact on health with age (House et al. 1994). At later stages of the life course, the ability of individuals to effectively cope with chronic and eventful stressors diminishes as moderating resources such as social support, mastery, and self-esteem are decreasing (Miech and Shanahan 2000). In addition, cumulative life strains related to deteriorating physical health may place constraints on the potential of older adults to actively socialize and experience other positive sides of life (Smith et al. 2002).

Given that health and physical functioning declines with advancing age (Mirowsky 1995; Miech and Shanahan 2000; Smith et al. 2002), and income decreases (Atkins 1985), it is plausible that older age is associated with higher levels of single strain and also greater vulnerability to the adverse effects of single strain. Therefore, I expect that the oldest-old report higher levels of single strain than younger elders, and the positive relationship between single strain and distress is stronger among the oldest-old.

Achieved Statuses. Research consistently indicates a greater *exposure* to stressors among incumbents of lower-SES statuses compared to their higher-SES counterparts.

More specifically, people with lower income and education experience more eventful and chronic stressors (Turner, Wheaton, and Lloyd 1995), particularly those involving economic hardships (Mirowsky and Ross 2000), unfair treatment/discrimination (Amato and Zuo 1992; Schulz et al. 2000), neighborhood stressors and ambient hazards (Aneshensel and Sucoff 1996). Research also shows that lower-income and lower-education individuals are more *vulnerable* to the adverse effects of chronic and eventful stressors (Dohrenwend and Dohrenwend 1969; Pearlin and Johnson 1977; Pett and Vaughan-Cole 1986). Lower-SES individuals tend to have disadvantages in physical and emotional well-being (Smith and Waitzam 1994; McLeod and Shanahan 1996; Aneshensel and Sucoff 1996; Ross and Mirowsky 1999; Schulz et al. 2000), self-esteem (Rosenberg and Pearlin 1978), and the sense of control (Schieman 2001).

The differential exposure and vulnerability to stressors across different levels of income and education may be attributed to psychosocial benefits that accrue to well-educated individuals. According to the stress process model, income and education provide lifelong advantages that protect against the deleterious effects of eventful and chronic stressors. Schooling often leads to better employment opportunities and income. Education increases the likelihood one will be "employed full-time at a fulfilling job that pays enough so that felt economic hardships are low" (Ross and Mirowsky 1999:458). Education also builds "human capital"—skills, abilities, and resources—which protect health and well-being (Ross and Mirowsky 1999). Higher education trains people to think logically and analytically, to approach an issue from different perspectives, and to rationally solve problems. Furthermore, education increases the sense of control and the likelihood of developing and maintaining supportive relationships (Ross and Mirowsky

1989). Therefore, individuals with higher education and income may tend to experience a lower level of single strain.

Work is also a central activity and a fundamental source of identity and self-validation for most adults (Tausig 1999). It may reduce individuals' exposure to single strain. Research on the health impact of unemployment focuses mainly on economic hardship and threats to the self (Tausig 1999). Given that employment is positively associated with income, older adults in our sample who are currently working for pay have significantly higher income than those who do not. In addition, work may provide meaning and purpose as well as environment where nonmarried individuals can find fulfillment, social integration, and supportive relationships. Employment may empower older adults and increase personal mastery. Supporting the view that work is empowering, Drentea (2002) reports that employed elders have a higher sense of control than retired.

Since individuals often define themselves on the basis of their occupation, those not working for pay may perceive that their identity and self-validation derived from employment are threatened (Tausig 1999). Besides, people who have an additional role of worker may be in better mental health than those who are unmarried and do not work for pay, because multiple role involvement has been shown to be beneficial for well-being of both men and women (Gove and Tudor 1973; Baruch and Barnett 1986; Thoits 1992; Jackson 1997).

I hypothesize that individuals with less education, lower income, and those not working for pay have higher levels of single strain. Furthermore, single strain has a more

positive association with distress among the less educated, people with lower income, and the unemployed, thus indicating greater vulnerability of lower-SES groups.

Family and Household Statuses. I examine if the widowed, the divorced, and the never-married differ in the exposure and vulnerability to single strain. *Widowhood* is a status occupied disproportionately by older adults (Gove and Shin 1989). Not surprisingly, then, the effects of widowhood received the most attention in gerontological research (e.g., Carr and Utz 2002; Umberson et al. 1996). Despite their increasing numbers, divorced and never-married older adults are less often the primary focus of aging research (but see, e.g., Rubinstein 1987; Stull and Scarisbrick-Hauser 1989; Wright and Maxwell 1991; Choi 1996). Therefore, much remains unknown about the potential differences in exposure and vulnerability to strains among the divorced, widowed, and never married.

Compared to the widowed who have yielded their married role more recently (14.5 years on average in my sample), *divorced* elders have occupied their nonmarried status for a longer duration (26.6 years on average in my sample). Therefore, given the time elapsed since marital dissolution, it could be more difficult for widowed than for divorced older adults to adjust to stressful conditions of being single in late-life.

Gubrium (1974, 1975) uses the *desolation/isolation* theory to explain the difference between *never-married* adults and other nonmarried groups. He argues that it is not a certain absolute amount of isolation that makes older adults feel lonely, but rather a relative state of becoming socially isolated compared to a previous level of social integration. This change or disruption in social engagement is defined as *desolation*. Being never married (similarly to being married continually) is associated with

maintaining similar levels of social participation in old age relative to earlier life, whereas becoming widowed or divorced creates discontinuity and disrupts daily routines previously supported by a spouse (Gubrium 1974). Contrary to this, never-married persons do not experience the social disruptions that come with spousal bereavement or divorce and, consequently, are more likely to maintain a lifelong continuity in their life styles.

Gubrium's theory was critiqued by Rubinstein (1987) who argues that never-married elders as a heterogeneous group with diverse sources of social support may form lasting attachments outside the nuclear family context and, therefore, they are also confronted with bereavement and losses. However, other studies found support for the desolation hypothesis. Research indicates that maintaining continuity in social attachments in old age relative to younger ages is related to higher life satisfaction more strongly than experiencing the disruptive events of divorce and widowhood (Fengler, Danigelis, and Grams 1982; see also Rice 1989). Essex and Nam (1987) show that married and never-married women report feeling lonely less frequently than formerly married women. Furthermore, the never-married can be less vulnerable than other nonmarried groups to the adverse effects of stressors. Research shows that the never-married are not significantly different from married on ratings of depression (Marks 1996; Turner and Lloyd 1999). Interviews with never-married women 80 years of age and older show that participants reported feeling better off than their peers and maintaining satisfying social relationships (O'Brien 1991). Overall, on a variety of scales of physical and psychological well-being, the never-married occupy an intermediate

position between the married and the formerly married individuals (Verbrugge 1979; Rice 1989).

Based on the desolation/isolation theory, I hypothesize that never-married older adults report a lower level of single strain compared to their widowed and divorced counterparts, and the effect of single strain on distress is greatest for divorced and widowed elders. Furthermore, taking into account time elapsed since marital dissolution, the relationship between single strain and distress may be weaker for divorced than for widowed older adults.

Living arrangements could also be important for stress exposure and vulnerability. Research suggests that older adults prefer to live separately from their children, preferably in the houses that they own (Chevan and Korson 1972). At older ages, both living alone and living with other adults may have costs and benefits. Living alone provides privacy and a high degree of self-reliance and independence in household management and decision-making (Chevan and Korson 1972). On the other hand, living alone may lead to social isolation of nonmarried elders and make them more likely to feel lonely and disintegrated from family and friendship networks. In contrast, living with others, such as adult children and/or relatives, may provide supportive help and resources to protect against loneliness. However, living with others may also result in conflict and negative emotions (Gifford and Golde 1978). In terms of psychological well-being, unmarried individuals who live alone are in no worse, and on some measures better, mental heath than unmarried persons living with others because dense and extensive social network may provide not only benefits, but also costs (Hughes and Gove 1981). Maintaining family and friendship ties can create interpersonal tensions which in turn

may have a potentially negative impact on elders' well-being (Fisher, Reid, and Melendez 1989). For example, nonmarried older women whose "closest friendship is stressful are lonely significantly more often than their counterparts whose closest friendship is not stressful" (Essex and Nam 1987:103).

Living alone may also indicate hardiness of older adults. Studies on the health impact of living arrangements show that living alone per se is not related to poorer health (Cramer 1993) or feelings of loneliness among older people (Revenson and Johnson 1984). Unmarried elders living alone have better health status (Anson 1988) and less functional impairment and incapacity (Beland 1984) than elders living with others. Furthermore, a selection process may operate, with less healthier and financially secure older adults self-selecting into living with others. Poor health makes older adults more likely to live with others who can provide adequate care and help with activities of daily living.

Based on the findings about better physical and mental health of elders living independently, I hypothesize that nonmarried older adults who live alone have lower levels of single strain than nonmarried elders living with others. In addition, the positive relationship between single strain and distress is weaker among elders living alone compared to those living with others.

Parental status can also have a potentially important effect on exposure to single strain in late-life. Research reveals that many elder parents remain close with their adult children (Fisher, Reid, and Melendez 1989). Rather than being self-reliant and disconnected from familial ties, many older adults are embedded in what is defined as a "modified extended family" (Day 1985; Troll and Smith 1976) in which parents and adult

children live close to each other, exchange material resources and assistance, and maintain important social relationships. This suggests that childless older adults may experience loneliness and social isolation because they are deprived of emotional and instrumental support and do not have extensive family networks associated with having children, grandchildren, and in-laws.

Research indicates that health effects of having adult children may vary across sociodemographic groups and depend on the outcome considered. In terms of life satisfaction of older adults, the effects of having an offspring are negative for African-American men and higher-educated white men and positive for unmarried white women (Glenn & McLanahan 1981). Umberson (1987) argues that having children (particularly, residing at home) promotes more beneficial health behaviors. On the other hand, older parents whose adult children experience mental, physical, or stress-related problems exhibit greater depression than other parents (Pillemer & Suitor 1991). Older adults also report high levels of anger when their offspring fail to follow specific familial or ethical rules (Fisher et al. 1989).

Interestingly, both receiving support from children and providing aid to them are associated with elevated levels of depression among older parents (Dunham 1995; Lee, Netzer & Coward 1995). Receiving emotional support and tangible assistance from children may be interpreted by older adults as a loss of independence, whereas providing aid to adult children may deplete financial resources and lead to perceptions of children as continuing to demand help from their parents (Fisher et al. 1989). Given that reciprocity is a key dimension in the social relationships of older people, elders may not

like to receive support without being able to give something back in return (Liang, Krause, and Bennett 2001).

