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Mistreatment and Psychological Well-being Among Older Adults: Exploring the Role of Psychosocial Resources and Deficits

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Objectives. To examine the relationships between psychosocial resources and deficits, elder mistreatment, and psychological well-being.

Methods. We used a representative sample of 2,744 older adults aged 57–85 years in the United States from the National Social Life, Health and Aging Project. We examined reports of any mistreatment (verbal, financial, or physical) and multiple types of mistreatment.

Results. Lower levels of positive support, higher levels of criticism from close relationships, and feelings of social isolation are positively associated with self-reported mistreatment experience. As suggested by the stress process theory, those who reported mistreatment experience also reported lower levels of global happiness and higher levels of psychological distress. There is also some evidence for the buffering hypothesis—levels of global happiness are higher and levels of psychological distress are lower for older adults who reported any mistreatment if they also reported more positive social support, social participation, and feelings of social connection.

Discussion. Older adults with fewer psychosocial resources or more psychosocial deficits seem to be more vulnerable to mistreatment, and mistreatment seems particularly detrimental to psychological well-being for these people.

Key Words: Elder mistreatment—Psychosocial resources—Psychological well-being—Stress process theory.

THE best available estimates suggest that about 1 older adult in 10 has experienced mistreatment within the past year (Laumann, Leitsch, & Waite, 2008). A recent report by the National Research Council (Bonnie & Wallace, 2003) defines elder mistreatment as "(a) intentional actions that cause harm or create a serious risk of harm, whether intended or not intended, to a vulnerable elder by a caregiver or other person who stands in a trust relationship to the elder or (b) failure by a caregiver to satisfy the elder's basic needs or to protect the elder from harm" (p. 39). Mistreatment increases mortality risk (Dong et al., 2009) and is associated with poorer psychological well-being (Comijs, Penninx, Knipscheer, & van Tilburg, 1999).

Mistreatment experienced by an older person may be a source of stress and distress, especially for those with few resources to marshal in response. Laumann and colleagues (2008) point to the importance of status inequality between the older adult and those who may mistreat him or her and to cognitive or physical vulnerability as risk factors for elder mistreatment. We extend this framework to examine the role of psychosocial resources, arguing that lack of these resources creates a vulnerability to mistreatment in much the same way as either physical or cognitive disability does. The presence of negative features of close relationships may also constitute risk factors in the experience of mistreatment by older adults. In addition, those who experience mistreatment may face greater chances of psychological distress, which may be mitigated by their psychosocial resources and exacerbated by negative features of their close relationships.

We develop a conceptual model linking psychosocial resources and deficits to the risk of elder mistreatment and the experience of mistreatment to poor psychological well-being, with psychosocial resources and deficits as possible moderating factors in the relationship between mistreatment and psychological well-being. We test a series of hypotheses drawn from this framework using data from the 2005 to 2006 National Social Life, Health and Aging Study.

Mistreatment and Psychological Well-being

It is well documented that stressful life events have detrimental effects on physical and mental health (Cohen, Janicki-Deverts, & Miller, 2007; Pearlin, Schieman, Fazio, & Meersman, 2005; Thoits, 2006). Stress process theory holds that as a major form of stressor, negative life events initiate efforts to cope with behavioral demands and with the emotional reactions evoked by them. As stressors accumulate, individuals' abilities to cope or readjust can be overtaxed, depleting their physical and psychological reserves and in turn increasing the probability that illness, injury or disease, psychological distress, or disorder will

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follow (Pearlin, 1989; Pearlin et al., 2005). Elder mistreatment is a stressful life event that may lead to psychological distress in the victims. Several cross-sectional studies have shown that older adults who were mistreated had higher levels of psychological distress than those who had no such experience (Comijs et al., 1999; Mouton, 2003). Clinical studies suggest other effects of elder mistreatment, including feelings of learned helplessness, alienation, guilt, shame, fear, anxiety, denial, and posttraumatic stress syndrome (Wolf, 2000). Longitudinal studies found that older adults who experience mistreatment face increased mortality risk compared with others (Lachs, Williams, O'Brien, Pillemer, & Charlson, 1998). Stress process theory further contends that physical and emotional well-being is negatively associated with the number and frequency of stressful life events (Pearlin et al., 2005; Thoits, 1995). This theory suggests that experiencing multiple mistreatments in old age takes a bigger toll on well-being than experiencing one kind of mistreatment. The evidence on this point is equivocal; Fisher and Regan's (2006) study of a clinical sample of community-dwelling older women found that many women had experienced multiple types of mistreatment since they turned age 55, but mistreated women faced significantly higher odds of reporting depression or anxiety than other women, regardless of the frequency or type of mistreatment experienced.

Based on stress process theory and these findings, we hypothesize that older adults who report mistreatment experience have lower levels of psychological well-being than other older adults. And we hypothesize that experience of multiple types of mistreatment is associated with less happiness and more distress than experience of one type of mistreatment.

Psychosocial Resources and Deficits as Predictors of Mistreatment

Psychosocial resources consist of social connections, social support, and personal coping resources that can be called on to meet both ordinary challenges of daily life and unusual stressors. Psychosocial deficits are the negative psychosocial features that may undermine an individual's ability to cope with these challenges. The presence and attention of people around an older adult will tend to inhibit mistreatment by others, who may fear sanctions (Lachs & Pillemer, 2004), so that those with a spouse or partner are less vulnerable to some types of mistreatment (Laumann et al., 2008). Lack of these resources, on the other hand, may indicate vulnerability and dependency, which have been linked to increased risk of mistreatment (Dong & Simon, 2008; Laumann et al., 2008). Social isolation, one dimension of psychosocial deficits, suggests less surveillance by others and may increase family stress, both of which increase risk of mistreatment. Social relationships that are negative in some ways may put an older adult at risk of mistreatment if these relationships worsen during periods of stress or crisis. For this or other reasons, older adults who are mistreated tend to be those who have poorer levels of social support (Acierno et al., 2010; Comijs et al., 1999; Dong & Simon, 2008; Fulmer et al., 2005; Mouton, 2003).

We hypothesize that older adults with fewer psychosocial resources and older adults facing more psychosocial deficits are more likely to experience mistreatment.

Psychosocial Resources and Deficits May Moderate the Effect of Mistreatment on Psychological Well-being

In addition to their direct effects on well-being (Taylor & Seeman, 1999), psychosocial resources and deficits can also moderate the negative impact of stress on psychological well-being (Cohen & Wills, 1985; Pearlin, 1989; Pearlin et al., 2005; Taylor & Stanton, 2007). Psychological resources such as high self-esteem and mastery appear to serve as buffers to the stressful effects of difficult life conditions, helping people cope. For example, Penninx and colleagues (1997) found that chronically ill people who had higher levels of self-esteem and mastery had fewer depressive symptoms than those with lower levels of these resources.

Research on social resources has primarily focused on different types of social support. Penninx and colleagues (1997) argue that social support is a multidimensional concept, and a distinction should be made between structural or objective measures of support, such as social network size, and the functions of support like help and advice. In addition, it is important to distinguish between objective social resources like social connections and social participation and perceived social support and social connection (Cornwell & Waite, 2009; Thoits, 1995). Distinguishing different aspects of psychosocial resources may be important because some psychosocial resources may both affect well-being directly and moderate the effect of stress, whereas others may act only directly or only as moderators, depending on the type of resource (Cohen & Wills, 1985; Penninx et al., 1997). For example, in the absence of stressful events and specific needs for support, supportive relationships may promote psychological well-being directly, by reducing exposure to stress (Umberson, Chen, House, Hopkins, & Slaten, 1996). However, in the presence of stress, such as elder mistreatment, supportive relationships may buffer the effect of stress (Thoits, 1995). Penninx and colleagues found that favorable effects of social support and personal coping resources on depressive symptoms appeared only or more strongly among those with severe arthritis. Moreover, although stress process theory is generally silent about negative features of social relationships, we argue that it is important to distinguish these negative features from social resources as they may introduce additional burden and stress and thus may exacerbate the negative effect of mistreatment on well-being.

