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## Personality, Negative Interactions, and Mental Health

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### Abstract

Research suggests that an individual's personality traits may mediate the relationship between social support and mental health. This study uses two national data sets to test a conceptual model that integrates personality, social support, negative interactions, and psychological distress. Results suggest that, beyond the influence of personality, social support is negatively associated with psychological distress, and negative interactions are positively associated with such distress. The findings also suggest that personality has direct and indirect effects, through social support and negative interactions, on psychological distress. Findings specify how positive and negative facets of relationships and personality influence mental health outcomes.

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Research suggests that mental health is positively associated with having such social resources as a spouse, family members, and friends who provide psychological and material support (Cohen and Wills 1985; House, Umberson, and Landis 1988). However, not all social relationships are known to be positive or beneficial. Negative interactions, characterized by conflict, excessive demands, and criticism, are found to be direct sources of stress. Stress can have serious consequences for mental health. In fact, negative interactions with social network members apparently arouse more stress in individuals than do interactions with other contacts (Bolger et al. 1989; Zautra et al. 1994). Compared with other forms of stress, stress triggered by one's social network persists over a longer period of time (Bolger et al. 1989). Furthermore, negative interactions can often have harmful effects that outweigh the benefits of social support (Lincoln, Chatters, and Taylor 2003).

Research examining social support and negative interactions provides important insight into the nature of social exchange and its consequences for mental health. However, little is known about how individual dispositions, represented, for example, in personality traits, factor into the association between social relationships and mental health. Social support is primarily viewed as a form of social influence. There is increasing awareness, however, that the personality of social support recipients plays a role in social support processes (Pierce et al. 1997). Currently, researchers lack a precise understanding of how personality and social influence contribute to social support's relationship with mental health.

Social work interventions designed to augment the composition of and interactions within social networks and family systems should particularly consider the role of personality factors in one's perception of social interactions, in establishing social relationships, and in maintaining such relationships. Understanding how personality traits and social influences affect mental health is important in identifying the targets of intervention (e.g., cognitions, supportive relationships, or both). Interventions that emphasize the social aspect of social support are likely to highlight the need for increased access to supportive others. However, interventions that emphasize personality trait processes are likely to attempt to modify perceived support by changing the characteristics of support recipients (e.g., correcting cognitive distortions, providing recipients with social skills). The current investigation uses structural equation modeling and data from two national probability samples (National Comorbidity Study and Americans' Changing Lives Study) to test an integrated model that delineates how personality, social support, and negative interactions are associated with

psychological distress. Specifically, this investigation examines both the unique and mediating effects of social relationships on psychological distress after taking into account the effect of personality.

## **Social Support, Negative Interactions, and Mental Health**

Family and friends are important sources of informal support. Research consistently links both the quality and the quantity of support to a host of physical and mental health outcomes, including mortality (Berkman and Syme 1994), heart disease (Kristenson et al. 1998), and depression (Wethington and Kessler 1986; Miller et al. 2004). Research also highlights social support's restorative ability to meet basic human needs for social contact, to provide assistance, and to give affirmation. James House and colleagues (1988) summarize evidence showing that the association between health and social relationships is comparable to the relation of health to standard risk factors, including smoking, blood pressure, and physical activity. Douglas Miller and colleagues (2004) identify low levels of social support as a risk factor and find that it is the most important factor for depression among African Americans. They observe that the factor's importance persists even after adjusting for such covariates as medications, environmental factors (e.g., home and neighborhood conditions), functional status (e.g., physical disability), biomedical factors (e.g., blood pressure, weight, chronic conditions), and health service use characteristics.

A growing body of literature indicates that positive (e.g., social support) and negative (e.g., negative interactions) dimensions of social relationships are distinctive social occurrences and that negative interaction is an important predictor of psychological functioning (Lincoln, Taylor, and Chatters 2003; Lincoln et al. 2007). Most investigations indicate that, compared with social support, negative interactions are associated with a wider range of mental health outcomes overall and have greater predictive utility. For example, Ralph Swindle, Kenneth Heller, and Michael Frank (2000) find that negative aspects of the social network of HIV-infected patients (e.g., disappointment with network members, criticism, negative interactions with confidant) are associated with symptoms of alcohol abuse, severity of HIV illness, depressive symptoms, and future visits to the emergency room. They note, in contrast, that social support (e.g., positive relationship with a confidant, the number of close friends) is only associated with depressive symptoms and visits to the hospital. These studies suggest that negative interactions may be more potent than social support because negative interactions serve as direct sources of interpersonal stress, potentially leading to depression, anxiety, physical symptoms, and reductions in perceived quality of life. Other research indicates that negative interactions are indirectly associated with mental health. For example, negative interactions may hinder goal-directed activity, erode perceived self-efficacy, disrupt problem solving, pose a threat to self-esteem, and interfere with the use of resources (Lincoln, Chatters, and Taylor 2005).

## **Personality, Social Support, and Mental Health**

Studies examining the relationship between social support and mental health suggest that this association may actually be a reflection of personality traits or individual disposition (Bolger and Eckenrode 1991; Fyrand et al. 1997). That is to say, it is not entirely clear whether the observed relationship between social support and mental health reflects ongoing, dynamic processes of interpersonal exchange or whether personality traits, to some extent, act as confounders that create spurious relationships between social support and mental health.

Personality characteristics are associated with distinctive patterns of thoughts, feelings, and actions that occur in response to particular situational demands (Mischel 2004). The five-factor model, which includes extroversion, neuroticism, conscientiousness, agreeableness,

and openness to experience, reflects over 4 decades of research by academic psychologists and is perhaps the most influential model of human personality (Eysenck 1967; Gray 1970; John 1990; McCrae and Costa 1990; McCrae and John 1992; Costa and McCrae 2000). Of the several personality factors in that model, extroversion and neuroticism are studied most. These two factors are of particular interest for the current investigation because they capture the social dimension of personality. They describe individual differences in emotional response across a range of situations and may contribute to a predisposition for psychiatric disorders.

Extroverts prefer to seek and engage in social interactions (e.g., Larsen and Ketelaar 1991; McCrae and Costa 1991). They tend to be enthusiastic, talkative, assertive, and gregarious. Extroversion may also be characterized as sensitivity to positive or pleasure cues in the environment (Larsen and Ketelaar 1991; McCrae and Costa 1991). Further, research suggests that individuals who rate high on a scale for extroversion are differentially sensitive to reward cues (Pickering and Gray 2001) and may have a propensity to experience positive affect (Lucas and Diener 2001). Neuroticism is characterized by a pervasive sensitivity to negative or punishment cues in the environment (e.g., McCrae and Costa 1991; Watson and Clark 1992). Individuals who rate high on a scale for neuroticism tend to avoid social situations, are reserved or socially awkward, and prefer solitary activities to social ones. Further, they tend to have negative views of themselves and the world, regardless of the objective reality (McCrae and Costa 1991; Watson and Clark 1992).