Therefore, findings on the relationships with adult children in late-life are mixed. On the one hand, providing assistance to adult children as well as inability to do so when expected can be stressful. On the other hand, "helping one's children can provide a deep feeling of satisfaction in caring for family" (Fisher et al. 1989:88), and a sense of family integration, meaning, and purpose. Yet, childless nonmarried individuals have smaller familial networks and, thus, may be more prone to loneliness and its negative mental health implications. In contrast, having adult children is potentially associated with extended family ties and a decreased likelihood of feeling lonely. Therefore, I hypothesize that the number of children is negatively associated with single strain, and the effects of single strain on distress are greater among childless nonmarried elders relative to those with adult children.

1.2.3. Potential Moderating Resources

Moderating resources are resources that have the ability to impede and curtail the development of the stress process and its consequences (Pearlin 1999). The most common psychosocial resources considered in the literature on social stress are mastery, self-esteem, and social support (Kessler and Essex 1982; Cotten 1999; Turner, Lloyd, and Roszell 1999; Turner and Lloyd 1999). Mastery refers to "individuals' understanding of their ability to control the forces that affect their lives" (Pearlin 1999:409). Self-esteem is an individual's attitude of approval or disapproval toward oneself (Rosenberg 1965). Social support "refers to the clarity or certainty with which the individual experiences

being loved, valued, and able to count on others should the need arise" (Turner and Turner 1999:303).

Research indicates that mastery, self-esteem, and social support buffer the negative effects of various strains on mental health of the nonmarried (Kessler and Essex 1982). Cotten (1999) shows that mastery, social support and self-esteem buffer the deleterious impact of stressors on depression, though effects of mastery and self-esteem are much stronger than those of social support. Cotten concludes that self-esteem and mastery play a more powerful role than social support in relation to distress. In terms of late-life widowhood, researchers diverge as to the importance of mastery for coping with late-life losses. Wortman et al. (1993) argue that if the loss is irrevocable, it would be more beneficial to accept it as the given and, therefore, a strong sense of mastery may be maladaptive. In their study people with a greater sense of control were more adversely affected by the death of a spouse. In contrast, Gass (1989) found that a greater sense of control was associated with better adjustment to bereavement.

Studies consistently show that of all nonmarried groups, the widowed enjoy the highest social support. Pearlin and Johnson (1977) found that with regard to social integration, the widowed are the least isolated, followed by never-married, divorced and separated individuals. Other studies report that the widowed in late-life have similar levels of formal social participation (e.g. organizations and clubs) than the non-bereaved but higher levels of informal participation (e.g. visiting friends) (Umberson et al. 1996; Utz et al. 2002). Increased levels of informal social activities may be explained by the fact that family and friends provide emotional and instrumental support more actively after widowhood (Utz et al. 2002). Thus, social support is an important resource of

nonmarried elders because "singles with greater access to social support systems will likely experience less role strain" (Keith 1980:309).

This study examines the potential role of mastery, self-esteem, and social support as moderators of the association between single strain and distress. Single strain may produce less distress among individuals with higher levels of psychosocial resources and more distress among those possessing lower levels of mastery, self-esteem, and social support. The hypothesis about potential moderating effects of mastery, self-esteem, and social support is based on previous research showing that individuals who face numerous stressors and possess high resources exhibit fewer symptoms of psychological distress than people with similar levels of exposure to stressors but lower resources (Kessler and Essex 1982; Pearlin et al. 1981; Turner and Roszell 1994). Thus, nonmarried adults with greater availability of social resources are less likely to experience severe role strain (Keith 1980).

There is also a possibility that single strain may enhance moderating resources which in turn may diminish distress. On the one hand, chronic stressors are so productive of distress largely because they adversely affect mastery and self-esteem that become highly susceptible to injury by the persistence and intractability of strains (Pearlin 1983). On the other hand, research implies that psychosocial resources may increase after marital dissolution (Utz et al. 2002; Byles, Feldman, and Mishra 1999). For example, widowed women are more likely than married to make their own decisions about their life which may suggest that bereaved women eventually develop a greater sense of control and self-esteem (Byles et al. 1999). Widowed older men and women can gain mastery in tasks for which they lacked skills prior to loss (e.g. financial management or

housework) which may also raise mastery. However, longitudinal prospective data are necessary to test this model; therefore, it is beyond the scope of this study to assess how (and if) the levels of resources change with the onset of single strain.

In sum, I hypothesize that mastery, self-esteem, and social support should diminish the hypothesized deleterious consequences of single strain for mental health of older adults. The relationship between single strain and distress is weaker among elders possessing higher levels of psychosocial resources and stronger among older adults with lower levels of resources.

1.3. Summary of Hypotheses

Exposure to single strain:

1) Men, whites, and the young-old have lower levels of single strain than women, blacks, and the oldest-old.

2) Education, income, and being unemployed are associated negatively with single strain.

3) The never-married have lower levels of single strain compared to the widowed and the divorced.

4) Living alone (vs. living with others) and having children (vs. being childless) are associated with less single strain.

Vulnerability to single strain:

1) The negative impact of single strain on mental health is stronger among women, blacks, and the oldest-old compared to men, whites, and younger elders.

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2) The positive association between single strain and distress is greater among lower-education, lower-income, and unemployed older adults.

3) The effect of single strain on distress is weaker for the never-married than for divorced and widowed elders.

4) The relationship between single strain and distress is stronger among elders living with others and childless older adults.

5) Mastery, self-esteem, and social support moderate the association between single strain and mental health so that elders with greater resources are less vulnerable to the adverse effects of single strain.

CHAPTER 2. METHODS AND RESULTS

2.1. Sample

The data in this sample derive from face-to-face interviews with 1,167 adults 65

years of age and older residing in the District of Columbia and two adjoining Maryland

counties, Prince George's and Montgomery. Consistent with the purpose of the project to

investigate physical and mental health disparities that are associated with status

inequalities, the sample is socially and economically diverse, with equal representation of

African-Americans and whites, women and men. The three areas from which respondents

were sampled represent this diversity.

Sample selection and recruitment went through several stages. It began with the

Medicare Beneficiary files for the three areas. In addition to the names of all people 65

years and older who are entitled to Medicare, the files provided information about the

race and gender of each beneficiary, as well as residential address. The next step involved

the selection of respondents from the large pool of potential participants. To maximize

the social and economic diversity, a total of 4,800 names (African-Americans and whites,

women and men) equally divided among the three locales were randomly selected. The

result of this division was the creation of twelve groups, each containing 400 names. The

goal was to recruit a final sample of about 1,200 people living independently, with

approximately 100 in each of the 12 groups.

An essential piece of information missing from the Medicare files is the telephone

number of the beneficiary. Consequently, it was necessary to match names and addresses

with telephone numbers, for which a firm specializing in such tasks was used. Matches

were made with almost 56 percent of the names—an amount, according to that firm,

which is above average for this age group. The matching process eliminates people with private lines, those who exclusively use cell phones, those living in homes where the listing is in the name of another person, people whose move from the area has not yet been registered in the Medicare files, and people living in institutional settings without a personal telephone listing. The 2,679 names and numbers for which matches had been made were then targeted for screening interviews that in part were designed to identify people with cognitive or physical impairments that might prevent them from being able to complete the interview or provide accurate, valid information. Prior to the in-person interviews, letters were sent to potential participants, describing the inquiry and advising them that their participation was voluntary and the information they provided confidential. Approximately 65 percent of all eligible respondents (1,741) who were contacted agreed to participate, yielding 1,167 cases.

Of the full sample, 550 respondents are unmarried and not cohabiting. The analysis in the present study examines data for 532 cases that had complete responses to the single strain items.

2.2. Measures

Single strain questions were asked only of those respondents who were not married or cohabiting at the time of the interview: "You told me earlier that you are (widowed/divorced/separated/never married/not living with a partner)[2]. From your experience as a single person, how much do you agree or disagree with these statements? 1) It is more difficult for you to have an active social life, 2) You don't have the intimacy

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[2] We do not have information on other types of romantic involvement of respondents who are not married and not living with a partner.

with another person that you would like, 3) You stay at home because you are uneasy about your safety when out by yourself, 4) The future looks more difficult, 5) There is no one to take care of you if you ever need help, 6) There is no one to share day-to-day experiences. Response choices are: "strongly agree" (1), "agree" (2), "disagree" (3), and "strongly disagree" (4). The items are reverse coded and scores are averaged so that higher scores correspond to greater single strain.

Table 1 provides an analysis of the interrelationships among the single strain items. The overall psychometric properties of the index are strong. Factor analysis confirms that each item loads highly on one dimension. For the total sample, only one factor was retained with an eigenvalue of 2.53. The retained factor explains about 42% of the cumulative variance across the six single strain items. The total Chronbach's reliability coefficient of .722 indicates that the index has adequate internal consistency

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Table 1. Correlation Coefficients and Factor Loadings of the Single Strain Items

You told me earlier that you are (widowed/divorced/separated/never married/not living with a partner). <u>From your experience as a single person</u>, how much do you agree or disagree with these statements?											
							Factor Loadings				
Item	1	2	3	4	5	6	Total	Men	Women	Blacks	Whites
1. It's more difficult for you to have an active social life	1.000	——	——	——	——	——	.676	.747	.638	.608	.731
2. You don't have the intimacy with another person that you would like.	.392***	1.000	——	——	——	——	.575	.599	.568	.606	.505
3. You stay at home because you're uneasy about your safety when out by yourself.	.268***	.155***	1.000	——	——	——	.616	.504	.655	.641	.632
4. The future looks more difficult.	.425***	.267***	.489***	1.000	——	——	.744	.694	.762	.763	.720
5. There's no one to take care of you if you ever need help.	.244***	.187***	.219***	.297***	1.000	——	.599	.660	.598	.643	.552
6. There's no one to share day-to-day experiences.	.274***	.312***	.267***	.328***	.431***	1.000	.672	.751	.649	.698	.640
							Chronbach's alpha				
							.722	.728	.719	.700	.737

The d*epression* items ask the respondents: "In the past week, on how many days did you have any of these feelings? Lack of enthusiasm for doing anything? Feel bored or have little interest in things? Cry easily or feel like crying? Feel downhearted or blue? Feel slowed down or low in energy? Blame yourself for everything that goes wrong? Have your feelings hurt easily?" The response choices are "5 or more days" (1), "3 or 4 days" (2), "1 or 2 days" (3), "no days" (4). The items are reverse coded and averaged to create an index; larger scores indicate greater depression.