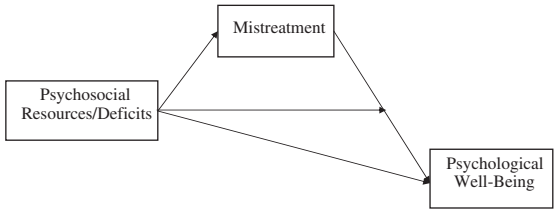

Figure 1. Conceptual model of the relationships among psychosocial resources and deficits, elder mistreatment, and psychological well-being.

We hypothesize that the negative association of mistreatment with older adults' well-being is stronger for those with fewer psychosocial resources and more psychosocial deficits than for those with more psychosocial resources and fewer psychosocial deficits.

To our knowledge only one study has examined the buffering effect of psychosocial resources on the link between elder mistreatment and psychological well-being (Comijs et al., 1999). This study used a sample of 77 victims of elder abuse and a matched control sample of 147 nonvictims from a larger study representative of the city of Amsterdam. This study found that social support has a favorable effect on the level of psychological distress in victims, but not in nonvictims, and that victims who received more social support showed less psychological distress. A lower sense of mastery, a negative perception of self-efficacy, and a passive reaction pattern were associated with higher levels of psychological distress in victims as well as in nonvictims.

Our conceptual model of the relationships between psychosocial resources and deficits, elder mistreatment, and psychological well-being is shown in Figure 1. In this model, lack of psychosocial resources, such as social support, and presence of psychosocial deficits, such as social isolation, increase the risk of elder mistreatment. Mistreatment decreases psychological well-being. However, access to psychosocial resources reduces the negative impact of mistreatment on well-being, whereas presence of psychosocial deficits exacerbates the impact of mistreatment on well-being. More specifically, we test the following hypotheses: (1) Older adults with more psychosocial resources and fewer psychosocial deficits are less likely to report mistreatment; (2) those who experienced mistreatment show lower levels of psychological well-being; (3) those who experienced multiple types of mistreatment show lower levels of well-being than those who experienced one type; and (4) the relationship between mistreatment and well-being is weaker for those with more psychosocial resources and stronger for those with more psychosocial deficits.

Methods

Data

We used data from the National Social Life, Health and Aging Project (NSHAP), which surveyed a nationally representative probability sample of community-dwelling individuals aged 57–85 years selected from households across the United States screened in 2004. In-home interviews were conducted in English and Spanish by professional interviewers between July 2005 and March 2006, yielding 3,005 respondents out of a possible 4,400 (1,455 men and 1,550 women). The weighted sample response rate was 75.5% (O'Muircheartaigh, Eckman, & Smith, 2009). The protocol was approved by the University of Chicago and the National Opinion Research Center institutional review boards; all respondents gave written informed consent.

To decrease respondent burden, minimize in-home interview time, and maximize content, the interview used a modularized format. Respondents were randomly assigned to one of six paths. Respondents assigned to paths for which elder mistreatment questions were not asked in person were given a mail-in self-administered questionnaire with these items. Approximately 33% of respondents received the questions on mistreatment in the self-administered leave-behind instrument, 162 did not return the questionnaire and thus were excluded from the study. Additional 94 cases were missing either on all mistreatment questions (39 cases) or on other variables and were also excluded. Preliminary analyses showed that, although respondents who reported mistreatment via mail questionnaires were more likely to report mistreatment than those via in-person interviews, the associations between mistreatment and psychological well-being, and between psychosocial resources and deficits and psychological well-being were not significantly different between the two survey modes. Thus, we combine data from in-person interviews and from mail-in self-administered questionnaires to maximize the size of the analytical sample and we control for interview mode in all models. The analytical sample includes 2,744 respondents.

Measures

Elder mistreatment.—The NSHAP includes a set of questions specifically designed to meet the criteria laid out in the National Research Council's report on elder mistreatment (Bonnie & Wallace, 2003; Laumann et al., 2008). It allows us to define mistreatment broadly by focusing on negative behaviors, including those that are not life threatening. The questions were selected and modified from two well-validated screens for elder mistreatment to assess respondent experiences of recent verbal, physical, and financial mistreatment: the Hwalek–Sengstock Elder Abuse Screening Test (Hwalek & Sengstock, 1986) and the Vulnerability to Abuse Screening Scale (Schofield & Mishra, 2003). Respondents were asked to think of the people and their relationships with them just in the past year or so. We consider the respondent as having been subjected to (1) *verbal mistreatment* if the answer was yes to the question "Is there anyone who insults you or puts you down?" (2) *financial*

mistreatment if the answer was yes to the question "Is there anyone who has taken your money or belongings without your OK or prevented you from getting them even when you ask?" and (3) *physical mistreatment* if the answer was yes to the question "Is there anyone who hits, kicks, slaps, or throws things at you?" Factor analysis showed that the three items load on a single factor with an eigenvalue of 1.40. A dichotomous variable was created to indicate whether the respondent reported any mistreatment regardless of type. In addition, a variable was created to identify those who reported only one type of mistreatment and those who reported more than one type.

Psychological Well-being

Psychological well-being is measured with global happiness and the psychological distress scale as described below.

Global happiness.—Respondents were asked "If you were to consider your life in general these days, how happy or unhappy would you say you are, on the whole?" and the 5-point response scale ranges from *unhappy usually* to *extremely happy*.

Psychological distress.—We measure psychological distress as depression, anxiety, and perceived stress (Ross, Reynolds, & Geis, 2000). Respondents were asked how often they have felt in the past week in accordance with a series of statements, with answers on a 4-point scale (Shiovitz-Ezra, Leitsch, Graber, & Karraker, 2009). Depression is measured using an eight-item short form of the Center for Epidemiological Studies Depression Scale (CES-D; e.g., "I felt that everything I did was an effort," "My sleep was restless"). Depression is conceptually related to but distinct from perceived social isolation, one of our measures of psychosocial deficits (Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006). To reduce the overlap in measurement of the two concepts, Cacioppo and colleagues recommended deleting the item in the CES-D that states "I felt lonely" to form a scale they call CES-D-ML. We followed that practice here. With the two items that tap positive affect reverse coded, the scores on the seven remaining items were averaged; this scale ranges from 1 to 4 and higher values indicate more depressive symptoms; Cronbach's alpha is .75. Anxiety is measured with a modified version of the seven-item anxiety subscale of the Hospital Anxiety and Depression Scale (e.g., "I got a frightened feeling like butterflies in my stomach," "I felt restless as if I had to be on the move"; Zigmond & Snaith, 1983). With one item reverse coded, the scores on the seven items were averaged; the scale ranges from 1 to 4 and higher values indicate greater degrees of anxiety; Cronbach's alpha is .74. Stress is measured using a four-item modified version of Cohen's Perceived Stress Scale (e.g., "I was unable to control important things in my life," "I felt difficulties were piling up so high that I could not overcome them"; Cohen, Kamarck, & Mermelstein, 1983). With two items reverse coded, the scores on the four items were averaged; this scale ranges from 1 to 4 and higher values indicate higher levels of stress; Cronbach's alpha is .63. Because these three subscales are highly correlated and combining them gives a summary measure with better scale properties as indicated by a higher Cronbach's alpha of .80, we measure psychological distress using the average score of depression, anxiety, and stress scales; it ranges from 1 to 4 with higher values associated with higher levels of distress. Additional analyses using each subscale separately show similar associations between mistreatment and psychological well-being.