Studies link personality and social support characteristics in such a way as to suggest that personality traits drive observed interpersonal behaviors. Extroversion is positively associated with large networks, perceptions of support availability (Russell et al. 1997), and frequent contact with family and friends (Krause, Liang, and Keith 1990). In contrast, neuroticism is linked to conflictual relationships (Berry, Willingham, and Thayer 2000), small networks (Hotard et al. 1989), perceived unavailability of support (Russell et al. 1997), and negative affect (Finch 1998).

Previous research suggests that social support's beneficial effect on mental health is affected by personality. However, findings vary. Some studies suggest that personality explains the relationship between social support and psychological distress. Others report that social support's effects on psychological distress extend beyond the influence of personality. For example, Live Fyrand and colleagues (1997) find that personality factors (i.e., extroversion and neuroticism) explain the relationships among emotional support, depression, and anxiety. They also observe that social companionship (a concept similar to social support) has both direct and indirect effects on mental health. In another study, Th. P. Suurmeijer and colleagues (2005) find that extroversion has no direct effect on depression or anxiety but that neuroticism is associated with anxiety and depression. In that study, social support (e.g., companionship) has a direct positive effect on depression but not on anxiety. Instrumental support (e.g., advice, financial aid) is positively related to depression, but satisfaction with support, a distinct dimension of social support, is negatively related to anxiety. Finally, John Finch and colleagues (1999) find that both negative interactions and perceived support are uniquely associated with depression. The associations persist beyond the effects of personality characteristics. Although they provide important information about the interplay among personality, social support, and mental health, findings from these studies are based on clinical samples (e.g., Fyrand et al. 1997; Suurmeijer et al. 2005) or data from a sample of college students (e.g., Finch et al. 1999). As a consequence, the findings cannot be extrapolated to the national experience. Moreover, few studies add the role of negative interactions to the analyses. So too, few studies in social work consider the influence of personality on social relationships and mental health. Using data from two national probability samples, the current investigation seeks to extend understanding of the

associations among social support, negative interactions, personality characteristics, and psychological distress.

The conceptual model depicted in figure 1 reflects empirical findings concerning the relationships explored above. The model posits that personality is a determinant of social relations and of psychological distress. Specifically, extroverted individuals are predicted to receive more social support, experience fewer negative interactions with network members, and have less psychological distress than do those who are neurotic. Conversely, neurotic individuals are predicted to receive less social support, experience more negative interactions within their social network, and have more psychological distress than do those who are extroverts. The model also suggests that social relationships mediate the association between personality and psychological distress. Specifically, extroverts are posited to have less psychological distress than do individuals who are neurotic. Extroverts may have more social support and fewer negative interactions within their social networks than neurotic individuals do. In contrast, neurotic individuals are posited to have more psychological distress than do those who are extroverts. This may be because neurotic people have less social support and more negative interactions within their social networks than extroverts do.

## Method

The present study uses a replicated secondary data analysis strategy. In this strategy, a single research question or structural model is examined using data from multiple sources. The strategy has some advantages. Evidence for the robustness of a particular model can be provided across different samples and different measures of particular constructs. Replicated secondary data analysis is used infrequently but successfully in studies of psychological well-being (e.g., Levin and Chatters 1998).

## Data Sources

The National Comorbidity Study (NCS), one study used here, is based on a stratified, multistage area probability sample of persons ages 15–54 years in the noninstitutionalized civilian population in the 48 contiguous states. Interviews were administered by the staff of the Survey Research Center at the University of Michigan, Ann Arbor, between September 14, 1990, and February 6, 1992. The response rate is 82.4 percent. A total of 8,098 respondents participated in the survey. The NCS was administered in two parts; part 1 was administered to all 8,098 respondents. Part 2 was administered to a subsample of 5,877 respondents. The present analyses are based on the responses of 4,523 African American and white respondents who, at the time of the survey, were between the ages of 18 and 54, participated in part 1 and part 2 of the survey, and responded to all items included in the analyses. The average age of the sample respondents is 33.64 years ( $SD = 9.82$  years). Approximately 52 percent of the respondents are women, and 88 percent are white. Approximately 52 percent of the respondents are married, and the average number of years of education is 13.31 ( $SD = 2.17$  years).

The Americans' Changing Lives Study (ACL), also used here, is a multistage stratified probability panel survey of persons who, at the time of the initial survey, were 25 years of age or older and lived in the coterminous United States. Face-to-face interviews were conducted in 1986 (wave 1). As a result, 3,617 respondents completed interviews, and the response rate was 67 percent. African Americans and persons age 60 and over were oversampled at a rate of twice that of whites under age 60. The present analyses are based on the responses of 1,174 African American and 2,323 white adults. Their average age is 53.30 years ( $SD = 17.59$  years). Approximately 63 percent of the respondents are women, and 67.1 percent are white. Approximately 45 percent of the respondents are married, and,

on average, respondents have 11.60 years of education ( $SD = 3.36$  years). Both the NCS and the ACL include weights to correct for the unequal probabilities of selection in the sample design, for nonresponse and for noncoverage. The models were estimated with weighted as well as unweighted data. However, because no major differences were observed, results presented below are based on unweighted data.

### Data Analysis Issues and Measures

All analyses are conducted using covariance matrices as input and the maximum likelihood estimator in LISREL 8.51 (Jöreskog and Sörbom 2001). On the basis of a series of preliminary confirmatory factor analyses conducted for each latent construct (see table A1 for confirmatory factor analysis results), items are selected that clearly reflect the underlying constructs included in the model. Consistent with previous research, results from several of the items for psychological distress (e.g., Krause, Herzog, and Baker 1992; Li and Ferraro 2005) and personality (Krause et al. 1990) are deleted from the analyses because these items are confounded with other model constructs.

The psychological distress construct assesses four dimensions of symptoms, including interpersonal relationships, somatic symptoms, positive affect, and negative affect. Items that reflect interpersonal relationships are deleted, as they might be confounded with social support items. An item that assesses loneliness (a negative affect item) is deleted, as it was highly correlated with the somatic factor (e.g., eating and sleeping items). As an extra precaution, modification indices, commonly used as diagnostic tools in structural equations, are consulted to identify confounding items (Kaplan 1991). Because modification indices are unreliable specification error tools, these indices are used in combination with the expected parameter change (i.e., the change in the value of the coefficient if that parameter is estimated; Kaplan 1990*a*, 1990*b*). The items remaining in the indices capture different domains of psychological distress and adequately reflect the examined personality constructs. Appendix table A1 provides information on loadings of included and excluded items.