Anxiety is assessed with items that ask respondents: "In the past week, on how many days did you have any of these feelings? Feel tense or keyed up? Feel afraid or fearful? Worry? Feel nervous or shaky inside? Have trouble getting to sleep or staying asleep?" The response choices are "5 or more days" (1), "3 or 4 days" (2), "1 or 2 days" (3), "no days" (4). The items are reverse coded and averaged to create an index; larger scores indicate higher anxiety.

Race is coded 1 for blacks and 0 for whites. *Gender* is coded 1 for women and 0 for men. *Age* is coded in years.

Education items ask respondents: "Can you tell me how far you went in school?" Response choices are "8th grade or less" (1), "some high school but did not graduate" (2), "high school graduate or GED" (3), "specialized (vocational) training" (4), "some college but no degree earned" (5), and "college graduate or more" (6). *Household income* measure asks respondents: "Would you please tell me the number that gives the best estimate of your total household income before taxes, last year (2000). By total household income I mean the total salaries for all of the people living in your home plus all other sources of income. Other sources of income would include such things as money

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market funds, social security, pensions, real estate, or government entitlements." In addition, a dummy variable coded 0 if income is reported and 1 otherwise was created to adjust for missing income values (8%). All multivariate analyses adjust for missing income. *Employment status* is coded 1 if a respondent is currently working for pay and 0 otherwise.

Marital status is categorized into widowed (n=339), divorced/separated (n=136), and never married (n=75), with the widowed being the omitted category. *Living alone* is a dummy variable coded 1 if a respondent is currently living alone or did not answer that question, and coded 0 if there are other people in the respondent's household. *Number of children* represents the number of born or adopted children, not including foster or step-children.

Personal mastery. Five items ask about the level of agreement or disagreement with the following statements: "You have little control over the things that happen to you," "There is really no way you can solve some of the problems you have," "You often feel helpless in dealing with problems of life," "Sometimes you feel that you are being pushed around in life," "You can do just about anything you really set your mind to" (reverse coded). Response choices are: "strongly agree" (1), "agree" (2), "disagree" (3), and "strongly disagree" (4). The items were averaged such that higher scores indicate higher levels of mastery (α = .723).

Self-esteem. Six items ask respondents' level of agreement or disagreement with the following statements: "You feel you have a number of good qualities" (reverse coded), "You feel that you are a person of worth at least equal to others" (reverse coded), "You are able to do things as well as most other people" (reverse coded), "You take a

positive attitude toward yourself" (reverse coded), "On the whole you are satisfied with yourself" (reverse coded), "All in all, you are inclined to feel that you are a failure" (Rosenberg 1979). Response choices are: "strongly agree" (1), "agree" (2), "disagree" (3), and "strongly disagree" (4). The items were averaged; higher scores indicate a higher level of self-esteem ($\alpha = .860$).

Social support items ask respondents how strong they agree or disagree with the following statements: "There is no one who really understands you," "You have a friend or relative whose opinions you trust" (reverse coded), "You have people around you to help you to keep your spirits up" (reverse coded), "You have at least one friend or relative you want to be with when you are down or discouraged" (reverse coded), "You have at least one friend or relative to whom you could confide your deepest secrets" (reverse coded). Response choices are "strongly agree" (1), "agree" (2), "disagree" (3), "strongly disagree" (4). The scores were averaged; the higher scores indicate more social support.

2.3. Analytic Strategy

The first step is to obtain correlation coefficients and descriptive statistics for all variables in the study in order to examine the distribution of the variables and bivariate relationships. The second step is to conduct multivariate analyses. The multivariate analyses are divided into two parts. In the first part designed to examine the social distribution of single strain (i.e., exposure to single strain among nonmarried elders), single strain is treated as the dependent variable, whereas ascribed, achieved, and family/household statuses are used as predictor variables. In the first set of analyses I

examine both potential mediating and moderating effects of sociodemographic and economic statuses.

In the second part designed to examine the effects of single strain as a chronic stressor on mental health of older adults, single strain is treated as the main independent variable. While the first set of analyses is intended to explain differential exposure to single strain and identify sociodemographic groups among nonmarried elders particularly predisposed to single strain, the second set of analyses is intended to explain differential vulnerability to single strain of different population subgroups. Separate OLS regression models are fitted for depression and anxiety. After demonstrating the existence of bivariate associations between single strain and each of the dependent variables, I proceed to explaining these associations by 1) progressive adjustment, and 2) interaction modeling (Mirowsky 1999).

2.4. Results

Bivariate correlations (Table 2) show that single strain is associated positively with depression and anxiety; that is people with a higher level of single strain tend to be more depressed and anxious. Women and older respondents experience higher single strain, but not greater depression and anxiety compared to men and younger respondents. Race is also significantly related to single strain: whites report a higher level of single strain than blacks. Furthermore, blacks are similar to whites in depression, but they are less anxious than whites. Individuals with higher income have less single strain, whereas education and employment status are not significantly related to single strain. Income and

employment status are strongly and negatively associated with depression, so that people who currently work for pay and have higher income tend to have lower levels of depression. Mastery, self-esteem, and social support are related negatively to single strain; that is older adults who possess more resources tend to have lower levels of single strain. Neither the number of children nor whether an individual lives alone or with other people are significantly related to single strain, depression, and anxiety. Finally, nonmarried groups (widowed, divorced, and never-married) are not significantly different from each other in terms of single strain, depression, and anxiety.

Table 2. Correlation Coefficients and Descriptive Statistics for all Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	Mean	SD
1. Single Strain	1.00																2.11	.46
2. Depression	.29***	1.00															1.47	.55
3. Anxiety	.21***	.59***	1.00														1.42	.55
4. Women = 1	.10*	.06	.06	1.00													.70	.46
5. Age	.10*	.07	-.02	.15***	1.00												75.86	6.91
6. Blacks = 1	-.14**	-.04	-.10*	-.01	-.14**	1.00											.56	.50
7. Education	-.01	-.03	-.02	-.07	-.09*	-.38***	1.00										4.09	1.74
8. Income	-.10*	-.15***	-.07	-.17***	-.08	-.23***	.46***	1.00									4.33	2.62
9. Employed = 1	-.06	-.08*	.01	-.05	-.25	.06	.12**	.24***	1.00								.16	.36
10. # of children	-.06	-.05	-.01	.06	-.06	.16***	-.25***	-.18***	-.03	1.00							2.67	2.40
11. Liv. alone = 1	.04	.07	.02	-.08	-.05	-.23***	.24***	.02	.04	-.23***	1.00						.69	.46
12. Widowed = 1	.08	.01	.02	.12**	.26***	.01	-.07	.01	-.18***	.20***	-.12***	1.00					.62	.49
13. Divorced = 1	-.03	.01	-.01	-.06	-.26***	.12**	.02	-.05	.22***	.04	.07	-.72***	1.00				.24	.43
14. Nevmarr = 1	-.08	-.04	-.02	-.09*	-.05	-.15***	.07	.06	-.03	-.34***	.09*	-.51***	-.23***	1.00			.14	.35
15. Mastery	-.42***	-.37***	-.33***	-.02	-.11**	.01	.19***	.19***	.07	-.01	.07	.01	.03	-.03	1.00		2.87	.43
16. Self-Esteem	-.36***	-.34***	-.24***	-.06	-.15***	.11**	.13**	.15***	.09*	.01	.01	-.04	.01	.05	.38***	1.00	3.48	.45
17. Soc. Support	-.25***	-.14***	-.06	.03	-.13**	-.05	.16***	.18***	.07	.05	-.02	.07	-.01	-.08*	.27***	.36***	3.20	.45

* $p < .05$ (two-tailed test), ** $p < .01$ (two-tailed test), *** $p < .001$ (two-tailed test)

2.4.1. Social Distribution of Single Strain: Testing Exposure Hypotheses

Table 3 presents the results from multivariate analyses with single strain as the dependent variable. Model 1 shows the effects of *ascribed statuses* (race, gender, and age) on single strain. The results indicate that: 1) blacks report significantly less single strain than whites; 2) men have significantly lower levels of single strain than women; 3) age is unrelated to single strain. In a separate analysis (not shown) I tested whether gender and race interact in their effects on single strain. However, the interaction term was not significant.

Model 2 includes *achieved statuses* (education, income, and employment). Neither education nor employment status are related to single strain. In contrast, income is negatively associated with single strain. (In a separate analysis, I found that the effects of education and employment are not significant even without income in the model.). Adjustment for achieved statuses decreases the gender coefficient from .094 to .074 and the effect becomes insignificant. Women's lower income explains their higher levels of single strain. In contrast, the coefficient for race increases in absolute magnitude by 22%, from –.121 to –.147. That suppression effect occurs because income is associated negatively with single strain, and blacks tend to have less income than whites. If blacks had income levels similar to whites, blacks would report even lower levels of single strain.

In model 3 I adjust for *family and household statuses*, excluding education, income, and employment status. Never-married elders have lower levels of single strain compared to the widowed; that finding supports the desolation hypothesis. The number of children and living arrangements are unrelated to single strain. Overall, the inclusion of

family and household statuses has little effect on the race and gender coefficients, suggesting that the effects of gender on single strain are not mediated by marital status, the number of children, and living arrangements.

Model 4 includes ascribed, achieved, and family and household statuses. The results show a further increase in the race coefficient compared to model 2 from –.147 to –.159. The income coefficient remains stable. However, the coefficient for the number of children becomes significant, increasing from –.015 to –.020. That suppression effect occurs because people with more children have significantly less income than people with fewer children. Income is negatively related to single strain. By extension, older adults with more children have lower levels of single strain *despite* their lower levels of income.[3]

In sum, my tests of the exposure hypotheses reveal that blacks report lower levels of single strain. Further, women report a higher level of single strain—although this is attributable to their lower levels of income (which is associated negatively with single strain). In addition, as hypothesized, the never married report lower levels of single strain. Moreover, people with more children tend to report less single strain, but that effect is suppressed by their lower levels of income.

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[3] In a separate analysis (not shown) I tested if social support contributes to this effect. When social support is added to model 4, the number of children becomes nonsignificant (b = –.017, SE = .009, p = .061) even controlling for income, because people who have more children tend to receive more social support.