Psychosocial Resources and Deficits

We include measures of the following psychosocial resources and deficits: high self-esteem, married or cohabiting, number of close friends and relatives, social participation, positive social support, criticism from close relationships, and perceived social isolation (Taylor & Seeman, 1999).

"Self-esteem" refers to a person's generally positive evaluation of the self in terms of "worth" and "competence" (Cast & Burke, 2002). Respondents were asked how true the statement "I have high self-esteem" is for them and the 5-point response scale ranges from *not very true of me* to *very true of me*. This item was taken from the Rosenberg Self-Esteem Scale. In adult samples, this single item has shown strong convergent validity with other self-esteem constructs and behaved similarly with a wide range of criterion measures (Robins, Hendin, & Trzensniewski, 2001). Because this item is highly skewed with the category *very true of me* checked by nearly half of the respondents, a dichotomous variable was created to compare respondents who answered *very true of me* (coded 1) to the other respondents.

"Marital or cohabiting status" is coded 1 if the respondent is currently married or cohabiting.

"Close friends and relatives" are the sum of responses to two questions, one asking the number of family members or relatives with whom the respondent feels close and the second the number of friends he or she has. The responses to each question have six categories (0 = *none*, 1 = *one*, 2 = *2–3*, 3 = *4–9*, 4 = *10–20*, and 5 = *more than 20*). The summary scores range from 0 to 10 with higher values indicating more close relatives and friends.

"Social participation" is measured with four questions asking in the past twelve months how often the respondent (1) has attended religious services; (2) did volunteer work for religious, charitable, political, health-related, or other organizations; (3) attended meetings of any organized group, and (4) got together socially with friends or relatives (Cornwell & Waite, 2009). The 7-point response scale to each question ranges from *never* to *several times a week*. The level of social participation is the average of responses to the four items; it ranges from 0 to 6 with Cronbach's alpha of .68.

"Positive social support" is measured by two questions asked separately for spouse or partner, family, and friends: "How often can you rely on . . . if you have a problem?" and "How often can you open up to . . . if you want to talk about your worries?" with answers on a 3-point response scale (*hardly ever* to *often*). We averaged scores on these six questions to create an index of *positive social support*, which ranges from 1 to 3 with higher values indicating higher levels of positive support.

"Criticism from close relationships" is measured through a question asked separately for spouse or partner, family, and friends: "How often does . . . criticize you?" We averaged the responses for the three categories of social ties to create a measure that ranges from 1 to 3 with higher values indicating more frequent criticism from close relationships.

For the respondents who had no spouse or the few who had no other relatives, the scales of positive social support and criticism from close relationships are averages of the remaining relationships. Thus, the scales indicate positive support and criticism from those relationships one has.

"Perceived social isolation" is measured with three questions asking respondents how often they feel (1) that they lack companionship, (2) left out, and (3) isolated from others (Hughes, Waite, Hawkley, & Cacioppo, 2004). The 3-point response scale to each item ranges from *hardly ever to often.* We carefully examined the relationship between the social isolation scale and each of the dependent variables and found that being *relatively well* socially connected was significantly related to each, and thus, the responses to the three items were first summed (Cronbach's $\alpha = .80$) and then dichotomized using the median to compare relatively high to relatively low levels of perceived isolation. Also, these questions were asked in the leave-behind questionnaire, so responses are missing for 394 respondents who did not return this questionnaire. These values were imputed using multiple imputation method. Additional analysis using a separate category for these missing cases showed similar results.

Control Variables

We include in our models demographic variables that may affect report of mistreatment experience and psychological well-being, including age measured in years, gender (female vs. male), race and ethnicity (White, Black, Hispanic, and others), education (high school graduates vs. others), work status (currently working vs. not working), household income (less than $25,000; between $25,000 and $50,000; and $50,000 or more), and household assets (less than $50,000; between $50,000 and $500,000; and $500,000 or more). Because nearly 8% of the respondents did not report household income and 13% did not report household assets, a separate category for missing cases was created for each variable. We also include measures of physical health and any cognitive impairment. Physical health is measured with self-rated health and number of functional impairments. "Self-rated health" is based on the question asking respondents to rate their physical health on a 5-point scale ranging from *poor* to *excellent*. "Functional impairments" were created using reported difficulties in three domains: (1) activities of daily living (dressing, bathing, eating, getting in and out of bed, and toileting), (2) mobility (working one block and walking across the room), and (3) sensory function (vision and hearing; Laumann et al., 2008). The number of functional impairments is the sum of the items for which the respondent has difficulty (i.e., answering "some difficulty," "much difficulty," or "unable to do" to questions on activities of daily living and mobility items and answering "fair" or "poor" to questions on vision and hearing); it ranges from 0 to 9. "Cognitive status" is assessed through the Short Portable Mental Status Questionnaire (SPMSQ; Pfeiffer, 1975). The SPMSQ assesses knowledge of general and personal information, including space and time orientation, maiden name, current president, and digit subtraction. A dichotomous variable was created to compare respondents who have no cognitive impairment with those who have any cognitive impairment as defined by Pfeiffer. Additional analyses treating SPMSQ as a continuous variable showed similar results. In addition, we include measures of whether the respondent answered the questions via an in-person interview or in the self-administered questionnaire and whether there was another person in the room during the interview.

Statistical Procedures

We analyzed our data using STATA 11.0 (StataCorp, College Station, TX). We adjusted all results for complex survey design and sampling weights using "svy" methods. Our analysis includes three main components. First, we examined descriptive statistics for the total sample and by report of any mistreatment. Second, to examine the relationship between psychosocial resources and deficits and mistreatment net of other demographic and health variables, we first ran a binary logistic regression of any mistreatment on psychosocial resources and deficits while controlling for other demographic and health variables and then we ran a multinomial logistic regression of multiple types of mistreatment on psychosocial resources, psychosocial deficits, and other variables.

Our third set of analyses examines the relationship between mistreatment and psychological well-being and the moderating effect of psychosocial resources and deficits on this relationship. A series of regression models were estimated for each well-being variable. The first model estimates the bivariate association between mistreatment and well-being. The second model adds measures of psychosocial resources, psychosocial deficits, and other control variables to estimate the association between mistreatment and well-being when the associations of psychosocial resources and deficits and other control variables with mistreatment are taken into account. Models of global happiness, shown in Table 3, were estimated with ordered logistic regression. Models of

Table 1. Descriptive Statistics

Variables	All		No mistreatment		Any mistreatment	
	M/%	*SE*	*M*/%	*SE*	*M*/%	*SE*
Mistreatment						
None	81.5					
Any mistreatment	18.5					
One type	16.4					
Multiple types	2.1					
Psychological well-being						
Global happiness (1–5)	3.63	0.02	3.69	0.03	3.35	0.04***[a]
Psychological distress (1–4)	1.51	0.01	1.47	0.01	1.66	0.02***
Psychosocial resources/deficits						
Self-esteem high	43.9		45.7		36.0**	
Married/cohabiting	69.1		70.2		64.0**	
Close friends/relatives (0–10)	6.18	0.05	6.20	0.05	6.11	0.10
Social participation (0–6)	3.15	0.03	3.13	0.03	3.23	0.07
Positive social support (1–3)	2.43	0.01	2.44	0.01	2.38	0.02**
Criticism from close relationships (1–3)	1.30	0.01	1.26	0.01	1.47	0.02***
Perceived social isolation	47.2		43.4		63.7***	
Control variables						
Female	51.6		50.6		55.9	
Race/ethnicity						
White	81.1		80.5		84.0*	
Black	9.5		9.3		10.4	
Hispanic	6.8		7.7		2.7	
Other	2.6		2.6		2.8	
Age (57–85 years)	67.93	0.20	68.33	0.21	66.21	0.39***
High school graduate	82.0		80.8		87.3**	
Employed	34.3		32.9		40.4**	
Household income						
<$25,000	25.8		25.4		27.2*	
$25,000–50,000	27.9		27.0		32.1	
≥$50,000	38.6		39.2		36.1	
Income missing	7.7		8.4		4.7	
Household assets						
<$50,000	15.7		14.7		20.1	
$50,000–500,000	43.1		43.1		43.0	
≥$500,000	28.2		28.7		26.0	
Assets missing	13.0		13.5		10.9	
Leave-behind survey	28.3		26.1		38.1***	
Other persons present	32.6		32.2		34.4	
Self-rated health (1–5)	3.29	0.04	3.30	0.05	3.24	0.06
Physical impairments (0–9)	1.18	0.06	1.14	0.07	1.35	0.12
Cognitively impaired	14.0		14.4		12.1	
N	2,744		2,247		497	