Table 1 presents the wording of questions for the endogenous variables used to measure the constructs (i.e., constructs hypothesized to underlie observed indicators) depicted in the conceptual model. Although the particular observed indicators of each latent construct vary across the two (NCS and ACL) samples, each construct includes measures that are very consistent and that possess face validity.

In the NCS, psychological distress is measured with items that are generally included in symptoms checklists (Almeida and Kessler 1998; Kessler, Mickelson, and Williams 1999) and on standard instruments (e.g., K10 and K6; Kessler et al. 2003). Psychological distress is measured by six items that assess how often, during the 30 days before the interview, respondents reportedly blamed themselves for things, felt no interest in things, felt frightened, felt hopeless about the future, felt that everything was an effort, and felt exhausted for no good reason. Response categories range from “never” (1) to “often” (4); a high score reflects a high level of psychological distress. The social support and negative interaction items are derived from known measures of affective support (Turner, Frankel, and Levin 1983; Schuster, Kessler, and Aseltine 1990). Social support from relatives and social support from friends are measured with items that assess the extent to which respondents believe that relatives and friends, respectively, understand the way they feel, appreciate them, and can be relied on for help with serious problems. Response categories range from “not at all” (1) to “a lot” (4); high scores represent high levels of social support. Negative interactions with relatives and negative interactions with friends are measured with items that assess the frequency with which respondents’ relatives and friends, respectively, make them feel tense, criticize them, and get on their nerves. Response categories range

from “never” (1) to “often” (4); a high score represents a high frequency of negative interactions. Finally, the measures of personality are derived from the Eysenck Personality Questionnaire (Eysenck and Eysenck 1975).

Extroversion is measured in the NCS by items that assess the extent to which respondents characterize themselves as outgoing, talkative, lively, and sociable. Neuroticism is measured by items that assess the extent to which respondents characterize themselves as nervous, irritable, envious, and emotional. Response categories for both extroversion and neuroticism measures range from “not at all” (1) to “very” (4); a high score on an item represents a high level of the measured personality characteristic.

In the ACL survey, psychological distress is measured with six items taken from the Center for Epidemiological Studies Depression Scale (Radloff 1977). These items assess the frequency with which, in the week before the interview, respondents reportedly felt depressed, had restless sleep, were happy, did not feel like eating, felt sad, and could not get going. Response categories range from “hardly ever” (1) to “most of the time” (3); a high score indicates a high level of psychological distress. Social support from relatives and friends is measured with two items. One assesses the extent to which respondents’ network members reportedly make them feel loved and cared for. The other item measures the extent to which such members are willing to listen when the respondent needs to discuss worries or problems. Negative interactions with relatives and friends are measured with two items, one of which assesses the extent to which network members make too many demands on the respondent. The other item measures the extent to which members are critical of the respondent and what he or she does. Each item has five response categories, which range from “not at all” (1) to “a great deal” (5); a high score represents a high level of social support or a high level of negative interactions.

Measures of personality in the ACL are derived from the Minnesota Multiphasic Personality Inventory (Dahlstrom, Welsh, and Dahlstrom 1972). Extroversion is measured with three indicators that reflect whether respondents feel that they take the initiative to make friends, prefer to stay in the background on social occasions (reverse coded), and are mostly quiet when they are with others (reverse coded). Neuroticism is measured with responses to three questions that ask participants to indicate whether they consider their mood to go up and down, feel that they are often fed up, and regard themselves as tense or high-strung. Response categories for all items are “no” (1), “sometimes” (2), and “yes” (3); a high score represents a high level of extroversion or neuroticism.

Table 2 presents the standardized factor loadings and the measurement error estimates for each item. The factor loadings provide useful information regarding the psychometric properties of the indicators. Although no guidelines firmly establish cutoff points, researchers generally agree that items with loadings in excess of 0.40 have acceptable psychometric properties. The data in table 2 reveal that individual factor loadings are moderate to high in magnitude, ranging from 0.614 to 0.892 in the NCS and from 0.542 to 0.855 in the ACL. The chi-square test of the overall goodness-of-fit statistic, one measure of how well items relate to each other, is sensitive to sample size and, for large samples, tends to produce upward-biased chi-square values. In the case of maximum likelihood estimation, it is similarly sensitive to violations of the assumption of multivariate normality (West, Finch, and Curran 1995). Accordingly, the evaluation of model fit is based on alternative goodness-of-fit indices explored below.

The analyses use single items for each exogenous construct, and factor loadings are scaled to 1.0. Age and education are coded continuously in years across both samples, sex is scored in

a binary format (1 = male; 0 = female), and race is also a dichotomous variable (0 = white; 1 = African American), as is marital status (0 = married; 1 = other).

## Results

In order to determine how, in the absence of personality factors, social support and negative interactions influence psychological distress, analyses are conducted in two stages. Models 1a (ACL) and 1b (NCS) estimate the effects of social support and negative interactions on psychological distress. Analyses control for the estimated effects of the demographic variables. Table 3 presents an evaluation of the overall fit of model 1 in both the ACL and NCS data sets. The fit indices include the normed comparative fit index (CFI; Bentler 1990), the normed fit index (NFI; Bentler and Bonett 1980), the goodness-of-fit index (GFI), the root mean squared error of approximation (RMSEA; Browne and Cudeck 1993), and the standardized root mean square residual (SRMR; Kelloway 1998). In general, a model with a fit index greater than 0.90 on either is acceptable (e.g., Hu and Bentler 1995). A cutoff value between 0.05 and 0.08 for RMSEA and close to 0.08 for SRMR indicates adequate fit (Browne and Cudeck 1993).

The results suggest that models of social support, negative interactions, and psychological distress exhibit good fit to the data in both the NCS and ACL data sets. In the ACL data set, fit values are all within acceptable range. The fit value of the GFI is 0.961. The NFI is 0.931. The CFI value is 0.936. The RMSEA value is 0.066, and the SRMR value is 0.038. Comparable results are obtained for the model when estimated using the NCS data (GFI = 0.937, NFI = 0.919, CFI = 0.922, RMSEA = 0.063, and SRMR = 0.051).

Model 2 examines the respective influences of social support and negative interactions on psychological distress. These analyses control for the effects of the demographic factors and the influence of personality. Comparisons of these findings with the prior analyses facilitate observation of the influence of personality. Table 3 presents an evaluation of overall fit of these models. The models exhibit good fit to the data. Estimation of model 2 from the ACL data produces values that fall within the acceptable range. The GFI is 0.954, the NFI is 0.922, the CFI is 0.929, the RMSEA is 0.056, and the SRMR is 0.035. Comparable results are obtained for the model estimated using the NCS data (GFI = 0.925, NFI = 0.911, CFI = 0.916, RMSEA = 0.056, and SRMR = 0.041).