Table 3. Social Distribution of Single Strain: Single Strain Regressed on
Sociodemographic Characteristics

Variables	(1)	(2)	(3)	(4)
Ascribed Statuses:				
Blacks = 1	–.121**	–.147***	–.124**	–.159***
	(.040)	(.044)	(.042)	(.045)
Women = 1	.094*	.074	.090*	.067
	(.044)	(.044)	(.044)	(.044)
Age	.004	.004	.003	.002
	(.003)	(.003)	(.003)	(.003)
Achieved Statuses:				
Education	___	.001	___	–.004
		(.014)		(.014)
Income [a]	___	–.021*	___	–.023**
		(.009)		(.009)
Missing income	___	.011	___	.021
		(.073)		(.073)
Employed = 1	___	–.009	___	–.011
		(.058)		(.058)
Family/Household Statuses:				
Divorced = 1 [b]	___	___	–.017	–.024
			(.049)	(.050)
Nev. Married = 1 [b]	___	___	–.158*	–.171**
			(.063)	(.063)
Number of children	___	___	–.015	–.020*
			(.009)	(.009)
Living alone = 1	___	___	.007	–.002
			(.045)	(.046)
constant	2.117	2.146	2.150	2.186
R^2	.034	.047	.047	.064

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

[a] I adjusted for missing income in all models. Since it was not significant, it is not
included in the tables.

[b] Widowed is the omitted category

Note: Unstandardized regression coefficients with standard errors in parentheses.

2.4.2. Single Strain and Depression

Model 1 in Table 4 shows that single strain is related positively to depression, net of race, gender and age. Model 2 tests moderating effects of ascribed statuses on the relationship between single and depression. The results of model 2 show no significant interactive effects; that is, the positive association between single strain and depression is similar for men and women, blacks and whites, the young-old and old-old.

In Model 3 I adjust for achieved statuses. Results indicate that education and employment status are not related to depression. In contrast, income is associated negatively with depression. Model 4 includes interaction terms containing education, income, and employment status. None of the achieved statuses moderate the relationship between single strain and depression, indicating that the positive association between single strain and depression is the same across levels of these achieved statuses.

Table 4. Depression Regressed on Single Strain and Sociodemographic Characteristics

Variables	(1)	(2)	(3)	(4)	(5)	(6)
Single Strain	.344*** (.051)	.396*** (.106)	.382*** (.105)	.455*** (.114)	.474*** (.115)	.573*** (.135)
Ascribed Statuses:						
Blacks = 1	.002 (.047)	.001 (.048)	−.032 (.052)	−.029 (.052)	−.022 (.053)	−.014 (.053)
Women = 1	.025 (.051)	.022 (.051)	−.011 (.052)	−.019 (.052)	−.013 (.0529)	−.013 (.053)
Age	.003 (.003)	.003 (.003)	.001 (.004)	.002 (.004)	.002 (.004)	.002 (.004)
Single Strain × Race	—	−.045 (.102)	−.030 (.101)	−.070 (.111)	−.083 (.111)	−.131 (.118)
Single Strain × Sex	—	−.043 (.111)	−.057 (.111)	−.117 (.115)	−.145 (.116)	−.198 (.120)
Single Strain × Age	—	−.002 (.008)	−.001 (.008)	−.004 (.008)	−.003 (.008)	−.009 (.009)
Achieved Statuses:						
Education	—	—	.013 (.016)	.015 (.016)	.006 (.016)	.006 (.016)
Income [a]	—	—	−.032** (.010)	−.034*** (.011)	−.033** (.010)	−.034** (.011)
Employed = 1	—	—	−.036 (.067)	−.037 (.068)	−.050 (.069)	−.046 (.069)
Single Strain × Education	—	—	—	.003 (.035)	.006 (.035)	−.001 (.037)
Single Strain × Income	—	—	—	−.039 (.023)	−.038 (.023)	−.045* (.023)
Single Strain × Employment	—	—	—	−.036 (.128)	−.030 (.128)	−.003 (.130)
Family/Household Statuses:						
Divorced = 1 [b]	—	—	—	—	.037 (.059)	.032 (.059)
Never married = 1 [b]	—	—	—	—	−.039 (.076)	−.042 (.076)
Number of children	—	—	—	—	−.014 (.011)	−.016 (.011)
Living alone = 1	—	—	—	—	.068 (.053)	.068 (.053)
Single Strain × Divorced	—	—	—	—	—	−.201 (.127)
Single Strain × Never Married	—	—	—	—	—	−.245 (.158)
Single Strain × Children	—	—	—	—	—	−.035 (.027)
Single Strain × Living Alone	—	—	—	—	—	−.171 (.124)
constant	1.447	1.451	1.486	1.486	1.496	1.488
R^2	.089	.090	.112	.119	.127	.136

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

[a] I adjusted for missing income in all models. Since it was not significant, it is not included in the tables.

[b] Widowed is the omitted category

Note: Unstandardized regression coefficients with standard errors in parentheses

Model 5 shows that family and household statuses (marital status, number of children, and living arrangements) are not related to depression. The divorced and the never-married are not significantly different from the widowed in terms of depression. In addition, the income coefficient remains stable, net of family and household statuses. In Column 6 I test the moderating effects of marital status, number of children, and living arrangements on the relationship between single strain and depression. Results show no interactive effects of family and household statuses.[4]

Altogether, there is no support for the differential vulnerability hypotheses with regard to depression. That is, single strain is associated positively with depression in similar ways across various ascribed, achieved, and family/household statuses.

2.4.3. Moderating Resources and Depression

Model 1 in Table 5 shows that mastery and self-esteem are associated negatively with depression, net of single strain and sociodemographic characteristics. In contrast, social support is not related to depression. The single strain coefficient is reduced from .319 (in a model without resources) to .127 (model 1), although it remains significant.

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[4] Separate analyses one-by-one show no signs of multicollinearity.

Table 5. Depression Regressed on Single Strain, Sociodemographic Characteristics, and Moderating Resources

Variables	(1)	(2)	(3)	(4)	(5)
Single Strain	.127* (.055)	.160** (.056)	.149** (.055)	.137** (.055)	.165** (.056)
Ascribed Statuses:					
Blacks = 1	.016 (.051)	.030 (.051)	.021 (.050)	.017 (.051)	.029 (.051)
Women = 1	.017 (.049)	.020 (.049)	.020 (.049)	.014 (.049)	.019 (.049)
Age	−.001 (.004)	.001 (.004)	−.004 (.003)	−.001 (.004)	.004 (.004)
Achieved Statuses:					
Education	.024 (.016)	.024 (.015)	.026 (.015)	.025 (.016)	.026 (.015)
Income [a]	−.022* (.010)	−.022* (.010)	−.023* (.010)	−.022* (.010)	−.022* (.010)
Employed = 1	−.058 (.064)	−.061 (.064)	−.062 (.064)	−.064 (.064)	−.065 (.064)
Family/Household Statuses:					
Divorced = 1 [b]	.023 (.055)	.013 (.055)	.018 (.055)	.015 (.055)	.010 (.055)
Never married = 1 [b]	−.064 (.072)	−.067 (.072)	−.061 (.072)	−.072 (.072)	−.068 (.072)
Number of children	−.013 (.010)	−.012 (.010)	−.013 (.010)	−.013 (.010)	−.013 (.010)
Living alone =1	.087 (.050)	.091 (.050)	.089 (.050)	.087 (.050)	.090 (.050)
Resources:					
Mastery	−.328*** (.060)	−.335*** (.059)	−.330*** (.059)	−.329*** (.059)	−.334*** (.059)
Self–esteem	−.251*** (.056)	−.236*** (.056)	−.226*** (.057)	−.235*** (.057)	−.220*** (.057)
Social Support	.057 (.054)	.057 (.054)	.061 (.054)	.038 (.055)	.049 (.055)
Single Strain × Mastery	——	−.264** (.102)	——	——	−.166 (.122)
Single Strain × Esteem	——	——	−.258** (.101)	——	−.142 (.123)
Single Strain × Support	——	——	——	−.160 (.097)	−.086 (.101)
constant	1.473	1.445	1.450	1.470	1.442
R^2	.218	.228	.228	.222	.232

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

[a] I adjusted for missing income in all models. Since it was not significant, it is not included in the tables.

[b] Widowed is the omitted category

Note: Unstandardized regression coefficients with standard errors in parentheses

To test whether mastery moderates the relationship between single strain and depression, I include the single strain × mastery interaction term in Model 2. Because the product term is statistically significant, I conclude that the effects of single strain on depression vary across different levels of mastery. The positive association between single strain and depression is the strongest among older adults who have low levels of mastery. Then, that association becomes weaker as the level of mastery increases and is the weakest (but still positive) among nonmarried elders with high mastery. Figure 1 illustrates that moderating effect.

Figure 1. Mastery Moderating the Effect of Single Strain on Depression
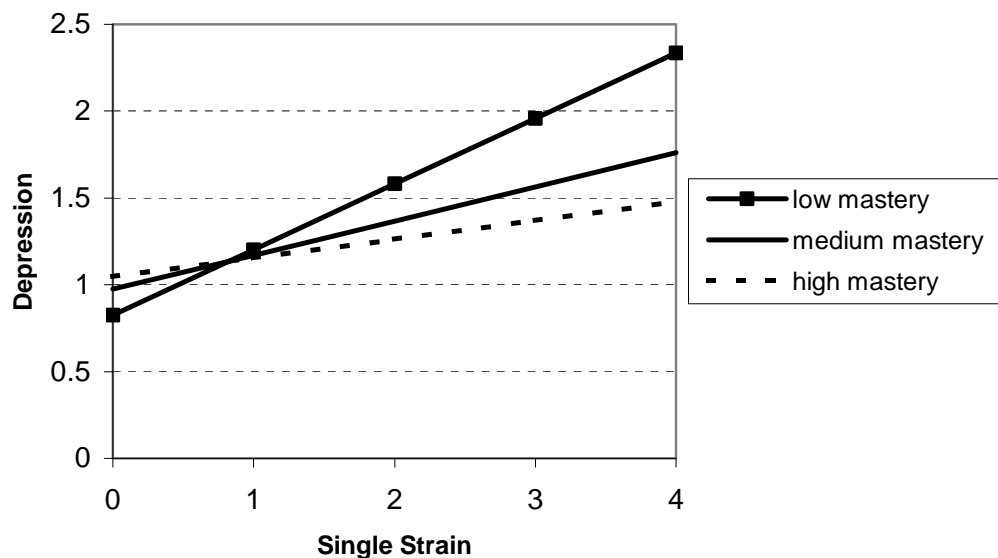
Model 3 shows that the single strain × self-esteem interaction term is also significant; that is, self-esteem moderates the positive association between single strain and depression. The negative interaction coefficient indicates that individuals with low

levels of self-esteem are the most vulnerable to single strain whereas older adults with high self-esteem are the least affected by single strain (Figure 2) .