[a] Significant test of the difference between "no mistreatment" and "any mistreatment."
One-tailed tests: *$p < .05$; **$p < .01$; ***$p < .001$.

psychological distress, shown in Table 4, were estimated with ordinary least squares regression. Then, we added the interaction terms of "mistreatment" with psychosocial resources and deficits to the main effects–only models to examine whether psychosocial resources buffer the effect of mistreatment on well-being and whether psychosocial deficits exacerbate the effect of mistreatment on well-being. For easy interpretation and to avoid multicollinearity, the interaction terms of "mistreatment" with each psychosocial resource and deficit measure were added to the model with only the direct effects one at a time. Table 5 shows interactions of mistreatment with psychosocial resources and deficits in models of happiness in the first column and in models of psychological distress in the second column. In analyses involving interaction terms, "positive social support," "social participation," and "criticism from close relationships," were centered to correct for collinearity. These models were estimated first for any mistreatment and then for multiple types of mistreatment.

We note coefficients significant at $p < .05$ level on a one-tailed test because all the hypotheses we test point to the direction of expected associations.

Causal order.—The conceptual model shown in Figure 1 sees mistreatment leading to psychological distress. However, psychological distress at one point may lead to mistreatment later, by increasing caregiver strain and by increasing dependency and vulnerability. We argue that the measures of these two key concepts available in the NSHAP data favor the causal order posited in Figure 1 in these data. The questions on mistreatment ask the respondent to think

Table 2. Odds Ratios of Mistreatment on Psychosocial Resources, Psychosocial Deficits, and Other Variables

	Any mistreatment[a]	Mistreatment by type[b]	
		One Type	Multiple Types
Psychosocial resources/deficits			
Self-esteem high	0.81* (1.82)	0.81 (1.66)	0.82 (0.69)
Married/cohabiting	0.77 (1.65)	0.85 (0.86)	0.35*** (3.45)
Close friends/relatives	1.03 (0.97)	1.04 (1.02)	1.00 (0.05)
Social participation	1.12** (2.58)	1.11* (2.21)	1.22* (1.69)
Positive social support	0.69** (2.48)	0.66** (2.63)	0.87 (0.34)
Criticism from close relationships	3.35*** (7.65)	3.30*** (7.60)	3.60*** (3.64)
Perceived social isolation	1.77*** (4.23)	1.75*** (3.88)	1.95* (1.70)
Control variables			
Female	1.25 (1.39)	1.24 (1.26)	1.31 (0.77)
Race/ethnicity			
White (ref.)	1.00	1.00	1.00
Black	0.71 (1.64)	0.68* (1.82)	1.01 (0.03)
Hispanic	0.25*** (4.92)	0.26*** (4.31)	0.20** (2.48)
Other	0.76 (0.57)	0.86 (0.31)	—
Age	0.95*** (5.41)	0.95*** (5.21)	0.95* (2.39)
High school graduate	1.62** (2.46)	1.62* (2.24)	1.64 (1.38)
Employed	1.18 (1.12)	1.17 (1.12)	1.30 (0.54)
Household income			
<$25,000 (ref.)	1.00	1.00	1.00
$25,000–50,000	1.17 (1.11)	1.17 (1.15)	1.13 (0.24)
≥$50,000	0.90 (0.57)	0.88 (0.67)	1.17 (0.36)
Income missing	0.59 (1.40)	0.64 (1.16)	0.15* (1.68)
Household assets			
<$50,000 (ref.)	1.00	1.00	1.00
$50,000–500,000	0.73 (1.44)	0.75 (1.16)	0.60 (1.17)
≥$500,000	0.68 (1.93)	0.68 (1.28)	0.77 (0.52)
Assets missing	0.82 (0.63)	0.83 (0.58)	0.79 (0.31)
Leave-behind survey	1.66*** (3.69)	1.64*** (3.48)	1.82* (1.92)
Other persons present	1.30* (1.92)	1.24 (1.40)	1.92* (2.29)
Self-rated health	1.03 (0.54)	1.02 (0.30)	1.16 (0.92)
Physical impairments	1.08 (1.64)	1.06 (1.15)	1.24** (2.55)
Cognitively impaired	0.79 (1.62)	0.82 (1.34)	0.59 (0.98)

Notes: $N = 2{,}744$. "No mistreatment" is the reference category. Absolute values of t statistics are in parentheses.

[a] Results weighted and based on binary logistic regression model.

[b] Results weighted and based on multinomial logistic regression model.

One-tailed tests: *$p < .05$; **$p < .01$; ***$p < .001$.

about the last twelve months. The questions about psychological distress ask about symptoms and feelings in the last week. Thus, mistreatment is a measure of past experiences, and distress is a measure of current state. We know of no extant longitudinal data that would allow an examination of the relationship between psychological distress at one point and mistreatment later.

Results

Table 1 presents descriptive statistics for the total sample and separately for those who experienced no mistreatment and those who experienced any mistreatment.

Table 2 presents models of mistreatment regressed on psychosocial factors and controls. These results provide evidence on our first hypothesis, that those with more psychosocial resources and fewer psychosocial deficits are less likely to report mistreatment experience than those with fewer psychosocial resources and more psychosocial deficits. Column 1 of Table 2 presents results for any mistreatment, and columns 2 and 3 present results for one type of mistreatment versus multiple types. Results are presented as odds ratios.

For any mistreatment, Table 2 shows fairly strong support for the hypothesis. Those with high self-esteem, more positive social support, less criticism from close relationships, and less perceived isolation are less likely to report any mistreatment experience. All these odds are significant at the 0.05 level or better. Only two measures of psychosocial resources show no association with odds of mistreatment: partner status and number of close friends and relatives, and social participation shows an association with mistreatment which is opposite to what we expected.