## Substantive Findings

Figures 2 and 3 present the completely standardized maximum likelihood parameter estimates for the models (model 1a for ACL and 1b for NCS data) of social support, negative interactions, and psychological distress. Findings for the ACL sample indicate that respondents who report receiving social support from members of their social network (relatives and friends) have less psychological distress compared with their ACL counterparts ( $\beta = -0.181, p < .001$ ). Conversely, ACL respondents who report experiencing negative interactions with relatives and friends have more psychological distress ( $\beta = 0.191, p < .001$ ). Similar findings are observed among participants in the NCS sample; respondents who report receiving social support from their relatives ( $\beta = -0.127, p < .001$ ) and friends ( $\beta = -0.125, p < .001$ ) have less psychological distress than their NCS counterparts do. Compared with their counterparts in the same sample, members of the NCS sample who have more negative interactions with their relatives ( $\beta = 0.159, p < .001$ ) and friends ( $\beta = 0.157, p < .001$ ) also report that they have higher levels of psychological distress.

Figures 4 and 5 and table 4 present the completely standardized maximum likelihood parameter estimates for model 2 after personality is taken into account. The data reveal several pathways whereby extroversion and neuroticism are associated with psychological

distress. The NCS estimates suggest that extroversion exerts its effect on psychological distress both directly ( $\beta = -0.113, p < .001$ ) and indirectly via social support from relatives ( $\beta = 0.127, p < .001$ ). In other words, extroverts are estimated to have low levels of psychological distress (total effect:  $\beta = -0.126, p < .001$ ). This is due, only in part, to the social support received from their relatives. Analysis of the ACL data reveals that extroversion has an indirect effect on psychological distress ( $\beta = -0.021, p < .01$ ). Specifically, extroverts report a high level of social support from network members ( $\beta = 0.177, p < .001$ ). This support, in turn, results in reductions in psychological distress ( $\beta = -0.104, p < .01$ ). However, the influence of extroversion on psychological distress is estimated to be totally mediated by social support. Thus, the total effect of extroversion on psychological distress is not statistically significant ( $\beta = -0.015, NS$ ). Extroverts also report experiencing negative interactions within their social networks ( $\beta = 0.067, p < .05$ ).

Findings also suggest that neuroticism influences psychological distress through a complex set of pathways. In the NCS, neuroticism is directly related to psychological distress ( $\beta = 0.593, p < .001$ ). It is indirectly related to distress via social support from relatives and negative interactions with friends ( $\beta = 0.427, p < .001$ ). Specifically, neurotics are estimated to have psychological distress due, in part, to receiving low levels of social support from their relatives and experiencing frequent negative interactions with their friends. As expected, individuals who have high levels of neuroticism are estimated to receive low levels of social support from friends ( $\beta = -0.214, p < .001$ ) and to experience frequent negative interactions with relatives ( $\beta = 0.351, p < .001$ ). As a result of this set of relationships, neuroticism is found to have a very strong total effect on psychological distress in the NCS sample ( $\beta = 0.639, p < .001$ ). In the ACL, neurotics are estimated to have high levels of psychological distress ( $\beta = 0.704, p < .001$ ). Respondents who have high scores on a scale of neuroticism also are estimated to receive low levels of social support ( $\beta = -0.158, p < .001$ ), as well as to experience a high frequency of negative interactions with their relatives and friends ( $\beta = 0.340, p < .001$ ).

Findings from the NCS data indicate that respondents who report receiving social support from their relatives have low levels of psychological distress ( $\beta = -0.063, p < .01$ ), whereas respondents who report experiencing negative interactions with their friends have high levels of psychological distress ( $\beta = 0.054, p < .05$ ). Findings from the ACL data indicate that if analyses control for the effects of personality, respondents who report receiving social support from their social networks have low levels of psychological distress ( $\beta = -0.104, p < .01$ ). In the ACL data, negative interactions with relatives and friends are not statistically significantly related to psychological distress.

### Alternative Models

Alternative models are tested to determine whether observed relationships reflect similarity among items that comprise the primary constructs in the proposed model (e.g., personality, social support, negative interactions, and psychological distress). The first alternative model combines neuroticism and psychological distress items into one construct to determine whether the two constructs represent one negative domain. This model is reestimated using both NCS and ACL data. The results (e.g., factor loadings, goodness-of-fit summaries) indicate that the fit of the model to the data is not adequate. A second alternative model combines items for neuroticism, negative interactions, and psychological distress into one construct and extroversion and social support into a second construct. This model is estimated in order to determine whether the combined constructs represent positive and negative domains. Again, results produce inadequate factor loadings and fit statistics. The tests of alternative models provide additional support for the findings that the initially proposed constructs and the observed relationships are reliable.

## Discussion

This investigation formally evaluates the plausibility of an integrated model of personality, social support, negative interactions, and psychological distress. To do so, it investigates the link between social relationships and psychological distress. It also assesses the role of personality in predicting distress directly and indirectly.

### Social Support and Negative Interactions as Correlates of Psychological Distress

Findings suggest that both social support and negative interactions have statistically significant and unique associations with psychological distress, even after analyses control for the influence of personality. In the NCS, individuals who received social support from their relatives are found to have low levels of psychological distress. This finding persists beyond the influence of personality. Conversely, persons who experienced negative interactions with their friends are found to have high levels of psychological distress. Findings from the ACL data confirm that social support from relatives and friends is negatively associated with distress. Despite differences across data sets, the current findings are consistent with those of other studies in identifying social support and negative interactions as unique correlates of psychological outcomes (e.g., Finch et al. 1999; Lincoln et al. 2003; Lincoln et al. 2007).

The current findings may also suggest that the respective influences of social support and negative interactions on psychological distress depend, in part, on the specific network under consideration. In the NCS analysis, social support from relatives is estimated to reduce distress, but distress is unaffected by social support from friends. However, negative interactions with friends are estimated to increase levels of distress, whereas negative interactions with relatives do not. The literature suggests that both family and friends represent important components of one's social network, providing different types of social relationships and interactions. For instance, family members are often identified as close and intimate members of a person's network (Antonucci and Akiyama 1991) who provide long-term support and important resources (Connidis and Davies 1990). Friends, in contrast, provide companionship, short-term support, problem solving, and valued personal interactions that involve acceptance, understanding, enjoyment, and spontaneity (Davis and Todd 1985). The social relationships that characterize interactions with family and friends may lead to differences in the types and tenor of support exchanged. Those relationships may also lead to differences in the mental health outcomes of respondents.

### Personality as a Correlate of Social Relations

In the analysis, extroversion and neuroticism emerge as important correlates of social relations. Extroverts are estimated to receive high levels of social support from their relatives and friends. Estimates from the ACL data suggest that extroverts also report experiencing negative interactions with their relatives and friends. This particular finding is not supported in the NCS sample and may be influenced by the different network compositions and age groups of the samples. However, this finding is consistent with research suggesting that extroverts tend to have sizable networks (Russell et al. 1997) and frequent contact with network members (Krause et al. 1990). Perhaps their social nature, along with their desire for interaction, increases their exposure to both negative and supportive encounters with network members.