Model 4 includes the single strain × social support interaction term that is not significant. Thus, the relationship between single strain and depression does not vary across the levels of social support.

Figure 2. Self-Esteem Moderating the Effect of Self-Esteem on Depression
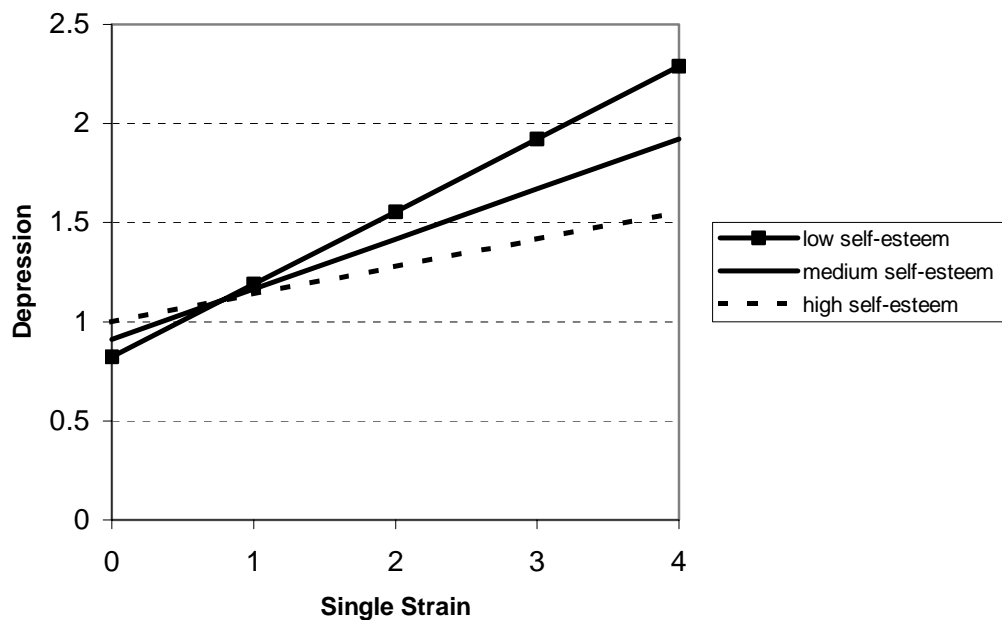
As shown in model 5, when all interaction terms are included in the model, none of them is significant. This occurs because of multicollinearity: mastery and self-esteem and their interaction terms with single strain are highly correlated; therefore, taken together in one model they cancel the effects of each other.

In sum, the moderating hypothesis is confirmed for mastery and self-esteem but not for social support. The positive association between single strain and depression is the

weakest among nonmarried elders with high levels of mastery and self-esteem and the strongest among individuals with low levels of intrapsychic resources. In contrast, the relationship between single strain and depression does not vary across those with different levels of social support.

2.4.4. Single Strain and Anxiety

Model 1 in Table 6 indicates that single strain is associated positively with anxiety, net of ascribed statuses. Gender and age are unrelated to anxiety. In contrast, the race coefficient is significant at the .05 level indicating that blacks are less anxious than whites. Model 2 tests whether race, gender, and age moderate the impact of single strain on anxiety. None of the interaction terms is significant; that is, the relationship between single strain and anxiety does not vary across race, gender,

and age groups. In Model 2 the race coefficient is reduced slightly form –.092 to –.082 and becomes insignificant, probably, due to collinearity.

Model 3 includes achieved statuses (education, income, and employment). None of them are related to anxiety. The race coefficient increases from –.089 to –.131 (or by about 47%) and becomes significant again. That suppression effect occurs because income and education are related negatively to anxiety, and blacks on average have lower levels of income and education than whites. If blacks had higher income and education, they would experience less anxiety; that is, blacks are less anxious than whites *despite* lower levels of income and education. Results in model 4 indicate that education, income, and employment status do not moderate the relationship between single strain and anxiety.

Table 6. Anxiety Regressed on Single Strain and Sociodemographic Characteristics

Variables	(1)	(2)	(3)	(4)	(5)	(6)
Single Strain	.237*** (.051)	.250* (.107)	.254* (.107)	.373*** (.116)	.367** (.117)	.552*** (.136)
Ascribed Statuses:						
Blacks = 1	−.092* (.048)	−.089 (.048)	−.131* (.053)	−.131* (.053)	−.134* (.054)	−.116 (.054)
Women = 1	.054 (.051)	.056 (.052)	.038 (.052)	.036 (.053)	.034 (.053)	.054 (.053)
Age	−.005 (.003)	−.004 (.003)	−.004 (.004)	−.004 (.004)	−.005 (.004)	−.005 (.004)
Single Strain × Race	—	−.037 (.103)	−.029 (.103)	−.092 (.113)	−.088 (.113)	−.222 (.118)
Single Strain × Sex	—	.029 (.112)	.006 (.113)	−.049 (.116)	−.047 (.118)	−.171 (.120)
Single Strain × Age	—	.010 (.008)	.012 (.008)	.007 (.008)	.007 (.008)	−.001 (.009)
Achieved Statuses:						
Education	—	—	−.012 (.016)	−.009 (.016)	−.009 (.017)	−.012 (.017)
Income [a]	—	—	−.017 (.011)	−.018 (.011)	−.020 (.011)	−.021 (.011)
Employed = 1	—	—	.071 (.068)	.066 (.068)	.072 (.070)	.075 (.069)
Single Strain × Education	—	—	—	−.049 (.035)	−.050 (.036)	−.027 (.037)
Single Strain × Income	—	—	—	−.013 (.023)	−.013 (.023)	−.023 (.023)
Single Strain × Employment	—	—	—	−.223 (.129)	−.221 (.130)	−.125 (.131)
Family/Household Statuses:						
Divorced = 1 [b]	—	—	—	—	−.029 (.060)	−.019 (.059)
Never married = 1 [b]	—	—	—	—	−.024 (.077)	−.023 (.077)
Number of children	—	—	—	—	−.003 (.011)	−.004 (.011)
Living alone = 1	—	—	—	—	−.014 (.054)	−.010 (.054)
Single Strain × Divorced	—	—	—	—	—	−.294* (.128)
Single Strain × Never Married	—	—	—	—	—	−.252 (.159)
Single Strain × Children	—	—	—	—	—	.033 (.027)
Single Strain × Living Alone	—	—	—	—	—	−.270* (.125)
constant	1.433	1.425	1.449	1.447	1.455	1.429
R²	.055	.058	.068	.081	.082	.111

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).
[a] I adjusted for missing income in all models. Since it was not significant, it is not included in the tables.
[b] Widowed is the omitted category
Note: Unstandardized regression coefficients with standard errors in parentheses.

As shown in model 5, family and household statuses are not related to anxiety. Divorced and never-married elders do not differ from the widowed in anxiety. The race coefficient remains significant.

Model 6 tests whether family/household statuses and single strain interact in their effects on anxiety. Two of the interaction terms are significant. The single strain × divorced interaction term indicates that the positive relationship between single strain and anxiety is weaker for divorced elders compared to the widowed. This difference is illustrated in Figure 3.

Figure 3. Marital Status Moderating the Effect of Single Strain on Anxiety
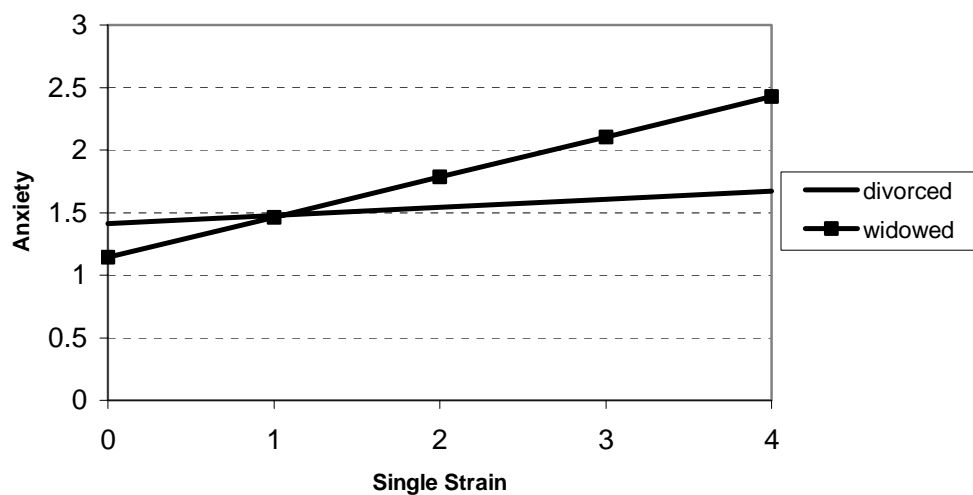
It should be noted that the single strain × never married coefficient is also negative and similar to the single strain × divorced coefficient—although it fails to reach significance (p = .114) when the single strain × children interaction term is in the model because the never married are considerably less likely than the widowed to have children.

When the single strain × children interaction term is not included in model 6 (analysis not shown), the single strain × never married coefficient is significant at the .05 level (b = – .319, p = .033). Overall, among the three nonmarried groups, the widowed fare the worst with respect to the effect of single strain on anxiety.

The significant single strain × living alone cross-product term indicates that the relationship between single strain and anxiety varies for elders living alone and living with others. The positive association between single strain and anxiety is stronger for older adults living with others and weaker for those living alone. The moderating effect of living arrangements is illustrated in Figure 4. Thus, divorced status and living arrangements moderate the relationship between single strain and anxiety. In addition, adjustment for interaction terms in Model 6 decreases the coefficient for race to insignificance. This might be explained by the fact that blacks on average have significantly more children than whites, and the deleterious effect of single strain on anxiety tends to weaken slightly as the number of children increases. Therefore, blacks' decreased anxiety relative to whites may be explained by their greater number of children.