The results in Table 2 for one type of mistreatment versus multiple types, with no mistreatment as the reference category, also provide support for the hypothesis, with results virtually identical to those for any mistreatment. One interesting difference is the sizeable effect of partner status on the odds of experiencing multiple types of mistreatment;

Table 3. Odds Ratios of Global Happiness on Mistreatment and Psychosocial Resources and Deficits

	Model 1	Model 2	Model 3	Model 4
Mistreatment				
Any mistreatment	0.48*** (7.15)	0.65*** (3.73)		
Mistreatment type				
No mistreatment (ref)			1.00	1.00
One type			0.50*** (6.27)	0.67*** (3.36)
Multiple types			0.41** (2.87)	0.55* (2.16)
Psychosocial resources/deficits				
Self-esteem high		1.99*** (5.97)		1.99*** (5.98)
Married/cohabiting		1.39*** (3.45)		1.38*** (3.36)
Close friends/relatives		1.09*** (3.23)		1.09*** (3.23)
Social participation		1.09* (2.19)		1.09* (2.21)
Positive social support		1.58*** (3.96)		1.58*** (3.97)
Criticism from close relationships		0.67** (2.59)		0.67** (2.59)
Perceived social isolation		0.37*** (9.94)		0.37*** (9.96)
Control variables				
Female		0.78*** (3.34)		0.78*** (3.34)
Race/ethnicity				
White (ref.)		1.00		1.00
Black		1.35* (1.97)		1.35* (1.98)
Hispanic		1.13 (0.58)		1.13 (0.58)
Other		0.93 (0.24)		0.92 (0.26)
Age		1.00 (0.38)		1.00 (0.39)
High school graduate		0.80* (1.90)		0.81* (1.89)
Employed		0.91 (1.09)		0.91 (1.09)
Household income				
<$25,000 (ref.)		1.00		1.00
$25,000–50,000		1.08 (0.55)		1.08 (0.55)
≥$50,000		1.40* (1.97)		1.40* (1.97)
Income missing		1.15 (0.65)		1.15 (0.64)
Household assets				
<$50,000 (ref.)		1.00		1.00
$50,000–500,000		0.87 (0.70)		0.88 (0.71)
≥$500,000		0.96 (0.18)		0.96 (0.18)
Assets missing		0.91 (0.40)		0.90 (0.41)
Leave-behind survey		1.40*** (3.33)		1.40*** (3.31)
Other persons present		1.00 (0.02)		1.00 (0.03)
Self-rated health		1.43*** (7.29)		1.43*** (7.30)
Physical impairments		0.92** (3.02)		0.92** (2.99)
Cognitively impaired		1.09 (0.69)		1.09 (0.68)

Notes: $N = 2{,}744$. Results weighted and based on ordered logistic regression models. Absolute values of t statistics are in parentheses.
One-tailed tests: *$p < .05$; ** $p < .01$; ***$p < .001$.

those with a spouse or partner show much lower odds of multiple mistreatments than those without a partner.

These results suggest that perceptions of social support and criticism from close social ties and perceived social isolation are strongly associated with odds of mistreatment. We note that all these measures reflect the social world surrounding the older adult as seen *through his or her eyes.* The objective measures of resources, such as partner status or number of close connections, are much less strongly associated, if at all, with odds of mistreatment.

Tables 3 and 4 present results from the regressions of psychological well-being on mistreatment and psychosocial resources and deficits. These results provide evidence on our second and third hypotheses: Those who experienced mistreatment show lower levels of psychological well-being than others and those who experienced multiple types of mistreatment show lower levels of well-being than those who experienced one type. Table 3 provides results for global happiness, and Table 4 provides results for psychological distress. In each table, Models 1 and 3 include only the relevant measure of mistreatment. Models 2 and 4 add the measures of psychosocial resources and deficits and other control variables. These models allow us to assess the direct association between resources and well-being.

The odds ratios for any mistreatment on global happiness is 0.48, suggesting that older adults who experienced mistreatment are about half as likely to report any level of happiness or higher than those with no mistreatment. This is a very large difference. The results in Model 3 are in the expected direction, with lower odds of happiness for those with multiple types of mistreatment than for those with one type, although the odds ratios are not significantly different. We note that all the measures of psychosocial resources and deficits are strongly associated in the expected direction with global happiness. Odds of any level of happiness or greater are higher for those with high self-esteem, those

Table 4. Unstandardized Coefficients of Psychological Distress on Mistreatment and Psychosocial Resources and Deficits

	Model 1	Model 2	Model 3	Model 4
Mistreatment				
Any mistreatment	0.19*** (6.34)	0.07** (3.07)		
Mistreatment type				
No mistreatment (ref.)				
One type			0.17*** (5.85)	0.07** (2.80)
Multiple types			0.28** (2.67)	0.14* (1.74)
Psychosocial resources/deficits				
Self-esteem high		−0.13*** (8.20)		−0.13*** (8.19)
Married/cohabiting		0.05* (1.87)		0.05* (1.92)
Close friends/relatives		−0.01 (0.95)		−0.01 (0.94)
Social participation		−0.01* (1.95)		−0.01* (1.99)
Positive social support		−0.05* (2.30)		−0.05* (2.34)
Criticism from close relationships		0.14*** (4.63)		0.14*** (4.61)
Perceived social isolation		0.21*** (9.36)		0.21*** (9.32)
Control variables				
Female		0.06*** (3.71)		0.06*** (3.71)
Race/ethnicity				
White (ref.)				
Black		−0.04 (1.23)		−0.04 (1.25)
Hispanic		−0.02 (0.42)		−0.02 (0.41)
Other		−0.01 (0.15)		−0.01 (0.13)
Age		−0.003** (3.13)		−0.003** (3.08)
High school graduate		−0.01 (0.24)		−0.01 (0.24)
Employed		−0.04* (1.95)		−0.04* (1.97)
Household income				
<$25,000 (ref.)				
$25,000–50,000		−0.06* (1.97)		−0.06* (1.98)
≥$50,000		−0.06 (1.61)		−0.06 (1.63)
Income missing		−0.10** (2.70)		−0.10** (2.67)
Household assets				
<$50,000 (ref)				
$50,000–500,000		−0.05* (1.75)		−0.05* (1.74)
≥$500,000		−0.08* (2.34)		−0.08* (2.35)
Assets missing		0.01 (0.21)		0.01 (0.22)
Leave-behind survey		0.02 (1.06)		0.02 (1.06)
Other persons present		0.04 (1.66)		0.04 (1.64)
Self-rated health		−0.07*** (5.56)		−0.07*** (5.57)
Physical impairments		0.04*** (7.11)		0.04*** (7.07)
Cognitively impaired		0.01 (0.29)		0.01 (0.31)

Notes: $N = 2{,}744$. Results weighted and based on ordinary least squares regression models. Absolute values of t statistics are in parentheses.
One-tailed tests: *$p < .05$; **$p < .01$; ***$p < .001$.

with a spouse or partner, those with more close friends and relatives, those with positive social support, and those with greater social participation. Odds of happiness are lower for those with more criticism from close relationships and those who perceive themselves to be more isolated. Controlling for psychosocial factors and other demographic and health covariates, the association between mistreatment and happiness is attenuated but remains significant.

Table 4 shows models of psychological distress. These results provide support for the second hypothesis; those with any mistreatment show greater distress than those with none. This difference is less than one fifth of a point on a scaling ranging from 1 to 4, so while significant it is substantively modest. The coefficient is further attenuated once psychosocial resources and deficits and other control variables are added. The results for one type versus multiple types of mistreatments show support for the third hypothesis; both show greater distress than those with no mistreatment, and distress is greater for those with multiple types of mistreatments than for those with one type, although the coefficients on one type and multiple types are not significantly different.

As we saw in the models of global happiness, psychosocial resources and deficits are associated in the expected direction with psychological distress. There are two exceptions: We see no association between number of close friends and relatives and distress and partner status is weakly though positively associated with distress, net of other factors. Note that these associations are net of the effects of positive support and criticism from spouse or partner, family and friends, and perceived social isolation, all of which are strongly associated with distress, suggesting that any impact of objective social connection operates through the supports these connections offer and the demands they make.