Neuroticism is an important predictor of social relations. Persons who score high on a neuroticism scale report frequent negative interactions with their relatives and friends, as well as low levels of social support. The influence of neuroticism is particularly strong and consistent across both data sets, identifying it as a much more powerful predictor of social

relations and psychological distress than extroversion is. Results from the current investigation indicate that extroversion and neuroticism influence psychological distress both directly and indirectly via social support and negative interactions. The indirect effect of extroversion on psychological distress suggests that extroverts enjoy good mental health partly because of the perception that their social relationships are supportive. The indirect effect of neuroticism on psychological distress suggests that being neurotic may color one's perceptions of relations with network members as negative, resulting in more negative and fewer supportive interactions with network members. The inclusion of two dimensions of personality provides important insights into the various pathways whereby individual disposition explains the relationship between social relations and mental health.

## Conclusion and Implications for Practice

Research on social support increasingly aims to develop interventions. Before one attempts to augment natural support systems, it is important to understand the full range of ways in which social relationships can affect health and well-being. In some situations, social networks can have preventive and health-promoting functions by providing members with positive feedback and guidance, as well as by helping members to engage in appropriate coping behaviors. In other situations, however, social support may not materialize, networks may become overtaxed, conflict may grow, and hostility may arise. A social network assessment is a crucial beginning for social workers interested in protecting and promoting health by mobilizing social support. Part of a comprehensive assessment is recognizing that primary relationships within an individual's social network can, at different times and under different conditions, be sources of both help and stress.

Findings from the current study offer social workers insight into the complex interplay among personality, social relationships, and psychological distress. Clearly, personality influences one's perception of relationships and interactions with others. Focusing solely on changing the nature of relationships within social networks, without considering the predisposition of the client, may hinder the intended effects of the intervention. Findings from the current study suggest that extroverted individuals, who are social and thus deliberate in seeking out opportunities to socialize, may require an intervention approach that differs from the approach used with neurotic individuals. For example, it may be important to help an extrovert to gain discernment in choosing sources for social support. By contrast, a neurotic person may benefit from interventions that help change his or her perception of relationships. Also useful are interventions that focus on improving the quality of clients' relationships with friends and family members. Specifically, important interventions might include limiting exposure to negative exchanges and facilitating the development of social skills that help individuals deal with interpersonal problems.

Findings from this investigation should be considered within the context of the study's strengths and limitations. First, the cross-sectional nature of the data limits the ability to determine the temporal order of the constructs included in the model. For example, the model suggests that social relations precede psychological distress. One could argue that psychological distress may incline those suffering from it to perceive their interactions with network members as negative and may therefore lead these individuals to discourage potential support from family members and friends by disengaging from their social networks. The temporal ordering of the proposed model is based on longitudinal studies indicating that social support at one point in time predicts mental health outcomes at a later point in time (Vinokur and Van Ryn 1993). However, the overall goal of this investigation is not to establish causal relationships but rather to highlight a set of relationships that provide some insight into the mechanisms whereby personality and social relationships influence

mental health. An appropriate next step would be to use longitudinal data to investigate causality.

Second, only two types of personality characteristics are assessed. The influence of personality on negative interactions and psychological distress has received little attention, and it is possible that other personality dimensions also contribute to the observed relationships (e.g., Finch and Graziano 2001). For example, compared with neurotics, individuals with high scores on a scale of agreeableness are likely to interpret interactions as less confrontational and to perceive their networks as supportive (Graziano and Eisenberg 1997). Agreeableness may therefore be linked to both social support and negative interactions. Future research might examine how other personality traits are associated with distress. Future studies should also examine other types of supportive relationships. This study focuses on emotional transactions within social networks, but network members may perform a range of supportive functions, including instrumental and informational types of assistance. Other types of supportive or unsupportive transactions may be differentially associated with personality traits and psychological distress.

Finally, although the current results support the proposed relationships, the findings are not entirely consistent across both samples. For example, extroversion is estimated to have both direct and indirect effects (via social support from relatives) on psychological distress in the NCS data but to have only mediated effects on distress in the ACL sample. One explanation for this may be that the two samples differ (e.g., the ACL has more African American respondents and more older respondents than the NCS does). It may also be that the data sets measure network transactions differently; the ACL combines relatives and friends, but the NCS assesses them separately. These measurement factors may explain why the samples differ in the relationships among social support, negative interactions, and psychological distress. Future investigations should explore these issues.

The findings highlight the importance of considering both the benefits and costs of social relationships when examining the connections between social support and mental health. Further, individual disposition (in the form of personality factors) clearly plays an important role in how social relations are perceived, experienced, and manifested. Although findings from the current study suggest that personality characteristics help explain the association between social relationships and mental health, much remains to be learned about this relationship. Important contributions can be made by future investigations that are based on theoretically derived causal models and that examine these relationships in a rigorous, systematic manner.

## Appendix

**Table A1**

Factor Loadings and Fit Statistics for Construct Items

Item Description	Factor Loadings	Error Terms
Americans' Changing Lives Study:		
Extroversion: <sup>a</sup>		
Are you a talkative person?	.635	.440
Do you take the initiative in making new friends?	.467	.438
Do you tend to keep in the background on social occasions?	.552	.471
Are you quiet when you are with other people?	.729	.436
Neuroticism: <sup>a</sup>		

Item Description	Factor Loadings	Error Terms
Would you call yourself a nervous person?	.627	.379
Are you a worrier?	.613	.432
Does your mood go up and down?	.534	.432
Do you often feel fed up?	.515	.384
Would you call yourself tense or high strung?	.559	.417
Psychological distress: <sup>b</sup>		
In the week before the interview:		
I felt depressed	.717	.192
Everything was an effort	.509	.263
People understood me	.284	.236
My sleep was restless	.475	.259
I was happy	.556	.217
I felt lonely	.670	.193
People were unfriendly	.450	.143
I felt that no one knows me	.523	.202
I enjoyed life	.508	.181
I did not feel like eating	.458	.186
I felt sad	.737	.184
I felt that people dislike me	.497	.113
I could not get going	.524	.198
National Comorbidity Study:		
Extroversion: <sup>c</sup>		
In general, how much are you:		
Outgoing?	.989	5.224
Self-confident?	.983	5.291
Talkative?	.983	5.175
Lively?	.988	5.281
Sociable?	.985	5.305
Neuroticism: <sup>c</sup>		
In general, how much are you:		
Tense?	.983	4.177
Nervous?	.982	4.004
Temperamental?	.976	4.047
Irritable?	.983	3.898
Envious?	.972	3.529
Unstable?	.978	3.090
Discontented?	.975	3.409
Insecure?	.975	3.554
Emotional?	.972	4.408
High strung?	.969	3.803
Psychological distress: <sup>d</sup>		
During the 30 days before the interview, how often did you:		

Item Description	Factor Loadings	Error Terms
Feel trapped or caught?	.974	3.229
Feel suddenly scared for no reason?	.981	2.842
Blame yourself for things?	.974	3.595
Feel lonely?	.975	3.694
Worry too much about things?	.981	3.787
Feel no interest in things?	.975	4.486
Feel frightened?	.981	3.322
Feel hopeless about the future?	.982	3.143
Have trouble concentrating?	.980	3.243
Feel tense or keyed up?	.978	3.614
Feel that everything was an effort?	.975	4.105
Feel worthless?	.974	3.685

Note.—CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual.