Figure 4. Living Arrangements Moderating the Effect of Single Strain on Anxiety
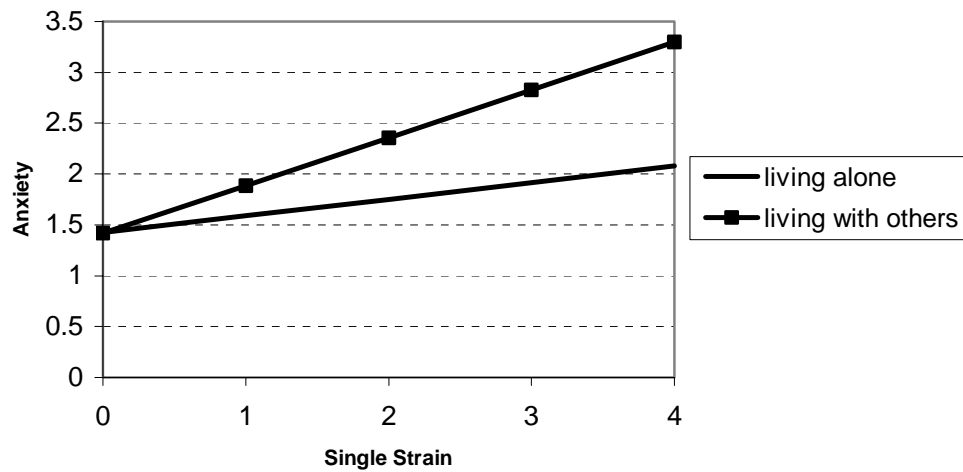
In sum, the vulnerability hypotheses are confirmed for family/household statuses, but not for ascribed and achieved statuses. The positive association between single strain and anxiety is stronger among the widowed (compared to the divorced and the never married) and among elders living alone (relative to those living with others). In contrast, the effect of single strain on anxiety dos not differ based on ascribed and achieved statuses.

2.4.5. Moderating Resources and Anxiety

Model 1 of Table 7 includes mastery, self-esteem, and social support. Both mastery and self-esteem are related negatively to anxiety. The mastery coefficient is greater in absolute magnitude than the self-esteem coefficient, indicating that the effect of mastery is stronger. Social support is not related to anxiety. After moderating resources are controlled, the single strain coefficient decreases from .225 (without resources in the

model) to .133 (with resources) and becomes nonsignificant. The coefficient for age increases from –.005 without resources to –.007 and becomes significant at the .05 level. That slight suppression effect occurs because age is associated negatively with mastery and self-esteem, whereas the intrapsychic resources are related negatively to anxiety. Were it not for their lower levels of moderating resources, respondents would experience less anxiety with advancing age. The single strain × divorced and single strain × living alone coefficients remain statistically significant.

Table 7. Anxiety Regressed on Single Strain, Sociodemographic Characteristics, and Moderating Resources

Variables	(1)	(2)	(3)	(4)	(5)
Single Strain	.133 (.079)	.181* (.078)	.157* (.078)	.154* (.079)	.188* (.079)
Ascribed Statuses:					
Blacks = 1	−.092 (.052)	−.072 (.051)	−.085 (.051)	−.090 (.052)	−.072 (.051)
Women = 1	.074 (.050)	.076 (.050)	.078 (.050)	.071 (.050)	.076 (.050)
Age	−.007* (.004)	−.006 (.004)	−.007 (.004)	−.007 (.004)	−.005 (.004)
Achieved Statuses:					
Education	.004 (.016)	.005 (.016)	.007 (.016)	.005 (.016)	.006 (.016)
Income [a]	−.011 (.010)	−.011 (.010)	−.012 (.010)	−.012 (.010)	−.011 (.010)
Employed = 1	.068 (.065)	.062 (.064)	.062 (.065)	.062 (.065)	.059 (.065)
Family/Household Statuses:					
Divorced = 1 [b]	−.036 (.056)	−.051 (.056)	−.042 (.056)	−.044 (.056)	−.053 (.056)
Never married = 1 [b]	−.063 (.074)	−.063 (.073)	−.059 (.074)	−.074 (.074)	−.066 (.074)
Number of children	−.004 (.010)	−.004 (.010)	−.004 (.010)	−.004 (.010)	−.004 (.010)
Living alone = 1	.005 (.051)	.010 (.051)	.007 (.051)	.005 (.051)	.008 (.051)
Single Strain × Divorced	−.347** (.115)	−.320** (.113)	−.337** (.114)	−.352** (.114)	−.324** (.113)
Single Strain × Nev. Married	−.297* (.133)	−.239 (.132)	−.287* (.132)	−.336* (.135)	−.262* (.135)
Single Strain × Living Alone	−.229* (.108)	−.182 (.108)	−.225* (.108)	−.223* (.108)	−.188 (.108)
Resources:					
Mastery	−.363*** (.061)	−.374*** (.060)	−.365*** (.060)	−.365*** (.061)	−.373*** (.060)
Self–esteem	−.155** (.058)	−.135* (.057)	−.126* (.058)	−.137* (.058)	−.121* (.058)
Social Support	.052 (.055)	.053 (.054)	.058 (.055)	.030 (.057)	.046 (.056)
Single Strain × Mastery	—	−.417*** (.104)	—	—	−.336** (.126)
Single Strain × Esteem	—	—	−.314** (.103)	—	−.112 (.125)
Single Strain × Support	—	—	—	−.179 (.099)	−.067 (.104)
constant	1.420	1.381	1.393	1.416	1.377
R^2	.178	.203	.193	.183	.205

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

[a] I adjusted for missing income in all models. Since it was not significant, it is not included in the tables.

[b] Widowed is the omitted category

Note: Unstandardized regression coefficients with standard errors in parentheses.

Model 2 shows that the single strain × mastery interaction term is significant at the .001 level; that is, the relationship between single strain and anxiety varies across different levels of mastery. More specifically, the positive relationship between single strain and anxiety is very strong and among individuals with low mastery, and weakens considerably among older adults reporting medium and high mastery. Figure 5 illustrates this interaction effect. In addition, the single strain × living alone coefficient decreases from .229 to .182 and becomes insignificant when the single strain × mastery interaction term is included. This might be explained by the fact that the effect of single strain on anxiety is the strongest for people with low mastery, and elders living alone tend to have greater mastery than those living with others. Therefore, the greater resilience of older adults living alone to the adverse effects of single strain may be explained by their higher level of mastery.

Figure 5. Mastery Moderating the Effect of Single Strain on Anxiety
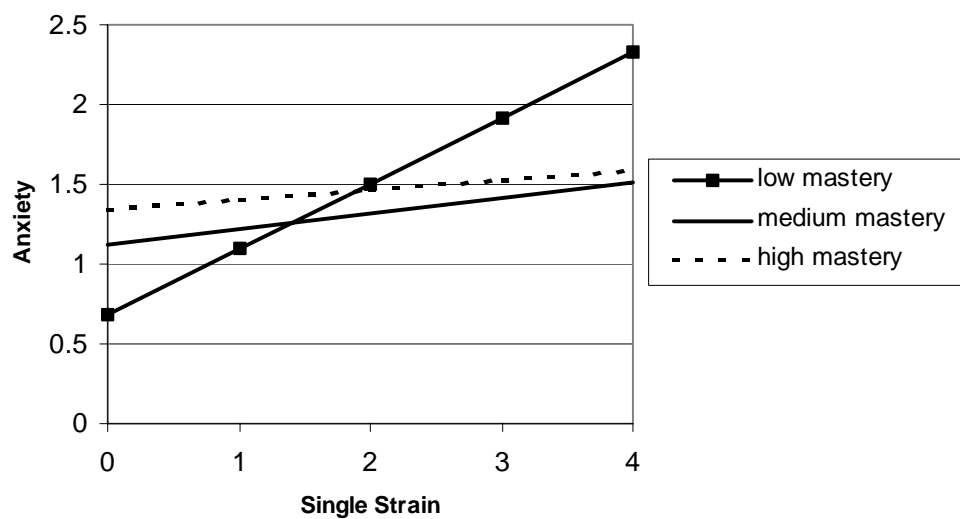
Model 3 includes the single strain × self-esteem interaction term that is significant at the .01 level. The relationship between single strain and anxiety depends on the level of self-esteem. As indicated in Figure 6, single strain has the strongest positive effect on anxiety among nonmarried elders with low self-esteem, a considerably weaker but still positive effect among individuals with medium levels of self-esteem, and virtually no effect among older adults with high self-esteem. When the mastery interaction term is not included, the single strain × living alone coefficient remains significant, as in Model 1.

Figure 6. Self-Esteem Moderating the Effect of Single Strain on Anxiety.
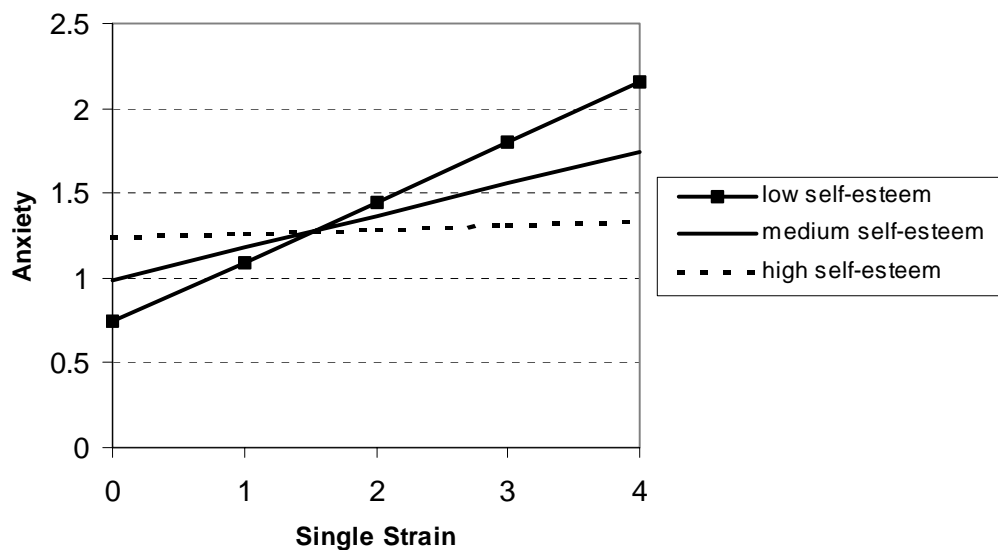
As shown in model 4, the single strain × social support coefficient is not significant. Thus, the relationship between single strain and anxiety is similar across different levels of social support. Model 5 indicates that when mastery, self-esteem, and social support interaction terms are included simultaneously, the single strain × mastery

coefficient remains significant at the .01 level, but the single strain × self-esteem and single strain × social support coefficients are nonsignificant. The single strain × living alone coefficient becomes insignificant whenever the mastery interaction terms is included, and retains statistical significance with either self-esteem or social support interaction terms in the model. This confirms a particular importance of mastery for elders living alone. To sum up, in the final model all independent variables and interaction terms combined explain about 20% of the total variation in anxiety. The coefficients for mastery and self-esteem as well as the single strain × divorced, single strain × never married and single strain × mastery interaction terms remain significant.