Finally, Table 5 presents interactions of mistreatment and psychosocial factors on the two measures of psychological well-being to test the moderating effect of psychosocial

Table 5. Interactions of Mistreatment and Psychosocial Resources and Deficits on Psychological Well-being

	Global happiness	Psychological distress
No mistreatment (ref.)		
Any mistreatment X		
Self-esteem high	1.19 (0.80)	−0.05 (1.01)
Married/cohabiting	0.79 (1.05)	−0.06 (1.04)
Close friends/relatives	1.07 (1.21)	−0.02 (1.54)
Social participation[a]	1.16* (1.88)	−0.03* (1.86)
Positive social support[a]	1.54* (1.70)	−0.09* (2.05)
Criticism from close relationships[a]	0.87 (0.57)	0.05 (0.87)
Perceived social isolation[a]	0.84 (0.77)	0.08* (1.96)
No mistreatment (ref.)		
One type of mistreatment X		
Self-esteem high	1.23 (0.88)	−0.08* (1.68)
Married/cohabiting	0.75 (1.29)	−0.03 (0.59)
Close friends/relatives	1.06 (0.92)	−0.01 (0.99)
Social participation[a]	1.16* (1.74)	−0.02 (1.17)
Positive social support[a]	1.44 (1.31)	−0.10* (2.03)
Criticism from close relationships[a]	0.83 (0.64)	0.04 (0.60)
Perceived social isolation[a]	0.91 (0.39)	0.07 (1.50)
Multiple types of mistreatment X		
Self-esteem high	.097 (0.07)	0.16 (1.10)
Partner status	1.01 (0.02)	−0.21 (1.67)
Close friends/relatives	1.15 (1.06)	−0.08* (1.77)
Social participation[a]	1.17 (1.18)	−0.09* (2.03)
Positive social support[a]	2.87* (2.06)	−0.06 (0.41)
Criticism from close relationship[a]	1.11 (0.13)	0.10 (0.59)
Perceived social isolation[a]	0.48 (1.49)	0.21* (1.70)

Notes: N = 2,744. Results weighted. Results for happiness are odds ratios from ordered logistic regressions. Results for psychological distress are unstandardized coefficients from ordinary least squares regressions. Absolute values of t statistics are in parentheses. Demographics, health status, all psychosocial resources and deficits measures, and the main effects of any mistreatment (for the top panel) or the main effects of mistreatment by type (for the bottom panel) are included in all models. Odds ratios or coefficients of these variables are not shown. For both mistreatment measures, "no mistreatment" is the reference category. For the top panel, the interaction term of "any mistreatment" with each psychosocial resource and deficit measure is added to the main effects–only model (Model 2 in Tables 3 and 4) one at a time. For the bottom panel, the interaction terms of "one type of mistreatment" and "multiple types of mistreatment" with each psychosocial resource and deficit measure are added to the main effects–only model (Model 4 in Tables 3 and 4) one at a time.

[a] These variables are centered at means.

One-tailed tests: *$p < .05$.

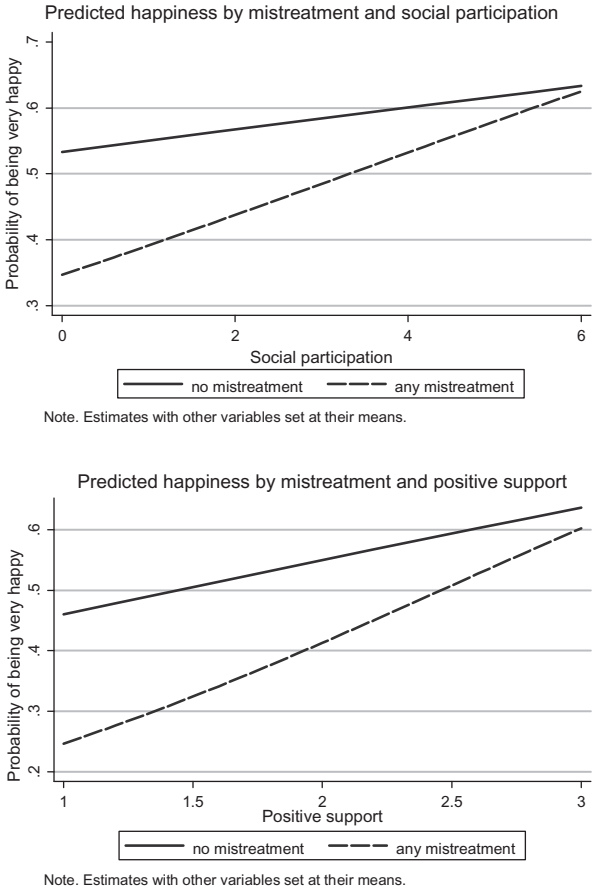

Figure 2. Interaction effects of mistreatment and psychosocial resources and deficits on global happiness.

resources and deficits. We see scattered and modest support for the idea that resources and deficits moderate the association between mistreatment and well-being, although all the interactions that do appear are in the expected direction. For global happiness, two types of psychosocial resources—social participation and positive social support—are more strongly associated with odds of being happier among those who experienced mistreatment; for distress we see three interactions of this type, for social participation, positive social support, and perceived social isolation. As Figure 2 shows, at low levels of these resources, the mistreated show much lower levels of happiness than others, but this gap is virtually eliminated among those with high levels of resources. Figure 3 shows the same convergence in levels of psychological distress between the mistreated and others at high levels of resources and low levels of deficits.

The comparison of one type of mistreatment with multiple types of mistreatment shows much the same pattern as the models of any mistreatment, with two interesting differences: Positive social support reduces the relationship between mistreatment and happiness much more for those experiencing multiple types than for those experiencing one type and social participation has a similarly strong effect on the association between multiple types of mistreatment and distress. Neither of these was predicted theoretically.

Discussion

A large body of literature links mistreatment or abuse to psychological distress, among victims of childhood physical and sexual abuse (Hill, Kaplan, French, & Johnson, 2010; Luo, Parish, & Laumann, 2008), among victims of domestic abuse (Stets & Straus, 1990), and among older adults experiencing mistreatment (Comijs et al., 1999). Stress process theory points to the harmful effects of situations, events, and experiences that increase exposure to stress or reduce ability to recover from stress (Pearlin, 1989). Psychosocial resources, such as self-esteem and social support, and deficits, such as social isolation, may act as

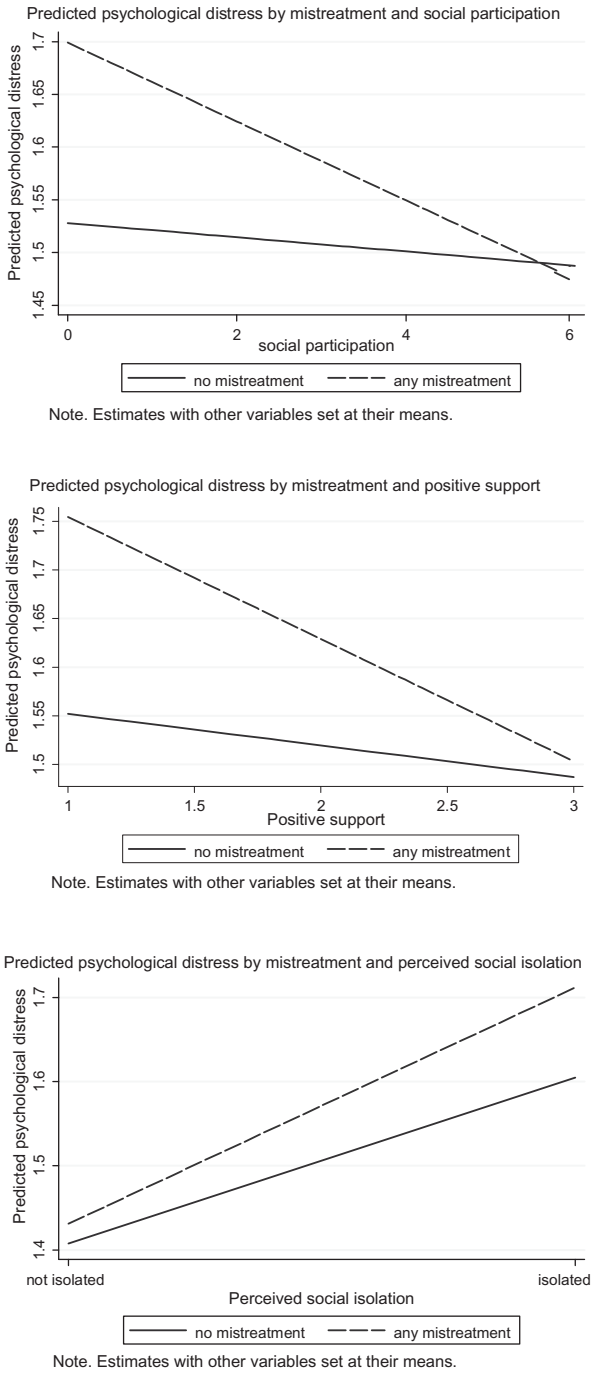

Figure 3. Interaction effects of mistreatment and psychosocial resources and deficits on psychological distress.