<sup>a</sup> $\chi^2(26, 3,617) = 363.894$ ; CFI = .937; RMSEA = .060; SRMR = .039.

<sup>b</sup> $\chi^2(26, 3,617) = 1,915.346$ ; CFI = .846; RMSEA = .089; SRMR = .060.

<sup>c</sup> $\chi^2(89, 7,095) = 5,043.630$ ; CFI = .983; RMSEA = .089; SRMR = .004.

<sup>d</sup> $\chi^2(54, 7,095) = 3,415.410$ ; CFI = .985; RMSEA = .094; SRMR = .004.

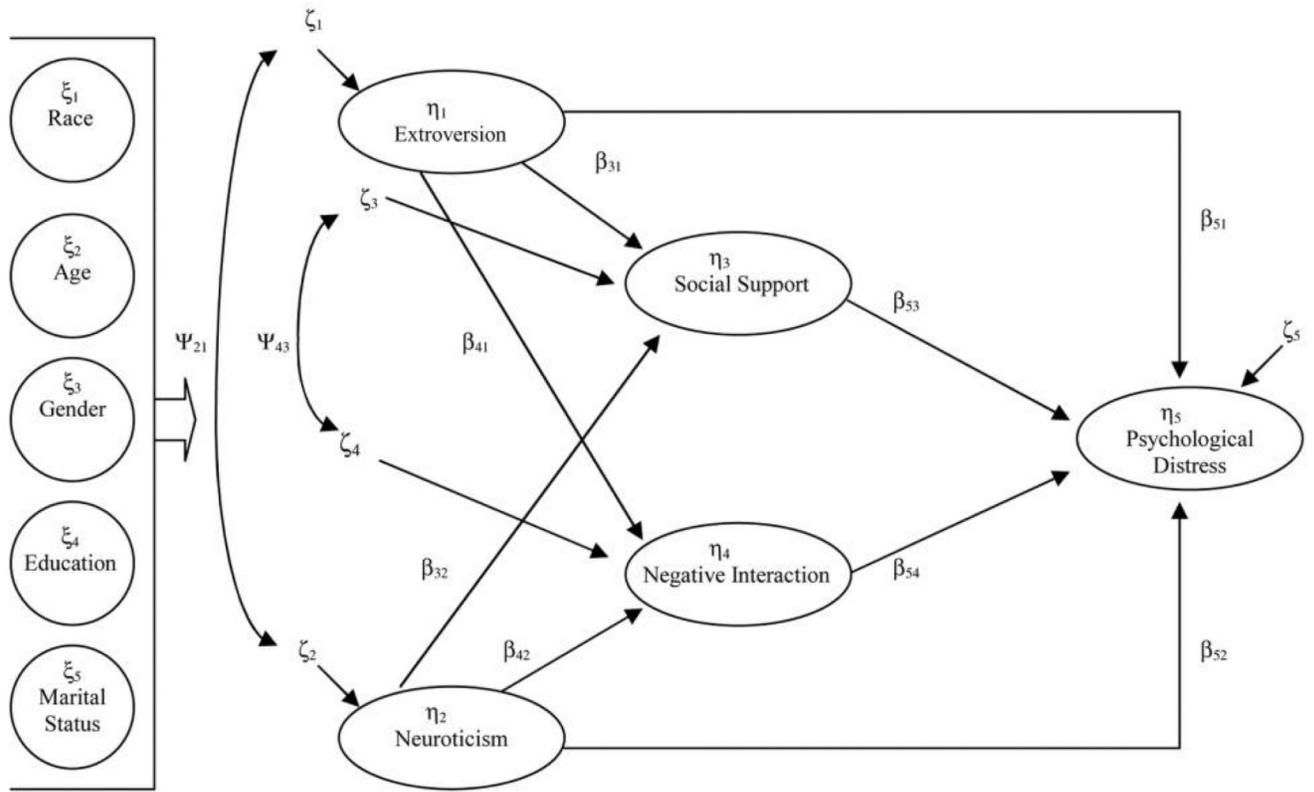
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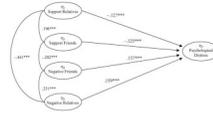
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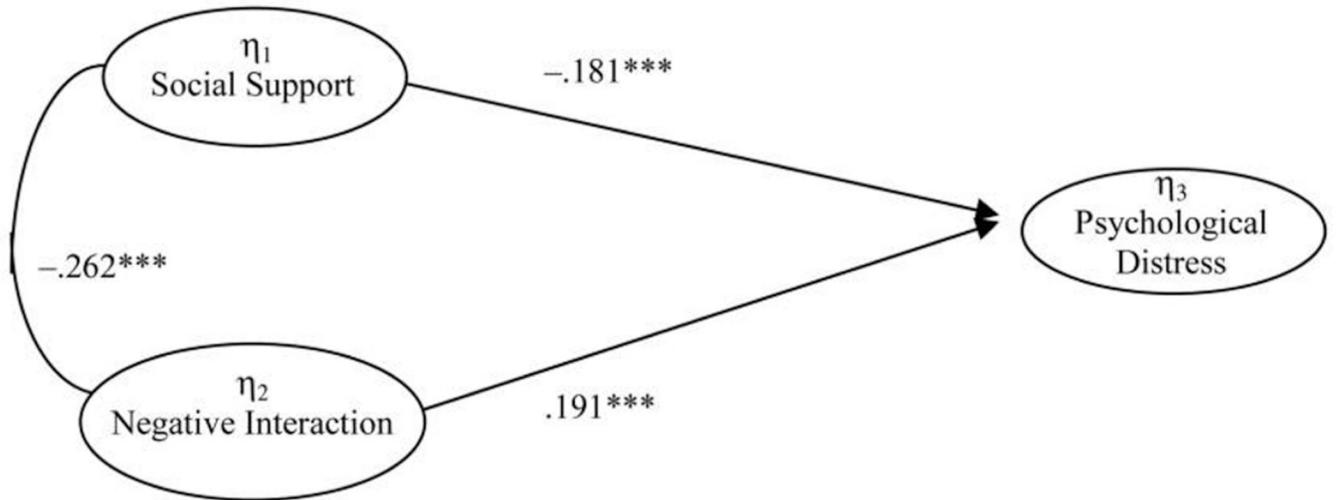
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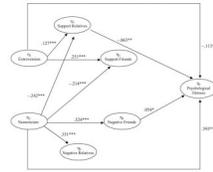
**Fig. 1.** Conceptual model of personality, social support, negative interactions, and psychological distress