In sum, the moderating hypothesis is confirmed for mastery and self-esteem but not for social support. The positive association between single strain and anxiety is the weakest among nonmarried elders with high levels of mastery and self-esteem and the strongest among individuals with low levels of intrapsychic resources. In contrast, the relationship between single strain and anxiety does not vary across different levels of social support.

2.4.6. *The Effects of Single Strain on Depression and Anxiety Compared*

Comparison of the two sets of regression models—one for depression and one for anxiety—reveals important similarities and differences in the effects of single strain on the two mental health outcomes. First, the relationship between single strain and depression remains significant when all variables are included, whereas the effect of single strain on anxiety disappears after adjustment for moderating resources. Second, nonmarried African-American elders report less anxiety than whites, but not less

depression. Third, none of the ascribed, achieved, and family/household statuses moderate the relationship between single strain and depression, whereas for anxiety there are two sociodemographic moderators: divorced status and living arrangements. Fourth, both mastery and self-esteem coefficients are significant for depression and anxiety—in terms of their main and interaction effects, whereas the coefficient for social support is not. Yet, in case of depression, mastery and self-esteem interaction terms are nonsignificant when included together. In contrast, for anxiety single strain $\times$ mastery cross-product term remains significant, but single strain $\times$ self-esteem interaction term does not when they are added simultaneously.

CHAPTER 3. INTERPRETATION OF RESULTS

This study examines the social distribution of single strain and the effect of single strain as a chronic stressor on mental well-being of black and white older adults. These views reflects *exposure* and *vulnerability* aspects of the stress process. Considering two outcome measures, depression and anxiety, I compare the extent to which these mental health outcomes are associated with single strain. Consistent with the stress process model, the findings indicate that responses to single strain among older adults vary in nature and intensity, and this variability is determined by socioeconomic factors, demographic characteristics, and moderating resources. I discuss the specific patterns below.

3.1. Ascribed Statuses

With regard to ascribed statuses, I hypothesized that women and blacks experience higher levels of single strain and are more responsive to its adverse effects than men and whites. The exposure hypothesis is confirmed in terms of gender but not race: Men have lower levels of single strain than women, but whites report more single strain than blacks. The effect of gender disappears after adjusting for income, but the effect of race persists. However, the vulnerability hypothesis is not confirmed because ascribed statuses (race, gender, and age) do not moderate the relationships between single strain and depression and anxiety.

Contrary to my expectations, being black is associated with less single strain and anxiety than being white. This unexpected finding deserves elaboration. Surprisingly few

studies are based on samples representative of the black population, even though blacks are more likely than whites to be nonmarried, and unmarried black women are particularly likely to experience severe economic deprivation (Williams, Takeuchi, and Adair 1992). Most studies of marital status and well-being have concentrated on the white population, and relatively little is known about the association between marital status and distress among blacks. Pronounced racial differences in depression across all nonmarried groups reported by Williams, Takeuchi, and Adair (1992) suggest that findings obtained on whites or on samples with a small proportion of nonwhites cannot be extrapolated to other racial groups. My analysis is based on a sample over-representing black adults allowing cross-racial comparisons and overcoming limitations of previous research.

My findings challenge prior studies that have reported that blacks experience more strains and exhibit a higher level of distress compared to whites, or demonstrated greater exposure and vulnerability of blacks (e.g. Schulz et al. 2000; Ulbrich, Warheit, and Zimmerman 1989). Yet, others studies indicate patterns more consistent with my results. For example, Balaswamy and Richardson (2001) found that African-American widowers exhibited higher levels of well-being, had better health and fewer hospitalizations, and reported more help from children than white widowers. In their comprehensive study, Williams, Takeuchi and Adair (1992) found that black women are more likely than white women to be depressed by widowhood whereas white women are more likely to be depressed by divorce.

There are a number of reasons why single blacks may fare better in terms of mental health despite persistent socioeconomic disadvantages. First, blacks are more

likely to be nonmarried, so their social networks may contain more single friends and relatives who share similar experiences than social networks of whites. Given that the prevalence of a stressor in a person's sociodemographic group increases his or her psychosocial resources and enhances anticipatory coping (Mirowsky and Ross 1986), coping and social support among nonmarried blacks may be more effective than among their white counterparts. In addition, singlehood may be more stigmatized for whites than for blacks (especially, for white women) because of the pervasiveness of the white middle-class ideal of traditional nuclear family. Second, nonmarried blacks are more likely to be integrated into extended family networks. White widowed males can be more distressed than their black counterparts because white widowers tend to experience greater social isolation and loneliness as well as more housework difficulties, whereas widowed black men are more likely to receive high levels of emotional and instrumental support from the extended family and friendship networks, and may also benefit from a very favorable sex-ratio imbalance on the marriage market (Lichter et al. 1992). In addition, a selection process can operate because black males who survive into the old age might be more resilient (both physically and emotionally) compared to the rest of their sociodemographic group. Those "fittest" black men over 65 might have more hardiness than white men of comparable age. Among white older males who benefited from cumulative advantages associated with their privileged structural location, the "survival-of-the-fittest-to-late-life" principle might be less true.

With regard to *gender* differences, women experience higher levels of single strain, but are not more vulnerable to it than men. This suggests that nonmarried older women are psychologically resilient in the face of chronic hardship and adversity.

Adjustment for family and household statuses leaves the race and gender coefficients basically unchanged, suggesting that the effects of gender on single strain are mediated not by marital status, the number of children, and living arrangements, but primarily by income. Given that women are exposed to higher levels of single strain largely due to lower income, one can hypothesize that if women had more financial resources and, consequently, lower single strain, they would be less distressed than men. Therefore, women of subsequent cohorts may be more likely to be better off in terms of mental well-being because they tend to obtain higher education and be employed full-time most of the life course, and, therefore, accumulate higher income.

Research on late-life widowhood shows that men's psychological well-being is more adversely affected by ancillary losses associated with widowhood. When bereaved men and women are considered, studies consistently indicate greater vulnerability of widowers (Williams, Takeuchi, and Adair 1992; Bennett 1998). Women are more likely to report that they feel stronger and more self-confident after widowhood (Umberson et al. 1992), whereas widowers exhibit lower psychological well-being (Lee et al. 1998; Fry 2001). Widowed males are 5 times more likely to commit suicide than married men, while no significant difference was found among married and widowed women (Li 1995). White widowers are 2.6 times more likely to be depressed than their female counterparts (Williams, Takeuchi, and Adair 1992).

Though this study does not show men's greater vulnerability, it did find that women are no more distressed than men while experiencing more stressful conditions. Women's resilience may be explained by several factors. First, older nonmarried women may perceive their financial resources as adequate even when their actual income is low.

For example, Ross (1995) shows that although widows have the lowest household income of all marital status groups, they report a very low level of *perceived* economic hardship. Second, nonmarried elder women are more likely to acquire new roles and expand existing ones (e.g. volunteer, church member) which may provide meaning, direction, and purpose in their lives. Third, older nonmarried women have established patterns of successful management of household tasks. In contrast, research of late-life widowhood shows that widowers are unfavorably affected by problems with household management and domestic chores that were once performed by their wives (Umberson et al. 1992; Bennett 1998). Fourth, because there are more unmarried females in late-life than nonmarried males, women have more friends with similar experiences in their social networks. This increases supportive capacities of women's social relationships, whereas men may lack peers with singlehood-related problems. Finally, men who are incapable of self-disclosure with their friends and colleagues may be highly successful in competition and achievement at earlier life stages and become relatively disadvantaged in old age. In contrast, "the remarkable resilience and adaptability of older women may have its roots in their socialization to self-disclosure, expressiveness, and other-orientation— characteristics which have been perceived as barriers to success in economic and political roles at younger ages" (Hess 1981:111).

In addition, *age* was expected to be related positively to single strain and moderate the relationship between the single strain and distress. Neither of these expectations is confirmed. On the one hand, the finding of no difference may be interesting, given that the young-old in the sample are similar to the oldest-old in terms of single strain and its effects on depression and anxiety. This is contrary to what findings

about deteriorating physical functioning (Mirowsky 1995; Smith et al. 2002), and increasing prevalence of depression (Miech and Shanahan 2000) among the oldest-old might predict. On the other hand, I examine only people 65 years and older, so if the sample comprised other age groups, at least starting from midlife, the effects of age could be more pronounced.

3.2. Achieved Statuses

I hypothesized that achieved statuses as represented by income, education, and employment are associated negatively with single strain. This hypothesis is confirmed only for income, but not for education and employment. In addition, income is negatively associated with depression. The vulnerability hypothesis positing that single strain has a stronger effect on distress among lower-income, lower-education, and unemployed individuals is not confirmed.

Income can be a more important socioeconomic resource than education and employment largely because of the necessity to cover a wide variety of needs particularly critical in late life, such as health care and insurance, housing accommodations, residential and nursing home care, and domiciliary services. Income may be more relevant than education to everyday functional adaptation of nonmarried elders. Confronting impending difficulties of old age alone *and* not having the benefits of high income may create additional uncertainty, pain, and existential fear in late-life. Research indicates that subjective income and supplemental insurance have pronounced effects on activities of daily living among older adults (Mathieson, Kronenfeld, and Keith 2002). Income might function as a critical asset in late life because of its relation to health. A

longitudinal study shows that changes in financial resources precede changes in health (Hirdes et al. 1986). Older adults who assess their health more negatively perceive their financial resources as less adequate than respondents in better health with comparable income levels (Stoller and Stoller 2003). Research also underscores the enduring importance of economic disparities in the use of health-care services (Kassab, Luloff, Kelsey, and Smith 1996). Thus, education and employment status may be beneficial to well-being of nonmarried elders mainly because of their close association with higher income.

3.3. Family and Household Statuses

Based on the desolation/isolation theory, I hypothesized that never-married older adults should report a lower level of single strain compared to their widowed counterparts, and the effect of single strain on distress should be weaker among the nonmarried. Indeed, never-married elders have a significantly lower level of single strain compared to the widowed, and this difference cannot be attributed to ascribed or achieved social statuses. Yet, the never-married are not significantly different from the widowed in the effect of single strain on depression and anxiety. Therefore, the desolation hypothesis is confirmed for exposure but not for vulnerability.