moderators in the link between mistreatment and distress. In this study, we examined the relationship between psychosocial resources and deficits and the experience of elder mistreatment in a nationally representative sample of adults ages 57–85. We found that those older people with more psychosocial resources and fewer psychosocial deficits, especially resources and deficits that involve *perceptions* or evaluations, are less likely to report any mistreatment or multiple types of mistreatment than are those with fewer resources and more deficits. Older people who experienced mistreatment in the past year show lower current levels of happiness and psychological well-being than others, with virtually the same patterns for experience of any mistreatment and for multiple types of mistreatment.

We found some support for the moderating role of psychosocial resources and deficits in the link between elder mistreatment and psychological well-being; the negative associations of experience of mistreatment with happiness and psychological distress appear only at low levels of psychosocial resources and high levels of psychosocial deficits, virtually disappearing at high levels of resources and low levels of deficits. This relationship appears for positive social support and social participation on both happiness and psychological distress and also for perceived social isolation on psychological distress. Note that the buffering hypothesis is silent about the possibility that psychosocial deficits, such as social isolation or conflictual close relationships, may exacerbate the effect of stressful events on health and well-being, but our findings suggest such a relationship, which should be incorporated into stress process theory. Clearly, negative relationships constitute a source of stress themselves.

Acierno (2003) argued that among older adults who are cognitively intact, mistreatment or abuse is conceptually much like domestic abuse in its etiology, appropriate prevention strategies, and consequences. A recent study of the effects of victimization in early life on psychological distress in adulthood finds that *some* psychosocial resources moderate the effects of *some* types of childhood abuse (Hill et al., 2010). Hill and colleagues found that emotional support moderates the negative effect of physical assault and sexual coercion in childhood on psychological distress later. The measure of emotional support used by Hill and colleagues is similar to our measure of positive social support, which asks about the availability of help with problems and people to talk about worries, which we found moderates the relationship between mistreatment and both happiness and psychological distress. Hill and colleagues found that instrumental support does not moderate the effects of physical assault but does partially moderate the effects of sexual coercion. They pointed to the importance of considering different domains of social support and argued that instrumental support, such as might be provided by a spouse, partner, or members of one's social network, primarily affects psychological well-being directly, as we find, whereas emotional support acts to buffer the effects of stress. These findings of the role of psychosocial resources in moderating the long-run effects of childhood victimization on psychological distress match our results for recent elder mistreatment and current distress remarkably well. This suggests a good deal of similarity in the processes through which abuse or mistreatment causes stress and the

mechanisms that buffer its effects on emotional well-being. An extension of this line of research to the consequences of domestic abuse and the role of psychosocial resources in moderating them seems warranted.

Hill and colleagues (2010) also argued that emotional support—positive social support here—helps individuals minimize perceptions of negative life events, which also accords with our finding that those with more psychosocial resources are less likely to report experiencing elder mistreatment.

Although a large body of research has examined the link between abuse or mistreatment and psychological well-being, stress leads directly to physical and physiological sequelae (Sapolsky, 2004). Over the long run, exposure to repeated stress can lead to allostatic load and chronic illness (Berntson & Cacioppo, 2000). This suggests that we should turn our attention in future research to the link between stressful experiences, such as abuse or mistreatment, and physical health and disease.

Our study shows some racial differences in self-reported mistreatment experience, with Hispanics least likely to report mistreatment experience. Although additional analyses (not shown) do not show racial differences in the effect of mistreatment on psychological well-being, future research is needed to explore the role of culture in how people define an act as mistreatment and how different racial and ethnic groups cope with such treatment.

The present study uses recent and specifically designed data on elder mistreatment for a large national sample of older adults, which includes numerous measures of both psychosocial resources and deficits and psychological well-being. These are the strengths of this study. The limitations include the cross-sectional design of the data, which is balanced to some extent by the wording of the questions, with the items on elder mistreatment asking about the past year and the measures of psychological distress asked about the past week. The causal directions between measures of psychosocial resources and deficits and mistreatment cannot be established with these cross-sectional data. The results must be replicated with measures of mistreatment that clearly precede the measurement of psychological distress and measures of psychosocial resources and deficits that clearly precede measures of mistreatment. A longitudinal design with repeated measures of the key concepts could provide much stronger evidence on causality.

The present study is also limited by the self-report nature of the data. Elder mistreatment, as a negative life experience, may have been underreported due to social desirability (Wyandt, 2004), which may bias our results on the relationship between mistreatment and well-being. The measure of elder mistreatment comes entirely from reports of the NSHAP respondent. Thus, it is most accurately thought of as *perceived* mistreatment; there is no validation from reports to agencies charged with investigating elder abuse, such as was done by Dong and colleagues (2009). It is also possible that psychological well-being at the time of the survey colored perceptions of past events such that those who were depressed, stressed, or anxious at the time of the interview were more likely than others to recall past interactions or exchanges as mistreatment. Our data are also restricted by measures of psychological resources and deficits. Previous research has found that mastery, self-efficacy, and optimism are important resources for physical and psychological well-being (Comijs et al., 1999; Taylor & Seeman, 1999). Although they are correlated with self-esteem, they are distinct concepts and may have independent effects on mistreatment and well-being. Moreover, the survey does not provide detailed information about the mistreater. It is possible that characteristics of the mistreater influence the impact of mistreatment on psychological well-being. Future research addressing these issues will improve our understanding of the relationship between psychosocial resources and deficits, mistreatment, and well-being.

The findings from this study point to a strong relationship between psychosocial resources and deficits and mistreatment, and between elder mistreatment and psychological well-being; both should be the focus of efforts to intervene. Given the degrading nature of elder mistreatment and its severe consequences for psychological well-being, greater efforts should be made to increase public awareness of this issue. Given that psychosocial resources and deficits are important predictors of elder mistreatment, greater attention should be paid to the social support network of older adults in identifying the individuals who are most vulnerable to mistreatment. Because positive social support decreases risk of mistreatment while negative features of close relationships increase it, social services should direct greater attention to fostering positive social support for older adults and positive social interactions among them. Appropriate interventions should be developed for and provided to older adults with low self-esteem and poor coping resources. With older adults who have experienced mistreatment, interventions should focus on mitigating the negative effects of mistreatment on well-being by providing greater social support and integrating older adults more into their community. Service providers and health care professionals may want to give more thought to the support their clients get from spouse, family, and friends and offer guidance or counseling to improve those relationships.

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References

Acierno, R. (2003). Elder mistreatment: Epidemiological assessment. In R. J. Bonnie & R. B. Wallace (Eds.), *Elder mistreatment: Abuse, neglect and exploitation in an aging America* (pp. 261–302). Washington, DC: National Academies Press.