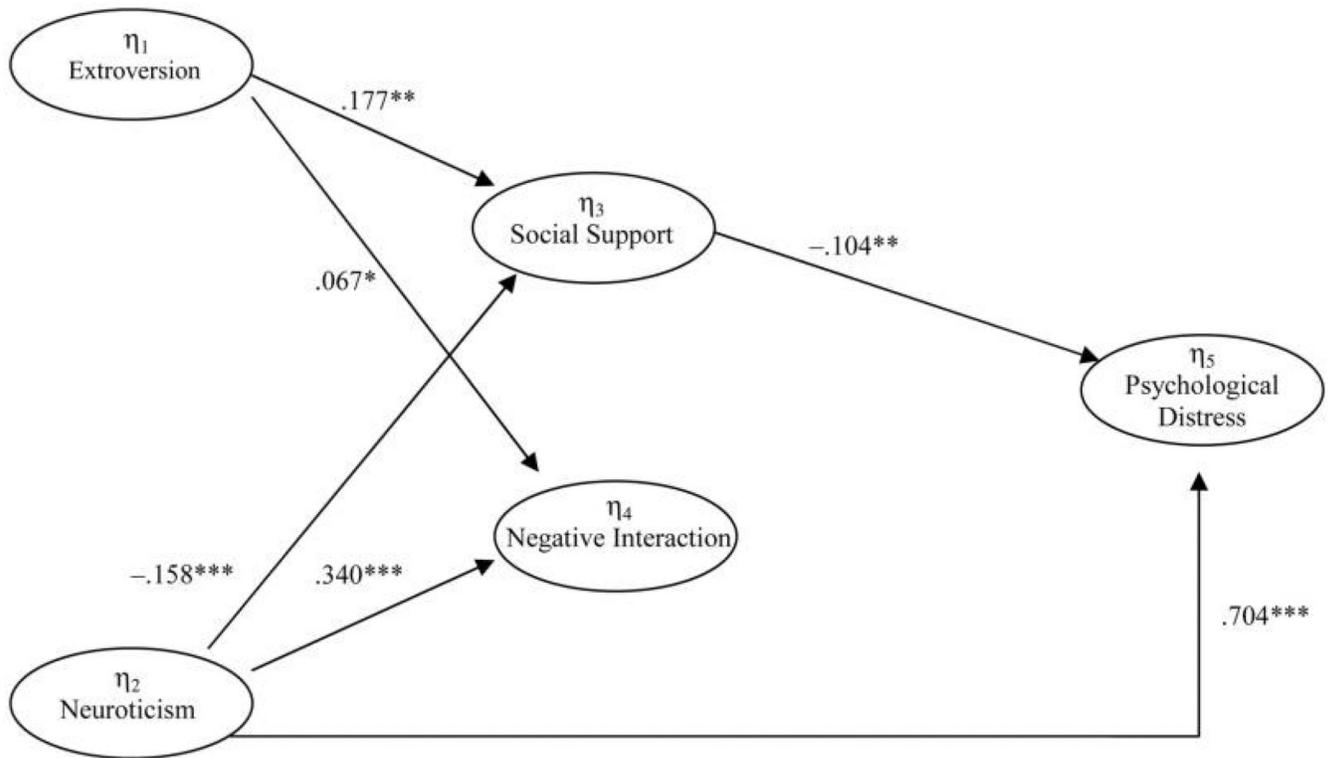
**Fig. 2.** Estimated model of social support, negative interactions, and psychological distress: National Comorbidity Study (model 1b). \*\*\* $p < .001$ .



**Fig. 3.** Estimated model of social support, negative interactions, and psychological distress: Americans' Changing Lives Study (model 1a).  $***p < .001$ .



**Fig. 4.** Estimated model of personality, social support, negative interactions, and psychological distress: National Comorbidity Study (model 2). \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .



**Fig. 5.** Estimated model of personality, social support, negative interactions, and psychological distress: Americans' Changing Lives Study (model 2).  $*p < .05$ ;  $**p < .01$ ;  $***p < .001$ .

**Table 1**

## Description of Measures

Item Wording (Construct)	Scoring
National Comorbidity Study:	
Extroversion ( $\eta_1$ ):	Very (4), somewhat (3), a little (2), not at all (1)
In general, how much are you:	
Outgoing?	
Talkative?	
Lively?	
Sociable?	
Neuroticism ( $\eta_2$ ):	Very (4), somewhat (3), a little (2), not at all (1)
In general, how much are you:	
Nervous?	
Irritable?	
Envious?	
Emotional?	
Social support from relatives ( $\eta_3$ ):	A lot (4), some (3), a little (2), not at all (1)
How much do they understand the way you feel about things?	
How much do they appreciate you?	
How much can you rely on them for help if you have a serious problem?	
Negative interactions with relatives ( $\eta_4$ ):	Often (4), sometimes (3), rarely (2), never (1)
How often do they make you feel tense?	
How often do they criticize you?	
How often do they get on your nerves?	
Social support from friends ( $\eta_5$ ):	A lot (4), some (3), a little (2), not at all (1)
How much do they understand the way you feel about things?	
How much do they appreciate you?	
How much can you rely on them for help if you have a serious problem?	
Negative interactions with friends ( $\eta_6$ ):	Often (4), sometimes (3), rarely (2), never (1)
How often do they make you feel tense?	
How often do they criticize you?	
How often do they get on your nerves?	
Psychological distress ( $\eta_7$ ):	
During the 30 days before the interview, how often did you:	Often (4), sometimes (3), rarely (2), never (1)
Blame yourself for things?	
Feel no interest in things?	
Feel frightened?	
Feel hopeless about the future?	