The lower single strain of the never-married relative to the widowed may be explained by the fact that never-married elders did not experience identity disruption and discontinuation of the life style. For the never-married, dealing with components of single strain, such as going out without a spouse, has always been the norm, not an unexpected stressor they are newly confronted with in mid- and late-life. This continuity, as Gubrium

(1974) argued, may reduce perceived single strain. By 65, the never-married are used to being alone and perceive contingencies of daily life associated with their nonmarried status as part of the ordinary routine. On the other hand, the widowed might have accumulated more financial resources, and are more likely to have contacts with extended family and in-laws, and to have children and grandchildren who support them and enhance their sense of meaning and purpose as well as social engagement. All those resources, accumulated over the course of the married life by the widowed and those who divorced relatively late in life, though not impeding the onset of chronic stressors, may still protect against their deleterious effects.

The results also indicate that the effect of single strain on anxiety is much weaker among divorced than widowed elders. Since the divorced in this study have occupied that nonmarried status for 26.6 years on average and the widowed for 14.5 years, divorced respondents have had more time to adjust to stressful experiences of being single in mid- and late-life. Furthermore, the divorced could have experienced more strain and conflict in their marriages because they decided voluntarily to abandon their married role. In contrast, for the widowed death of a spouse was an uncontrollable event leading to an involuntary and painful termination of the marriage.

In addition, I hypothesized that nonmarried older adults who live alone do not report higher exposure and vulnerability to single strain than nonmarried elders living with other adults. The number of children was expected to be positively associated with single strain.

Results indicate that living alone is not associated with single strain. However, living arrangements moderate the relationship between single strain and anxiety such that

the effect of single strain on anxiety is weaker for elders living alone and stronger for older adults living with others. Elders living alone and maintaining their own households are more independent, instrumental, and have established the patterns of coping with quotidian stressors that arise in the process of daily functioning. Therefore, living alone may be associated with a higher sense of mastery that, in turn, leads to decreased anxiety. In addition, a selection process might operate because healthier elders with a better functional status may self-select into living alone. Because decreased health is associated with higher anxiety (Frazier and Waid 1999), elders living alone can be healthier and, consequently, less anxious than elders living with others. Therefore, living alone may be related more to hardiness, resilience, and control, than to social isolation.

In a similar vein, results indicate that the number of children is not related to exposure and vulnerability to single strain. This is consistent with the findings reported in the literature that providing and giving support to children is not unequivocally beneficial. Among older adults, contact with children is negatively associated with self-esteem (Gifford and Golde 1978). Higher expectations and realizations of filial responsibility are found among nonmarried, lower-income, and less healthy older parents (Seelbach 1978). Therefore, healthier and higher-income parents may have fewer expectations for their children and rely less on filial assistance. Family care of frail older adults is not necessarily better than institutional care when costs, relationships, and quality are taken into account, and family relationships are not the primary source of psychological support of elders (Strawbridge and Wallhagen 1992).

3.4. Moderating Resources and Distress

I also assessed if mastery, self-esteem, and social support moderate the relationships between single strain and depression and anxiety. Results indicate that both mastery and self-esteem moderate the associations between single strain and anxiety and depression, though mastery appears to be a more important resource than self-esteem. In contrast, social support does not moderate the impact of single strain on distress.

The special significance of mastery may be related to the fact that older adults with higher mastery have higher perceived ability to control adversities and hardships arising in late-life. With advancing age, older adults need to rely on their psychological and socioeconomic resources to adapt to challenges of daily living. Among other resources, mastery is the most important predictor of life satisfaction (Neto 2001). Furthermore, self-efficacy mediates the relationship between self-esteem and reflected appraisals resulting from stressful interactions (Schafer, Wickrama, and Keith 1998). Variation in the availability of self-esteem and, particularly, mastery offers a largely adequate explanation of the effect of SES on depressive symptoms (Turner, Lloyd, and Roszell 1999). Both actual and perceived ability to influence one's environment increase proactive coping and decrease depressive symptomatology among elders with low functional status (Knipscheer et al. 2000).

Being single in late-life, especially after spousal loss or marital dissolution, may be associated with loss of control over life circumstances. Unmarried elders with decreased mastery may perceive the future as more difficult and intimidating and be more affected by lack of continuous spousal help and support. Alternatively, unmarried elders with high sense of mastery may believe that they can control the future, and will be able

either to confront stressful events and hardships on their own or to get help from non-spousal sources should the need arise.

The fact that social support does not buffer the adverse effects of single strain on mental health deserves speculation. First, it is important to consider not only the size of an individual's social networks, but also their content. Networks may be less supportive for an individual if there are no people experiencing the same condition as he or she does. For instance, a divorced woman may become even more depressed if she is the only divorcee among her friends. Unmarried people report that spending time with couples only intensifies their feelings of loneliness and marginality (Weiss 1981). Second, it is important to distinguish between social integration and social support. Research indicates that social networks may be sources not only of supportive and meaningful relationships, but also of conflict, emotional and financial burden. Given potential burdens and costs of social relationships, benefits derived from social support provided by friends and family may be counterbalanced by negative aspects of social integration.

While mastery and self-esteem are important moderators and mediators of the effects of single strain on distress, social and economic statuses do not have pronounced effects on the associations between single strain and mental health outcomes. Only two of them (divorced status and living alone) moderate the relationship between single strain and anxiety. Therefore, mastery and self-esteem are more important resources buffering the adverse effects of single strain than ascribed, achieved, and family/household statuses. This surprisingly weak role of sociodemographic factors compared to mastery and self-esteem has been reported in other studies. For example, Neto (2001) shows that demographic factors alone accounted for only 6% of the explained variance in

depression, whereas demographic and psychosocial factors combined accounted for 31%. Turner, Lloyd, and Roszell (1999) argue that gender, age, and especially SES matter for depression to a certain extent because of associated differences in the availability of mastery and self-esteem. Collectively, my findings also contribute to research emphasizing a critical role of moderating resources in the stress process.

3.5. Conclusions

This study shows that single strain is a chronic stressor associated with elevated levels of depression and anxiety. Women experience higher levels of single strain than men, but are *not* more susceptible to its adverse effect on mental well-being. Similarly, whites who experience more single strain than blacks do *not* exhibit greater distress associated with single strain. Individuals with higher income report less single strain, but there is *no* difference in vulnerability to single strain among higher-income and lower-income elders. Never-married older adults have a lower level of single strain compared to the widowed. Yet, the never-married are *not* different from the widowed in the effect of single strain on depression and anxiety. Collectively, these findings suggest that while social and economic statuses influence elders' exposure to single strain, the differential responsiveness of nonmarried older adults to the harmful effects of single strain is *not* determined by their sociodemographic characteristics. Only marital status and living arrangements moderate the effect of single strain on anxiety so that the divorced and elders living alone report less anxiety associated with single strain than the widowed and older adults living with others.

Both mastery and self-esteem moderate the associations between single strain and anxiety and depression, though mastery appears to be a more important resource than self-esteem. In contrast, social support does not moderate the impact of single strain on distress. Thus, my findings contribute to research emphasizing a critical role of mastery and self-esteem in the stress process. Nonmarried elders with high mastery and self-esteem are less adversely affected by single strain than those with lower levels of intrapsychic resources.

The mean of the single strain measure (2.11) reported by the respondents shows that, on average, people in this sample do not experience high levels of single strain. This is consistent with findings in research on late-life widowhood about remarkable emotional and physical resilience of older widows (Carr and Utz 2002). Though nonmarried elders might lack supportive and protective benefits of marriage, they are not confronted with stressors arising from burdensome spousal relationships. Research on family stress (e.g. Tran 1997; Braithwaite 1996) indicates that greater family integration is associated with greater emotional and instrumental support, a sense of meaning and mattering. On the other hand, family networks and relations may also engender chronic strains and stressful events which may undermine the positive effects of family support on well-being of older adults. For example, the psychological benefits of being married arise only when the quality of a marital relationship is high (Wheaton 1990; Carr and Utz 2002). This suggests that being married is not universally beneficial, whereas being single is not universally stressful. Singlehood in late-life should be considered as a complex multi-dimensional experience with both positive and negative aspects.

3.6. Limitations and Future Research

This study contains some limitations which future research might want to address.

The advantage of the single strain measure used in this study is that it captures stressful experiences arising specifically from being nonmarried and not living with an intimate partner in late-life. However, it is not known if elders who answered the single strain items are involved in other types of romantic relationships, such as dating. Future research should distinguish between nonmarried elders who have a romantic partner outside the household and those who do not.

The dependent variables in my analysis are depression and anxiety that are considered internalizing disorders. Yet, research shows that women tend to suffer more than men from depression and anxiety, while males report more externalizing disorders, including antisocial behavior and substance abuse (Rosenfield 1999). Because the data set does not have a measure of alcohol consumption, I cannot compare the effects of single strain on traditionally female vs. male outcomes. Future research should incorporate multiple outcomes because multiple indicators of distress account for the fact that different groups exhibit distress in different ways (Pearlin 1999; Aneshensel et al. 1991).

In terms of independent variables, it may also be useful to consider the effects of religiosity on distress associated with single strain. First, religiosity can be a powerful internal coping resource that provides meaning and comfort in old age in the face of deteriorating health and stressful circumstances. Second, religious beliefs and cognitions, such as a belief in divine control and intervention, can promote a view of God as a source

of social support. Therefore, nonmarried elders maintaining a close personal relationship with a supportive deity may be less prone to loneliness.

Future research might want to address the age and locality limitations of the data used in this study. Given that adults who are currently 65 years and older may experience "a cohort effect in which older cohorts endorse stronger norms of marriage and less support or acceptance for single living" (Barrett 1999:50), single strain associated with the absence of a close supportive partner could be more stressful for current elders than for younger cohorts. Women in our sample were less likely to be employed full-time throughout their life cycle than subsequent cohorts, and research shows that multiple role involvement enhances well-being. Moen (1997:153) suggests that "the best predictors of psychological resources in later adulthood are previous psychological resources, and the best predictor of social resources (in the form of multiple role occupancy) is prior multiple role occupancy". Since the data set I use in this study contains only adults 65 years and older, I cannot test if these findings will be replicated for subsequent cohorts. It is also possible that whites and African-Americans in our sample drawn from the DC metro area may experience less single strain than older adults in other regions because elders in this sample, especially blacks, have unusually favorable job opportunities related to the federal government, and a higher than average level of educational attainment for their age and racial group. Future studies should be based on nationally representative samples.

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