Acierno, R., Hernandez, M. A., Amstadter, A. B., Resnick, H. S., Steve, K., Muzzy, W., & Kilpatrick, D. G. (2010). Prevalence and correlates of emotional, physical, sexual, and financial abuse and potential neglect in the United States: The National Elder Mistreatment Study. *American Journal of Public Health*, *100*, 292–297.

Berntson, G. G., & Cacioppo, J. T. (2000). From homeostasis to allodynamic regulation. In J. T. Cacioppo, L. G. Tassinary & G. G. Berntson (Eds.), *Handbook of psychophysiology* (pp. 459–481). Cambridge, UK: Cambridge University Press.

Bonnie, R. J. & Wallace, R. B. (Eds.), (2003). *Elder mistreatment: Abuse, neglect and exploitation in an aging America*. Washington, DC: National Academies Press.

Cacioppo, J. T., Hughes, M. E., Waite, L. J., Hawkley, L. C., & Thisted, R. A. (2006). Loneliness as a specific risk factor for depressive symptoms: Cross-sectional and longitudinal analyses. *Psychology and Aging*, *21*, 140–151.

Cast, A. D., & Burke, P. J. (2002). A theory of self-esteem. *Social Forces*, *80*, 1041–1068.

Cohen, S., Janicki-Deverts, D., & Miller, G. E. (2007). Psychological stress and disease. *Journal of American Medical Association*, *298*, 1685–1687.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *American Journal of Health and Social Behavior*, *24*, 386–396.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, *98*, 310–357.

Comijs, H. C., Penninx, B. W. J. H., Knipscheer, K. P. M., & van Tilburg, W. (1999). Psychological distress in victims of elder mistreatment: The effects of social support and coping. *Journal of Gerontology: Social Sciences*, *54B*, S240–S244.

Cornwell, E. Y., & Waite, L. J. (2009). Measuring social isolation among older adults using multiple indicators from the NSHAP study. *Journal of Gerontology: Social Sciences*, *64B*(Suppl. 1), i38–i45.

Dong, X., & Simon, M. (2008). Is greater social support a protective factor against elder mistreatment? *Gerontology*, *54*, 381–388.

Dong, X., Simon, M., Mendes de Leon, C., Fulmer, T., Beck, T., Hebert, L., . . .Evans, D. (2009). Elder self-neglect and abuse and mortality risk in a community-dwelling population. *Journal of American Medical Association*, *302*, 517–526.

Fisher, B. S., & Regan, S. L. (2006). The extent and frequency of abuse in the lives of older women and their relationship with health outcomes. *The Gerontologist*, *46*, 200–209.

Fulmer, T., Paveza, G., VandeWeerd, C., Fairchild, S., Guadagno, L., Bolton-Blatt, M., & Norman, R. (2005). Dyadic vulnerability and risk profiling for elder neglect. *The Gerontologist*, *45*, 525–534.

Hwalek, M., & Sengstock, M. C. (1986). Assessing the probability of abuse of the elderly: Toward the development of a clinical screening instrument. *Journal of Applied Gerontology*, *5*, 153–173.

Hill, T. D., Kaplan, L. M., French, M. T., & Johnson, R. J. (2010). Victimization in early life and mental health in adulthood: An examination of the mediating and moderating influences of psychosocial resources. *Journal of Health and Social Behavior*, *51*, 48–63.

Hughes, M. E., Waite, L. J., Hawkley, L. C., & Cacioppo, J. T. (2004). A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Research on Aging*, *26*, 655–672.

Lachs, M. S., & Pillemer, K. (2004). Elder abuse. *The Lancet*, *364*, 1263–1272.

Lachs, M. S., Williams, C. S., O'Brien, S., Pillemer, K. A., & Charlson, M. E. (1998). The mortality of elder mistreatment. *Journal of American Medical Association*, *280*, 428–432.

Laumann, E. O., Leitsch, S. A., & Waite, L. J. (2008). Elder mistreatment in the United States: Prevalence estimates from a nationally-representative study. *Journal of Gerontology: Social Sciences*, *63B*, S248–S254.

Luo, Y., Parish, W. L., & Laumann, E. O. (2008). A population-based study of childhood sexual contact in China: Prevalence and long-term consequences. *Child Abuse & Neglect*, *32*, 721–731.

Mouton, C. P. (2003). Intimate partner violence and health status among older women. *Violence Against Women*, *9*, 1465–1477.

O'Muircheartaigh, C., Eckman, S., & Smith, S. (2009). Statistical design and estimation for the National Social Life, Health, and Aging Project. *Journal of Gerontology: Social Sciences*, *64B*(Suppl. 1), i12–i19.

Pearlin, L. I. (1989). The sociological study of stress. *Journal of Health and Social Behavior*, *30*, 241–256.

Pearlin, L. I., Schieman, S., Fazio, E. M., & Meersman, S. C. (2005). Stress, health, and the life course: Some conceptual perspectives. *Journal of Health and Social Behavior*, *46*, 205–219.

Penninx, B. W. J. H., Van Tilburg, T., Deeg, D. J. H., Kriegsman, D. M. W., Boeke, A. J. P., & Van Eijk, J. T. M. (1997). Direct and buffer effects of social support and personal coping resources in individuals with arthritis. *Social Science & Medicine*, *44*, 393–402.

Pfeiffer, E. (1975). A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients. *Journal of the American Geriatrics Society*, *23*, 433–441.

Robins, R. W., Hendin, H. M., & Trzensniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, *27*, 151–161.

Ross, C. E., Reynolds, J. R., & Geis, K. J. (2000). The contingent meaning of neighborhood stability for residents' psychological well-being. *American Sociological Review*, *65*, 581–597.

Sapolsky, R. M. (2004). *Why zebras don't get ulcers* (3rd ed.). New York, NY: Times Books.

Schofield, M. J., & Mishra, G. D. (2003). Validity of self-report screening scale for elder abuse: Women's Health Australia Study. *The Gerontologist*, *43*, 110–120.

Shiovitz-Ezra, S., Leitsch, S. A., Graber, J., & Karraker, A. (2009). Quality of life and psychological health indicators in the National Social Life, Health, and Aging Project. *Journal of Gerontology: Social Sciences*, *64B*(Suppl. 1), i30–i37.

Stets, J. E., & Straus, M. A. (1990). Gender differences in reporting marital violence and its medical and psychological consequences. In M. A. Straus & R. J. Gelles (Eds.), *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families* (pp. 151–166). New Brunswick, NJ: Transaction.

Taylor, S. E., & Seeman, T. E. (1999). Psychosocial resources and the SES-health relationship. *Annals of the New York Academy of Sciences*, *896*, 210–225.

Taylor, S. E., & Stanton, A. L. (2007). Coping resources, coping processes, and mental health. *Annual Review of Clinical Psychology*, *3*, 377–401.

Thoits, P. A. (1995). Stress, coping, and social support process: Where are we? What next? *Journal of Health and Social Behavior*, *35*(Special Issue), 53–79.

Thoits, P. A. (2006). Personal agency in the stress process. *Journal of Health and Social Behavior*, *47*, 309–323.

Umberson, D., Chen, M. D., House, J. S., Hopkins, K., & Slaten, E. (1996). The effects of social relationships on psychological well-being: Are men and women really so different? *American Sociological Review*, *61*, 837–857.

Wolf, R. (2000). Introduction: The nature and scope of elder abuse. *Generations*, *24*, 6–11.

Wyandt, M. A. (2004). A review of elder abuse literature: An age old problem brought to light. *Californian Journal of Health Promotion*, *2*, 40–52.

Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*, *67*, 361–370.