Item Wording (Construct)	Scoring
Feel that everything was an effort?	
Feel exhausted for no good reason?	
Americans' Changing Lives Study:	
Extroversion ( $\eta_1$ ):	Yes (3), sometimes (2), no (1)
Do you usually take the initiative in making new friends?	
Do you tend to keep in the background on social occasions?	
Are you quiet when you are with other people?	
Neuroticism ( $\eta_2$ ):	Yes (3), sometimes (2), no (1)
Does your mood go up and down?	
Do you often feel fed up?	
Would you call yourself tense or high strung?	
Social support from relatives and friends ( $\eta_3$ ):	A great deal (5), quite a bit (4), some (3), a little (2), not at all (1)
On the whole, how much do your friends and other relatives make you feel loved and cared for?	
How much are these friends and relatives willing to listen when you need to talk about your worries or problems?	
Negative interactions with relatives and friends: ( $\eta_4$ ):	A great deal (5), quite a bit (4), some (3), a little (2), not at all (1)
On average, how much do you feel your friends and other relatives make too many demands on you?	
How much are they critical of you or what you do?	
Psychological distress ( $\eta_5$ ):	Most of the time (3), some of the time (2), hardly ever (1)
In the week before the interview:	
I felt depressed	
My sleep was restless	
I was happy	
I did not feel like eating	
I felt sad	
I could not get going	

Table 2

## Factor Loadings of Observed Indicators

Item Description	Factor Loadings <sup>a</sup>	Error Terms
National Comorbidity Study:		
Extroversion ( $\eta_1$ ):		
Outgoing	.786	.382
Talkative	.765	.416
Lively	.844	.287
Sociable	.825	.320
Neuroticism ( $\eta_2$ ):		
Nervous	.758	.426
Irritable	.746	.444
Envious	.638	.593
Emotional	.626	.608
Social support from relatives ( $\eta_3$ ):		
They understand the way respondent feels	.804	.353
They appreciate respondent	.892	.205
Respondent can rely on them for help	.798	.364
Negative interactions with relatives ( $\eta_4$ ):		
They make respondent feel tense	.795	.368
They criticize respondent	.664	.559
They get on respondent's nerves	.805	.351
Social support from friends ( $\eta_5$ ):		
They understand the way respondent feels	.845	.285
They appreciate respondent	.878	.229
Respondent can rely on them for help	.784	.385
Negative interactions with friends ( $\eta_6$ ):		
They make respondent feel tense	.752	.435
They criticize respondent	.614	.623
They get on respondent's nerves	.747	.443
Psychological distress ( $\eta_7$ ):		
Blames self	.670	.551
Has no interest in things	.814	.337
Is frightened	.762	.419
Is hopeless about the future	.831	.309
Feels that everything is an effort	.763	.419
Feels exhausted for no reason	.762	.419
Americans' Changing Lives:		
Extroversion ( $\eta_1$ ):		
Initiates making friends	.560	.686
Keeps in background on social occasions	.764	.417
Is quiet with other people	.784	.385

Item Description	Factor Loadings <sup>a</sup>	Error Terms
Neuroticism ( $\eta_2$ ):		
Mood goes up and down	.719	.484
Feels fed up	.739	.454
Feels tense or high strung	.572	.672
Social support from relatives and friends ( $\eta_3$ ):		
Feels loved and cared for	.819	.330
They are willing to listen to problems	.771	.406
Negative interactions with relatives and friends ( $\eta_4$ ):		
They make too many demands	.723	.477
They are critical	.776	.397
Psychological distress ( $\eta_5$ ):		
Felt depressed	.855	.270
Sleep was restless	.544	.704
Was happy	.676	.543
Did not feel like eating	.542	.707
Felt sad	.846	.285
Could not get going	.612	.625

<sup>a</sup>Standardized factor loadings; the first item was constrained to 1.0 in the metric solution.

**Table 3**

## Overall Fit of Proposed Models

Fit Indices	Model 1		Model 2	
	NCS ( <i>N</i> = 4,684)	ACL ( <i>N</i> = 3,329)	NCS ( <i>N</i> = 4,588)	ACL ( <i>N</i> = 3,253)
$\chi^2$	3,648.549	1,024.451	5,738.332	1,654.960
df	186	67	369	149
<i>p</i>	.000	.000	.000	.000
$\chi^2/df$	19.616	15.290	15.551	11.107
GFI	.937	.961	.925	.954
NFI	.919	.931	.911	.922
CFI	.922	.936	.916	.929
RMSEA	.063	.066	.056	.056
SRMR	.051	.038	.041	.035

Note.—NCS = National Comorbidity Study; ACL = Americans' Changing Lives Study; GFI = goodness-of-fit index; NFI = normed fit index; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual.

Model 1 presents fit values for the measures of social support, negative interactions, and psychological distress. Model 2 presents fit values for the measures of personality, social support, negative interactions, and psychological distress.

Table 4

## Decomposition Effects

Independent Variable on Dependent Variable	Causal Effects		
	Direct	Indirect	Total (Direct + Indirect)
National Comorbidity Study:			
Extroversion ( $\eta_1$ ) on:			
Support from relatives ( $\eta_3$ )	.127***	.000	.127***
Negative interactions with relatives ( $\eta_4$ )	-.025	.000	-.025
Support from friends ( $\eta_5$ )	.251***	.000	.251***
Negative interactions with friends ( $\eta_6$ )	-.026	.000	-.026
Psychological distress ( $\eta_7$ )	-.113***	-.014*	-.126***
Neuroticism ( $\eta_2$ ) on:			
Support from relatives ( $\eta_3$ )	-.242***	.000	-.242***
Negative interactions with relatives ( $\eta_4$ )	.351***	.000	.351***
Support from friends ( $\eta_5$ )	-.214***	.000	-.214***
Negative interactions with friends ( $\eta_6$ )	.324***	.000	.324***
Psychological distress ( $\eta_7$ )	.593***	.047***	.639***
Support from relatives ( $\eta_3$ ) on psychological distress ( $\eta_7$ )	-.063**	.000	-.063*
Negative interactions with relatives ( $\eta_4$ ) on psychological distress ( $\eta_7$ )	.031	.000	.031
Support from friends ( $\eta_5$ ) on psychological distress ( $\eta_7$ )	-.014	.000	-.014
Negative interactions with friends ( $\eta_6$ ) on psychological distress ( $\eta_7$ )	.054*	.000	.054*
Americans' Changing Lives Study:			
Extroversion ( $\eta_1$ ) on:			
Social support from relatives and friends ( $\eta_3$ )	.177***	.000	.177***
Negative interactions with relatives and friends ( $\eta_4$ )	.067*	.000	.067*
Psychological distress ( $\eta_5$ )	.006	-.021**	-.015
Neuroticism ( $\eta_2$ ) on:			
Social support with relatives and friends ( $\eta_3$ )	-.158***	.000	-.158***
Negative interactions with relatives and friends ( $\eta_4$ )	.340***	.000	.340***
Psychological distress ( $\eta_5$ )	.704***	.005	.708***
Social support from relatives and friends ( $\eta_3$ ) on psychological distress ( $\eta_5$ )	-.104**	.000	-.104**
Negative interactions with relatives and friends ( $\eta_4$ ) on psychological distress ( $\eta_5$ )	-.035	.000	-.035

Note.—Standardized regression coefficients were used.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .