Running Head: Receipt of Unsolicited Job Leads and Depression

Does Receiving Unsolicited Support Help or Hurt?

Receipt of Unsolicited Job Leads and Depression[*]

Lijun Song

Department of Sociology

Center for Medicine, Health, and Society

Vanderbilt University

Wenhong Chen

Department of Radio-Television-Film

University of Texas at Austin

Song, Lijun and Wenhong Chen. 2014. "Does Receiving Unsolicited Support Help or Hurt? Receipt of Unsolicited Job Leads and Depression." *Journal of Health and Social Behavior* 55(2): 144-60.

---

[*] Direct correspondence to Lijun Song, Department of Sociology, Vanderbilt University, PMB 351811, Nashville TN 37235-1811 (Lijun.song@vanderbilt.edu). Telephone: (001) 615-322-1731; Fax: (001) 615-322-7505. An earlier version of this article was presented at the Annual Meeting of ASA in Denver, 2012 and the 13th International Conference on Social Stress Research in Dublin, Ireland 2012. Data used in this article were drawn from the thematic research project "Social Capital: Its Origins and Consequences," sponsored by Academia Sinica, Taiwan, through its Research Center for Humanities and Social Sciences, the Institute of Sociology, and Duke University. The principal investigators of the project are Nan Lin, Yang-Chih Fu, and Chih-Jou Jay Chen. The authors are indebted to Nan Lin, R. Jay Turner, and anonymous reviewers for their helpful comments and Katherine Tracy Everhart and Peter S. Vielehr for their research assistance.

Does Receiving Unsolicited Support Help or Hurt?

Receipt of Unsolicited Job Leads and Depression

Abstract

Does receiving unsolicited support protect or hurt health? This study focuses on receipt of unsolicited job leads, and examines opposite hypotheses on its main and interaction effects with economic strain (lack of full-time employment and the duration of lack of full-time employment) and financial dissatisfaction on depression using nationally representative data of U.S. working-age adults. The distress-reducing perspective expects its main effect to be negative, but the distress-inducing perspective predicts the opposite. The need contingency argument anticipates the two competing perspectives—distress reducing and distress inducing— to have stronger explanatory power respectively for adults with more economic strain and financial dissatisfaction and those with less economic strain and financial dissatisfaction. Results are consistent with the distress-inducing perspective and the need contingency argument. The findings indicate that receipt of unsolicited job leads plays a deleterious role for mental health and that role varies by the need for job leads.

Key Words: social support, unsolicited support, unsolicited job leads, depression

Does Receiving Unsolicited Support Help or Hurt?

Receipt of Unsolicited Job Leads and Depression

Since the seminal work of Caplan (1974), Cassel (1974, 1976), and Cobb (1976), social support—aid flowing through social ties—in its various dimensions and forms has stimulated a bulk of research for almost four decades, and developed into a core theoretical tool in the health sciences (for reviews see Berkman 1984; Berkman et al. 2000; Faber and Wasserman 2002; House, Umberson, and Landis 1988; Kessler, Price, and Wortman 1985; Pearlin 1989; Song, Son and Lin 2011; Thoits 1995, 2011; Turner and Brown 2010; Turner and Turner 2013; Uchino 2006, 2009). One of the most examined forms of social support is received or enacted support, that is, actual receipt of aid (Tardy 1985; Wethington and Kessler 1986). Despite the voluminous research on received support, there is one persistent puzzle concerning its discrepant effects on recipients' health: sometimes null, sometimes modestly protective, and often detrimental (for reviews see Barrera 1986, 2000; Bolger and Amarel 2007; Deelstra et al. 2003; Thoits 2011; Turner and Turner 2013; Uchino 2004, 2009).

One ubiquitous subtype of received support, unsolicited support—help passively obtained without asking—has long and repeatedly been recognized as an important direction for us to deeply understand and dissolve the aforementioned enduring puzzle (Barrera 1986; Eckenrode and Wethington 1990; Pearlin and McCall 1990; Thoits 1995). Despite its potential theoretical utility and its prevalence in ordinary social life, unsolicited support has been given very limited theoretical and empirical attention for its health implications for recipients. Available theoretical arguments are discrepant and incomplete (Bolger and Amarel 2007; Deelstra et al. 2003; Eckenrode and Wethington 1990; Thoits 2011). Existing empirical studies are conducted in

experimental settings, and their results have limited generalization (Bolger and Amarel 2007; Deelstra et al. 2003).

This present study centers on one typical form of unsolicited support: unsolicited job leads. Applying three theoretical approaches (distress reducing, distress inducing, and need contingency) and using unique nationally representative data of U.S. working-age adults, this study systematically investigates the main effect of receiving unsolicited job leads on depression and its interaction effects with economic strain (lack of full-time employment and its duration) and financial dissatisfaction. Job leads refer to information about job openings and opportunities. Unsolicited job leads offered by social contacts have long been highlighted as one crucial type of received informational support in the life domain of employment and work, "the most structured and organized aspect of most adults' lives" (Granovetter [1974] 1995; House 1981:8, 25). Their ubiquity in routine social interaction and their decisive aiding roles in recipients' job attainment and mobility have been well and vividly documented, quantitatively and qualitatively, by scholars of economic sociology and social stratification (Granovetter [1974] 1995; Lin 2000; Lin and Ao 2008; Marsden and Gorman 2001; McDonald 2010; McDonald and Day 2010; McDonald and Elder 2006). Their impact on recipients' health, however, remains unexamined.

LITERATURE REVIEW: RECEIVED SUPPORT, UNSOLICITED SUPPORT, UNSOLICITED JOB LEADS, AND HEALTH

Social support is a multidimensional construct (Cohen, Underwood, and Gottlieb 2000; House 1981; Song et al. 2011; Tardy 1985). In terms of its actuality or potentiality (Caplan 1979; House 1981), social support can be categorized into received support and perceived support (i.e., perception of aid availability) (Tardy 1985; Wethington and Kessler 1986). Decades of prior

research has pointed to one continual puzzle pertaining to received support. In comparison with perceived support exerting consistent salubrious impacts on various health outcomes, received support sometimes has weak protective effects, sometimes null effects, but more often adverse effects on both physical and mental health conditions (for reviews see Barrera 1986, 2000; Bolger and Amarel 2007; Turner and Turner 2013; Uchino 2004, 2009).

The typological strategy can help understand the discrepant health effects of received support. Received support per se is multidimensional, and can be further classified into different subtypes. Its overall mixed health impacts can be produced by the divergent health consequences of its subtypes. This present study is concerned with one long-proposed but little-examined typological strategy: differentiation between solicited (sought and obtained) and unsolicited received support based on who—the recipient or the provider—initiates the support transaction. Barrera (1986) first proposes the separation between solicitation of aid and passive help receipt as one necessary direction to clarify the puzzling distressful effect of received support. In their qualitative study on marital support activation, Pearlin and McCall (1990:59) note that "support is a built-in feature of ongoing social relationships that support may often be received without a deliberate effort either to seek it or to give it." Eckenrode and Wethington (1990:91) point out that "solicited and unsolicited support comprise the domain of support mobilization," and call for researchers' appreciation of unsolicited support. Based on her thorough literature review, Thoits (1995:66) calls for research on whether the utility of received support for health is contingent on "who marshalls support" "—the receiver or the donor.

Unsolicited support is the focus of this present study. It is prevalent in daily social interaction. In the study of Smith and Goodnow (1999), for example, adults receive on average 16 forms of unsolicited support. In the study of Chentsova-Dutton (2012), respectively 44 and 46

percent of the last received support from family members and friends are unsolicited. However, only several theoretical efforts have touched on the main effect of unsolicited support on recipients' health (Bolger and Amarel 2007; Deelstra et al. 2003; Eckenrode and Wethington 1990; Thoits 2011). They propose contradictory arguments with emphasis on different mechanisms. Eckenrode and Wethington (1990) emphasize the salutary effect of unsolicited support through protecting self-concept under the condition of its being wanted, correctly guided, and appropriately carried. Thoits (2011) argues for its protective effect through reinforced perceived support. In contrast, Bolger and Amarel (2007) highlight its emotional costs in terms of elicited sense of inefficacy and tendency for upward social comparison. Deelstra et al. (2003) argue for its deleterious effect in terms of self-esteem threat.

Only two empirical studies have examined the main impact of unsolicited support on recipients' health (Bolger and Amarel 2007; Deelstra et al. 2003). Both of them are experimental in design and find evidence for the destructive effect of unsolicited support. In the experiment of Deelstra et al. (2003), participants (i.e., administrative assistants) volunteer to accomplish two tasks and a confederate peer offers unsolicited instrumental support or no support. Results show that receipt of unsolicited instrumental support elicits negative psychological reactions (i.e., depressed, melancholic, unhappy, anxious, worried, and tense), negative physiological reactions (increased heart rate and decreased respiratory sinus arrhythmia), and lower competence-based self-esteem. Bolger and Amarel (2007) conduct three experiments, in which participants (i.e., college students) are led to expect a stressful speech task and a confederate peer provides visible (i.e., recognized by recipients) or invisible unsolicited informational and emotional support, or no support. They find that invisible unsolicited support is associated with smaller rise in distress

than visible or no support, and that these effects are partially mediated by providers' indicating inefficacy about recipients.

Additionally, the health effect of unsolicited support can vary by recipients' actual situation. Deelstra et al. (2003) propose a need contingency argument that unsolicited support can be less detrimental for recipients with more need for support. Results from their aforementioned experiment support that argument. Receiving unsolicited instrumental support elicits more negative psychological and physiological reactions when individuals have less or no need for support. Also recipients perceive that support as more inappropriate and support providers as less sympathetic when they have less or no need for support.

In summary, although repeatedly recognized for its ubiquity in routine social networking and questioned for its influence on the efficacy of received support, unsolicited support has received little theoretical and empirical investigation for its impact on recipients' health. Available theoretical arguments are sparse and insufficient. More specific and systematic theoretical analysis is needed. Apart from its destructive effect, the protective impact of unsolicited support may also be contingent on recipients' need. Prior empirical studies find evidence that receipt of unsolicited support induces physical and mental health problems, and those effects are weakened by the need for support. But these results are from experimental studies, and have limited generalization.

The purpose of this present study is to center on receipt of unsolicited job leads and systematically analyze its main and interaction effects with economic strain and financial dissatisfaction on depression using nationally representative data of U.S. working-age adults. This study synthesizes two competing perspectives—distress reducing and distress inducing—based on the prior health research on received support and unsolicited support, and apply them to

the main effect of receiving unsolicited job leads. Also it develops the need contingency argument for the interaction effects from both of those two perspectives.

As introduced earlier, unsolicited job leads provided by one's social network members represent one distinctive form of received informational support that acts as one dominant way of getting and changing jobs (Granovetter [1974] 1995; House 1981; Lin and Ao 2008; Marsden and Gorman 2001; McDonald and Elder 2006; McDonald and Day 2010). Unsolicited job leads flowing from social contacts are as equally important for job search and mobility as solicited ones, if not more so. They are often provided not only to job searchers but also to employed and unemployed non-searchers who are not actively engaged in a job search (Granovetter [1974] 1995; McDonald 2010). They are thus highlighted as one main exemplar of "the invisible hand of social capital" (Lin 2000:791). Despite their prevalence in routine social interaction and significance for working life, "the largest slice of life for most adults" (Granovetter 1995:141), unsolicited job leads remain unexplored for their health consequences.

HYPOTHESES: UNSOLICITED JOB LEADS AND DEPRESSION

Drawing on the prior work on received support and unsolicited support, this study proposes three theoretical approaches and derives four hypotheses on the main and interaction effects of receiving unsolicited job leads on depression (see Figure 1): the negative main effect from the distress-reducing perspective (H1), the positive main effect from the distress-inducing perspective (H2), and interaction effects with economic strain and financial dissatisfaction according to the need contingency argument from both the distress-reducing and the distress-inducing perspectives (H3a, H3b).

Insert Figure 1 Here

First, from the distress-reducing perspective, received support as valuable social resources can protect recipients from depression through diverse pathways (for reviews see Berkman et al., 2000; House et al. 1988; Song et al. 2011; Thoits 2011; Uchino 2004, 2009). Four pathways can be more relevant to receipt of unsolicited job leads. First, receipt of unsolicited job leads can reinforce recipients' perceived support and fortify their anticipation that aid will be available even without asking should the need for job information arise (Smith and Goodnow 1999; Thoits 2011). Second, it can protect and strengthen recipients' psychological resources (e.g., self-esteem, and sense of control) with which they can better cope with stress (Eckenrode and Wethington 1990). Third, it can reduce the temporal, social, financial, and psychological (e.g., job search anxiety) costs of recipients' job information search (Kramer 1993). Finally, it can prevent or reduce the occurrence of economic stressors (e.g., job insecurity and anxiety) by connecting recipients with unknown job opportunities even when they are not searching for jobs (McDonald and Day 2010; McDonald and Elder 2006). Thus, the distress-reducing hypothesis argues that receipt of unsolicited job leads is negatively associated with depression (H1).

Second, from the distress-inducing perspective, received support can lead to depression through multiple mechanisms (for reviews see Barrera 1986, 2000; Thoits 2011; Turner and Turner 2013; Uchino 2004, 2009). Five mechanisms can be more applicable to unsolicited job leads due to their nature of not being actively sought and asked by recipients. First, unsolicited job leads may be ineffective and even harmful when their attributes (e.g., amount, timing, source, and function) misfit recipients' actual needs and situation (Pearlin and McCall 1990; Shinn,

Lehmann, and Wong 1984; Umberson 1995). Second, they may be experienced as unhelpful, unwanted, and even destructive when miscarried by support providers (e.g., overprotection, interference, and imposition) (Beehr, Bowling, and Bennett 2010; Coyne, Wortman, and Lehman 1988). Third, they can burden recipients with the obligation to repay the help and create upsetting over-reciprocating exchange especially when providers aim at collecting social credits (Liang, Krause and Bennett 2001; Nahum-Shani, Bamberger, and Bacharach 2011; Rook 1987). Furthermore, they may provoke recipients' negative self-evaluation and undermine their self-esteem (Deelstra et al. 2003; Fisher, Nadler, and Whitcher-Alagna 1982; Smith and Goodnow 1999). Additionally, they may trigger recipients' upward social comparison with more capable support providers or occupants of related jobs (Barrera 1986; Bolger and Amarel 2007). Thus, the distress-inducing hypothesis argues that receipt of unsolicited job leads is positively associated with depression (H2).

Finally, the association between receipt of unsolicited job leads and depression can be moderated by economic strain and financial dissatisfaction. Whether receipt of unsolicited job leads reduce or induce depression can be contingent on whether and to what extent recipients actually need such job leads. This study proposes one need contingency argument not only from the distress-inducing perspective (Deelstra et al. 2003) but also from the distress-reducing perspective. This argument states that the distress-reducing and distress-inducing mechanisms are respectively more and less likely to operate for adults who need or need more of job leads than for those with no or less need for job leads. In comparison with those with no or less need for job leads, adults who need or need more of job leads are more likely to have their perceived support and psychological resources boosted by unsolicited job leads and to appreciate such information for its helpfulness and low transaction cost, but less likely to make upward

comparison with providers or occupants of related jobs and to perceive such leads as being miscarried by providers, as a source of burdensome obligation, or as a threat to their self-esteem.

Adults experiencing more economic strain and financial dissatisfaction manifest more depressive symptoms (Mirowsky and Ross 2001; Schieman, van Gundy, and Taylor 2001). They are more likely to need and value unasked-for job leads to improve their financial situation. However, they are indeed less likely to receive such leads (McDonald, Lin, and Ao 2009). In this study lack of full time employment and its duration serve as proxy indicators of economic strain (Dooley, Prause, and Ham-Rowbottom 2000; Lennon and Limonic 2010). Therefore, the need contingency argument hypothesizes that the distress-reducing perspective has stronger explanatory power for adults with non-full time employment, a longer duration of lack of full-time employment, and more financial dissatisfaction (H3a), while the distress-inducing perspective has stronger explanatory power for adults with full-time employment, a shorter term of lack of full-time employment, and less financial dissatisfaction (H3b).

DATA AND METHODS

Data

Data were drawn from the research project "Social Capital: Its Origins and Consequences." A random-digit dialing telephone survey was conducted from November 2004 to April 2005 from a nationally representative sample of adults in the United States, aged twenty-one to sixty-four, currently or previously employed (for detailed survey procedure, see Lin and Ao 2008). The sample consisted of 3,000 respondents with a response rate of 43 percent, which is comparable to other recent national random-digit dialing surveys (Groves et al. 2004). The comparison of this

sample with the March 2005 Current Population Survey in the United States shows strong correspondence in key sociodemographic variables (i.e., age, gender, race/ethnicity, and marital status) except that it has more educated respondents (McDonald and Mair 2010). Since this research project targeted adults currently or previously employed, an elevation of education should be expected. During the survey process, a special sampling criterion was used to recruit minorities so that the sample approximates the census ethnic distribution. A dummy variable, quota, was created to identify respondents sampled after the recruitment change (value=1). All analyses in this study controlled for this variable and found that the potential bias due to such a sampling modification was not significant. The listwise deletion of cases with missing values on variables of interest can incur a loss of 16 percent of the sample. A multiple imputation method was employed to impute missing values in variables of interests based on ten imputations through one Stata program (Ice) written by Royston (2005). Table 1 shows sample characteristics averaged over the ten imputed data sets.

Insert Table 1 Here

Dependent Variable

Depression during the past week was measured by thirteen items from the Center for Epidemiologic Studies Depression (CES-D) scale (Radloff 1977). [1] These items were rated on a four-point scale (0= rarely or none of the time: less than one day in the past week; 1=some or little of the time: one to two days in the past week; 2=occasionally or moderate amount of time: three to four days in the past week; 3=most or all of the time: five to seven days in the past week). The summed total score ranged from 0 to 36, with higher values indicating higher levels of

depression. Its distribution was rightly skewed. A logarithmic transformation was applied to normalize this variable. The reliability test of this 13-item CES-D scale produced an alpha coefficient of .85. This indicates high internal consistency. The reliability of this scale was further tested by calculating alpha coefficients with each item deleted. The alphas ranged from .83 to .85. This shows that these thirteen items measure the single unidimensional latent construct of depression very well.

Independent Variables

The key explanatory variable is receipt of unsolicited job leads in the past twelve months. Its binary measurement (1=Yes, 0=No) was based on respondents' reply to the following question: "Now I would like you to think of the last 12 months, did someone mention job possibilities, openings or opportunities to you, without your asking, in casual conversations? (This may include face-to-face, telephone, email, fax, etc.)" About 35 percent of respondents answered "Yes."

All analyses controlled for three demographic factors, two indicators of social integration, three socioeconomic variables, and one indicator of physical health. Three demographic factors included age, gender (1=female, 0= male), and race/ethnicity (1=white, 2= black, 3=Latino, and 4=other race/ethnicity). A dummy variable for each racial/ethnic category was created with white as the reference group. Two indicators of social integration included marital status (1=married, 0=unmarried) and social participation (number of memberships in voluntary organizations such as political parties; labor unions; religious groups; leisure, sports, or culture groups; professional organizations; charities; neighborhood organizations; school and PTA; and ethnic or civil rights organizations). Self-reported health limitation is one indicator of physical health. Respondents

were asked, “Now I would like you to think of the last twelve months; how often was your daily life disrupted for more than a week due to health related matters?” This item was rated on a four-point scale (1=frequently, 2=occasionally, 3=seldom, 4=never). The order of values was reversed so that the higher the score, the higher the degree of health limitation. Three socioeconomic indicators included education (years of schooling), occupational socioeconomic status of current or last job coded through the Hauser and Warren Socioeconomic Index (HWSEI) scores (Hauser and Warren 1997), and annual family income. Annual family income had twenty eight ordinal ranges. A logarithmic transformation of medians of all the ranges was applied for a normal distribution of income.

All analyses also controlled for three variables that serve as moderators in the interaction effect analyses: full-time employment (1=full-time employed, 0=not full-time employed), duration of lack of full-time employment (years), and financial dissatisfaction. The ordinal measurement of financial dissatisfaction was based on respondents’ reply to the following question: “please tell me how you are satisfied with” your “financial situation”. This item was rated on a four-point scale (1=very satisfied, 2= moderately satisfied, 3=a little dissatisfied, and 4=very dissatisfied).

Instrumental Variable

This study applied the instrumental variable (IV) method to tentatively test the endogeneity of the key explanatory variable using available cross-sectional data. The IV in this study is receipt of unsolicited job leads when respondents started their current or last job. The dummy measurement of the IV (1=Yes, 0=No) was based on respondents’ response to the following question: "At the time you started your current or last job, did someone mention job possibilities,

opening or opportunities to you, without your asking, in casual conversations?" About 41 percent of respondents answered "Yes."

Similar to the key explanatory variable, the IV also measures receipt of unsolicited job leads. But its time frame is earlier than that of the key explanatory variable for most respondents. The survey was conducted from November 2004 to April 2005. It collected information on the beginning year of current or last job. About 4 percent of respondents (N=109) were interviewed in November and December 2004 and reported 2004 or 2003 as the beginning year of their current or last jobs. About 13 percent of respondents (N=378) were interviewed in January to April 2005 and reported 2005 or 2004 as the beginning year of their current or last job. Thus roughly at least 83 percent of respondents started their current or last jobs twelve months before the survey.

The IV and the key explanatory variable are expected to be correlated with each other. They measure the same type of received support, although at two different time points for most respondents. Received support is consistent and positively correlated over time (Abbey, Andrews, and Halman 1995; Frazier et al. 2000; Vinokur, Schul, and Caplan 1987). However, the key explanatory variable is expected to have much stronger explanatory power in the prediction of depression than the IV. Current social conditions are more predictive of depression than prior ones (see Hughes and Waite 2009 for the stronger response of depression to current marital status than to prior marital history).

Analytic Strategy

First, the IV method was used to roughly test the endogeneity of the key explanatory variable using Stata (Baum, Schaffer, and Stillman 2007). OLS estimates are biased and inconsistent if

the key explanatory variable is endogenous, that is, is correlated with the error term of the model of interest due to reasons such as measurement error, sample selectivity, feedback relation or reverse causality (i.e., depression triggers unsolicited offer of job leads), and omitted variables that can influence both receipt of unsolicited job leads and depression (Bollen 2012). An IV needs to satisfy two conditions that it is correlated with the suspected endogenous explanatory variable but not with the error term of the model of interest. The first condition can be easily checked, but the latter assumption cannot be tested (Cameron and Trivedi 2010; Greene 2003).

Next, this study ran ordinary least squares (OLS) regression models to test the four hypotheses through three steps using Stata. At the first step, the basic model was estimated, which contained all control variables. At the second step, the key explanatory variable was entered into the basic model to investigate the distress-reducing and distress-inducing hypotheses. At the third step, product terms of the key explanatory variable with the three moderators were both separately and simultaneously added to examine the need contingency hypotheses. Significant coefficients of product terms in multivariate regression analyses indicate the significance of interaction effects (Cohen and Cohen 1983; Long and Freese 2006). Coefficient estimates were averaged across the ten imputed data sets using Mim, one Stata program written by Carlin, Galati, and Royston (2008).

RESULTS

IV Method and Endogeneity Test

The IV method was applied to roughly test the endogeneity of the key explanatory variable (receipt of unsolicited job leads in the past twelve months) using available cross-sectional data. The IV (receipt of unsolicited job leads at the beginning of current job or last job) was correlated

with the suspected endogenous explanatory variable (r=.299, p<.001). As partial correlation analysis further shows, conditional on all control variables, the IV was significantly correlated with the key explanatory variable (r=.273, p<.001) but not with depression. Its strength was evaluated using the Cragg-Donald F statistic (for joint significance of the IV in the first-stage regression of the explanatory variable on the IV and all control variables) reported by one Stata program (ivreg2) written by Baum and colleagues (2007). It was clearly not a weak IV with the F statistic around 221, which greatly exceeded the critical value of 16.38 (Stock and Yogo 2005). The null hypothesis for the endogeneity test using that Stata program (ivreg2) states that the key explanatory variable is not endogenous to the outcome variable. Results from the test failed to reject that null hypothesis.[2] These findings implied that receipt of unsolicited job leads in the past twelve months might be exogenous to depression in the past week.

Main Effect

Two OLS regression models were run to examine the two competing main effect hypotheses (distress reducing and distress inducing) (see Models 1 and 2 in Table 2). First, the basic model was estimated. It contained all control variables (see Model 1). Consistent with previous research, older adults (b=-.006, p<.001), Latinos (b=-.124, p<.05), the married (b=-.133, p<.001), more educated adults (b=-.013, p<.05), and adults with more annual family income (b=-.052, p<.05) had fewer depressive symptoms than younger adults, whites, the unmarried, the less educated, and those with less annual family income. Adults reporting more health limitation (b=.201, p<.001) and more financial dissatisfaction (b=.262, p<.001) felt more depressed than their opposite counterparts. Note that gender had a nonsignificant coefficient. As supplemental

analysis showed, self-reported health limitation mediated the association between gender and depression.

Insert Table 2 Here

Then, the key explanatory variable was entered into the basic model (see Model 2). Results show evidence for the distress-inducing hypothesis (H2) but not for the distress-reducing hypothesis (H1). Receipt of unsolicited job leads was positively associated with depression net of control variables ($b=.123$, $p<.001$). Recipients reported higher levels of depression than non-recipients.

Interaction Effects

The need contingency hypotheses were examined by both separately and simultaneously entering into the OLS regression model of depression interaction terms of the key explanatory variable with full-time employment, mean-centered duration of lack of full-time employment, and mean-centered financial dissatisfaction. Each of the three interaction terms was first separately examined with lower-order terms and control variables held constant. Receipt of unsolicited job leads interacted positively with full-time employment ($b=.181$, $p<.05$) (see Model 3 and Figure 2a). Consistent with the distress-inducing perspective, among the full-time employed, recipients reported more depression than non-recipients (.158). Consistent with the distress-reducing

perspective, among those without full-time jobs, in contrast, recipients had fewer depressive symptoms than non-recipients (-.023).

Insert Figure 2a Here

Also, receipt of unsolicited job leads interacted negatively with duration of lack of full-time employment (b=-.034, p<.001) (see Model 4). As Figure 2b indicates, according with the distress-inducing perspective, receipt of unsolicited job leads was positively associated with depression to a greatest degree for the full-time employed (.156). The size of that positive association gradually decreased as the duration of lack of full-time employment increased up to four years (.020). But according with the distress-reducing perspective, that association became negative and continued increasingly negative as the duration of lack of full-time employment reached five years (-.014) and beyond. Note that a similar interaction effect was observed among the subsample of adults who were not full-time employed (b=-.031, p<.05) (see Model 5).

Insert Figure 2b Here

Furthermore, receipt of unsolicited job leads interacted negatively with financial dissatisfaction (b=-.098, p<.01) (see Model 6). [3] As Figure 2c shows, consistent with the distress-inducing perspective, receipt of unsolicited job leads was positively associated with depression to a greatest degree for adults who were very satisfied with their financial situation (.232),

followed by those with moderate satisfaction (.134) and those with a little dissatisfaction (.036). But consistent with the distress-reducing perspective, that association turned negative for those who felt very dissatisfied (-.062).

Insert Figure 2c Here

Finally, all three interaction terms were simultaneously analyzed to examine whether each interaction term exerted a significant effect independent of the other two interaction terms as well as lower-order terms and control variables (see Model 7). The moderating effect of full-time employment lost significance, but those of duration of lack of full-time employment ($b=-.035$, $p<.01$) and financial dissatisfaction ($b=-.100$, $p<.01$) remained significant with only negligible changes in coefficient sizes.

These results together support the need contingency argument from both the distress-reducing and the distress-inducing perspectives (H3a, H3b). The former perspective appears to be more applicable to adults in high need of job leads, that is, those who do not have full-time jobs, undergo longer duration of lack of full-time employment, and feel most financial dissatisfaction, while the latter perspective to their opposite counterparts.

CONCLUSION AND DISCUSSION

This study examines the main and interaction effects of receipt of unsolicited job leads on depression using national representative data of working-age adults in the United States. Results

show a positive association between receiving unsolicited job leads and depression, but that positive association is weaker or even turns negative for adults with more economical strain and financial dissatisfaction.

This study is the first to systematically estimate the main and interaction effects of receiving unsolicited job leads on depression. It extends relevant literature in three important ways and opens up promising venues for future research. First, this study bridges the gap between receipt of unsolicited job leads and health, and demonstrates the positive main effect of this unique form of received support on depression. According with the distress-inducing perspective rather than the distress-reducing perspective, receipt of unsolicited job leads in the past twelve months is positively associated with adults' depression in the past week. Note that the IV (receipt of unsolicited job leads around the time of entry into the current or last job), which has an earlier time frame for most respondents than that of the explanatory variable, is not associated with depression in the past week. Consistent with prior work (Hughes and Waite 2009), these results imply that depression is more sensitive to current than prior receipt of unsolicited job leads.

Future research needs to explore possible social psychological mechanisms linking receipt of unsolicited job leads to depression, in particular self-esteem, the mediating effect of which has been documented in experimental research (Bolger and Amarel 2007; Deelstra et al. 2003). Note that unsolicited job leads can exert positive effects on employment attainment and occupational positions (Granovetter [1974] 1995; Lin 2000; Lin and Ao 2008; McDonald and Day 2010; McDonald and Elder 2006). Whether unsolicited job leads that successfully produce employment or higher occupational status can further protect individuals against depression deserves future research.

Second, this study proposes the need contingency argument from both the distress-reducing and the distress-inducing perspectives, and examines interaction effects of receiving unsolicited job leads with economic strain and financial dissatisfaction. Results support the need contingency argument from both perspectives. The former perspective has stronger explanatory power for adults who do not have full-time jobs, experience longer period of lack of full-time employment, and report most financial dissatisfaction, but the latter perspective for their opposite counterparts. These results suggest that receipt of unsolicited job leads has two opposite functions (distress inducing and distress reducing), and their relative explanatory power are contingent on recipients' actual situations and the degree to which the specific support content matches recipients' need for job leads. These findings imply that receipt of unsolicited job leads may bring less or no psychological costs to adults in greater need of information about job opportunities.

Note that the role of receiving unsolicited job leads can be contingent on other social factors. Different types of social ties provide different kinds of social support (Lin, Ye, and Ensel 1999; Pearlin 1985; Wellman and Wortley 1990). According to the support-source matching model (Thoits 2011), informational support should be able to buffer against depression more effectively if coming from secondary/similar others than from primary/significant others. To examine the applicability of that model into receipt of unsolicited information about job opportunities, future research needs to collect data on the role relationship and homophily between support providers and recipients.

Third, this study adds to the limited health literature on unsolicited support, and advances our understanding of the puzzling mixed health consequences of received support. Similar to prior experimental research on receipt of unsolicited support (Bolger and Amarel 2007; Deelstra

et al. 2003), this present study finds evidence for the distress-inducing perspective and the need contingency argument from that perspective: a positive main effect of receipt of unsolicited job leads on depression and its weakened positive effect for adults with more economic strain and financial dissatisfaction. Different from prior work, this study also develops and finds evidence for the need contingency argument from the distress-reducing perspective among adults who are not full-time employed for five or more years or very dissatisfied with financial situation. Such inconsistent results between this present study and the experimental work of Deelstra et al. (2003) may suggest that those adults need unsolicited job leads to a greater degree than participants want unsolicited instrumental support in that experimental context. Both prior and current studies illustrate the importance of classifying received support based on who initiates it and the independent deleterious effect of unsolicited support on mental health (Barrera 1986; Eckenrode and Wethington 1990; Thoits 1995). This current study further indicates that future research should give attention to the two opposite roles of unsolicited support and their interaction with recipients' actual need. The contingency effect of unsolicited support on recipients' actual need may partially explain why voluminous prior studies document discrepant main effects of received support on health.

It is certainly premature to conclude that unsolicited support must exert a detrimental main effect on health especially for recipients without the need for two reasons. First, receipt of unsolicited job leads in this study is self-reported by respondents, and constitutes one type of visible support. As the diary and laboratory research of Bolger and colleagues finds (Bolger and Amarel 2007; Bolger, Zuckerman, and Kessler 2000; Shrout, Herman, and Bolger 2006), visible support is ineffective or even detrimental because awareness of receiving support brings emotional costs such as threat to recipients' self-efficacy, but invisible support is relatively

beneficial. Based on such a visibility-versus-invisibility typology of received support, this study implies that unsolicited job leads can carry psychological costs when recognized as support by recipients. Invisible unsolicited job leads (where providers deliver information so skillfully that recipients do not interpret it as support) may be more protective even for recipients with less or no need. This possibility deserves future attention.

Also, unsolicited job leads represent one salient type of informational support. In comparison with other forms of support (e.g., instrumental and emotional), information support has a less direct relationship with health because it is "not in and of itself helpful" but "helps people to help themselves" (House 1981: 25). Future research needs to investigate other content areas of unsolicited support. Unsolicited recommendations on medical services, for example, may be more protective by directing recipients to better health care (Pescosolido 2006). Unasked-for provision of food and shelter in non-routine situations such as natural disasters can be lifesaving (Hurlbert, Haines, and Beggs 2000). Unsolicited expression of "I love you" may be heartwarming for all recipients regardless of their need (Eckenrode and Wethington 1990).

This study is only a starting point for examining the utility of receipt of unsolicited job leads for depression. It has a few data limitations that call for future research. First, this study analyzes cross-sectional data. Unsolicited job leads is one form of received support. The positive association between received support and depression based on cross-sectional data may be spurious in that depression can elicit support provision or an adverse event may increase both received support and depression (Barrera 1986). These arguments on reverse causality and omitted variables are not supported by recent simulation research (Seidman, Shrout, and Bolger 2006). In this present cross-sectional study, the positive association between receiving unsolicited job leads and depression may be spurious in that depression can trigger spontaneous

offer of job leads or omitted variables such as recipients' unconscious disclosure of job anxiety and instability can increase both receipt of unsolicited job leads and depression. This present study applies the IV method and reports evidence that the positive association between receiving unsolicited job leads and depression may not be an artifact of endogeneity bias due to reasons such as reverse causality, omitted variables, measurement error, and sample selectivity. Its results on interaction effects also seem to be against the reverse causality argument. If that argument holds, the association between receiving unsolicited job leads and depression should be more positive for people facing more economic strain and expressing more financial dissatisfaction, since these people are likely to manifest higher degrees of depression and further elicit more support provision from others.

However, there is no perfect way of solving the causality issue using cross-sectional data. Results from this study should be explained with caution for three major reasons. First, the IV method is not without limitation. As introduced earlier, the assumption that an IV is uncorrelated with the error term of the model of interest cannot be tested. Even if in the overidentified case (i.e., the use of multiple IVs for one suspected endogenous variables), the overidentification test assumes the exogeneity of at least one IV (Greene 2003). Second, the IV in this study measures the same variable as the key explanatory variable but at an earlier time point for most respondents. The suitability of such an IV can be challenged if omitted variables, such as personality characteristics, can prove to affect the IV, the key explanatory variable, and depressive symptoms (Bollen 2012). Third, the interaction effect of social support with social stressors observed through cross-sectional data can be confounded by their effect on one another (Thoits 1982). In this present cross-sectional study, results on the interaction effect of receiving unsolicited job leads with economic strain and financial dissatisfaction may be biased by the

interrelationships between them. To obtain stronger causal inference, longitudinal data are needed.

Second, the used survey data have a relatively low response rate, and are from a national sample of working-age adults who are currently or previously employed. The low response rate can lead to non-response sampling bias. The main effect of receiving unsolicited job leads and its interaction effect with financial satisfaction may be weaker for the elderly and adults who are never employed since they are less likely to receive or need such job leads. Future studies need to collect higher-quality data from respondents of all ages and employment backgrounds in order to examine these issues. Third, the retrospective measurement of receiving unsolicited job leads in the past twelve months can have recall error. People often receive invisible unsolicited support that they do not recognize as support (Bolger et al. 2000). The data may underestimate the occurrence of unsolicited offers of job leads and the mental health impact of such offers. Furthermore, the data were collected in late 2004 and early 2005 right before the 2007-09 economic recession. Following that recession is the downturn in the job market and the rise of job and unemployment as the most important problem for Americans (Gallup 2010). In such a structural context, unsolicited job leads are more likely to be appreciated and its distress-reducing function may be stronger. Finally, the data were collected in the United States where individualism is the dominant ideology. Receipt of unsolicited support is more likely to occur and be experienced positively in societies promoting the ideology of interdependence such as Russia (Chentsova-Dutton 2012; Song 2013). Future comparative research needs to investigate the generalizability of findings in this study to other societies and cultures.

Despite its data limitations, this present study, to our knowledge, is the first effort to systematically examine the health effect of receiving unsolicited support, one long-proposed

form of received support rooted in daily social interaction, using nationally representative data (Barrera 1986). Also it is the first to investigate the health impact of receiving job leads from personal contacts, one long-documented form of received informational support (Granovetter 1974; House 1981). This study focuses on receipt of unsolicited job leads, and demonstrates its positive role for depression and the contingency of that role on economic strain and financial dissatisfaction. Unsolicited support represents one promising research direction for us to extricate the enduring puzzle concerning the discrepant health effects of received support (Barrera 1986; Thoits 2011; Turner and Turner 2013; Uchino 2009). Solicited support is beyond the scope of this study (Song and Chang 2012). Research on its health consequences is needed for a more complete picture of how solicitedness affects the health impacts of received support (Bolger and Amarel 2007; Eckenrode and Wethington 1990; Thoits 2011). To extend House's classic statement, the objective of social support research is to investigate "who gives what"—solicited or unsolicited, needed or not, visible or invisible—"to whom regarding which problems" (1981: 22).

ENDNOTES

1. The thirteen items were: “I did not feel like eating; my appetite was poor,” “I felt like everything I did was an effort,” “My sleep was restless,” “I felt depressed,” “I felt lonely,” “People are unfriendly,” “I felt sad,” “I could not get going,” “I was bothered by things that usually do not bother me,” “I felt I could not shake off the blues even with the help of my family/friends,” “I felt fearful,” “I had crying spells,” and “ I felt that people disliked me.” Cacioppo and colleagues (2006) suggest that the loneliness item be removed from the CES-D scale. Supplemental analyses followed that suggestion and found similar results.

2. Supplemental analyses measured financial dissatisfaction as a dummy variable (1=a little or very dissatisfied, 0=very or moderately satisfied). Results support the need contingency argument from both the distress-reducing and the distress-inducing perspectives (H3a, H3b).This dummy measurement interacted negatively with receipt of unsolicited job leads ($b=-.192$, $p<.05$). Among adults who were (moderately or very) satisfied with financial situation, recipients reported high levels of depression than non-recipients (.181). Among adults who felt (a little or very) dissatisfied with financial life, in contrast, recipients had lower degrees of depression than non-recipients (-.011).

3. Detailed results from the endogeneity test are available upon request. Note that the Stata Program (ivreg2) (Baum et al. 2007) implements the two-stage least squares estimator in the IV analysis.

REFERENCES

Abbey, Antonia, Frank M. Andrews, and L. Jill Halman. 1995. "Provision and Receipt of Social Support and Disregard: What Is Their Impact on the Marital Life Quality of Infertile and Fertile Couples?" *Journal of Personality and Social Psychology* 68:455-469.

Barrera, Manuel, Jr. 1986. "Distinctions between Social Support Concepts, Measures, and Models." *American Journal of Community Psychology* 14:413-445.

———. 2000. "Social Support Research in Community Psychology." Pp. 215-45 in *Handbook of Community Psychology*, edited by J. Rappaport and E. Seidman. New York: Kluwer Academic/Plenum.

Baum, Christopher F., Mark E. Schaffer, and Steven Stillman. 2007. ivreg2: Stata Module for Extended Instrumental Variables/2SLS, GMM and AC/HAC, LIML, and k-class Regression. Boston College Department of Economics, Statistical Software Components S425401.

Beehr, Terry A., Nathan A. Bowling and Misty M. Bennett. 2010. "Occupational Stress and Failures of Social Support: When Helping Hurts." *Journal of Occupational Health Psychology* 15:45-59.

Berkman, Lisa F. 1984. "Assessing the Physical Health Effects of Social Networks and Social Support." *Annual Review of Public Health* 5:413-32.

Berkman, Lisa F., Thomas Glass, Ian Brissette and Teresa E. Seeman. 2000. "From Social Integration to Health: Durkheim in the New Millennium." *Social Science and Medicine* 51:843–57.

Bolger, Niall and David Amarel. 2007. "Effects of Social Support Visibility on Adjustment to Stress: Experimental Evidence." *Journal of Personality and Social Psychology* 92:458-475.

Bolger, Niall, Adam Zuckerman, and Ronald C. Kessler. 2000. "Invisible Support and Adjustment to Stress." *Journal of Personality and Social Psychology* 79:953-961.

Bollen, Kenneth A. 2012. "Instrumental Variables in Sociology and the Social Sciences." *Annual Review of Sociology* 38:37-72.

Cacioppo, John T., Mary Elizabeth Hughes, Linda J. Waite, Louise C. Hawkley, and Ronald A. Thisted. 2006. "Loneliness as a Specific Risk Factor for Depressive Symptoms: Cross-Sectional and Longitudinal Analyses." *Psychology and Aging* 21:140-151.

Cameron, A. Colin and Pravin K. Trivedi. 2010 (Revised Edition). *Microeconometrics Using Stata*. College Station, Texas: Stata Press.

Caplan, Robert D. 1979. "Social Support, Person-Environment Fit, and Coping." Pp. 89-138 in *Mental Health and the Economy*, edited by L.A. Ferman and J.P. Gordus. Michigan: W.E. Upjohn Institute for Employment Research.

Carlin, John B., John C. Galati, and Patrick Royston. 2008. "A New Framework for Managing and Analyzing Multiply Imputed Data in Stata." *The Stata Journal* 8(1): 49-67.

Chentsova-Dutton, Yulia E. 2012. "Butting In vs. Being a Friend: Cultural Differences and Similarities in the Evaluation of Imposed Social Support." *The Journal of Social Psychology* 152:493-509.

Caplan, Gerald. 1974. *Support Systems and Community Mental Health*. Behavioral Publications.

Cassel, John. 1974. "An Epidemiological Perspective of Psychosocial Factors in Disease Etiology." *American Journal of Public Health* 64:1040–43.

———. 1976. “The Contribution of the Social Environment to Host Resistance.” *American Journal of Epidemiology* 104:107–23.

Cobb, Sidney. 1976. “Social Support as a Moderator of Life Stress.” *Psychosomatic Medicine* 38: 300–314.

Cohen, Jacob and Patricia Cohen. 1983. *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences* (2nd edition). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Cohen, Sheldon, Lynn G. Underwood, and Benjamin H. Gottlieb. 2000. *Social Support Measurement and Intervention: A Guide for Health and Social Scientists*. Oxford: Oxford University Press.

Coyne, James C., Camille B. Wortman, and Darrin R. Lehman. 1988. "The Other Side of Support: Emotional Overinvolvement and Miscarried Helping." Pp. 305-30 in *Marshaling Social Support: Formats, Processes, and Effects*, edited by B. H. Gottlieb. Newbury Park: Sage.

Deelstra, Janna T., Maria C. W. Peeters, Wilmar B. Schaufeli, Wolfgang Stroebe, Fred R. H. Zijlstra, and Lorenz P. van Doornen. 2003. "Receiving Instrumental Support at Work: When Help is Not Welcome." *Journal of Applied Psychology* 88:324-331.

Dooley, David, Joann Prause, and Kathleen A. Ham-Rowbottom. 2000. "Underemployment and Depression: Longitudinal Relationships." *Journal of Health and Social Behavior* 41:421-436.

Eckenrode, John and Elaine Wethington. 1990. "The Process and Outcome of Mobilizing Social Support." Pp. 83-103 in *Personal Relationships and Social Support*, edited by S. Duck and R. C. Silver. London: SAGE.

Faber, Ashley D., and Stanley Wasserman. 2002. “Social Support and Social Networks: Synthesis and Review.” Pp. 29-72 in *Social Networks and Health*, edited by J.A. Levy and B.A. Pescosolido. New York: JAI Press.

Fisher, Jeffrey D., Arie Nadler, and Sheryle Whitcher-Alagna. 1982. "Recipient Reactions to Aid." *Psychological Bulletin* 91:27-54.

Frazier, Patricia A., Andrew P. Tix, Christian D. Klein, and Nancy J. Arikian. 2000. "Testing Theoretical Models of the Relations Between Social Support, Coping, and Adjustment to Stressful Life Events." *Journal of Social and Clinical Psychology* 19:314-335.

Gallup, Inc. February 12, 2010. “In U.S., Unemployment Jumps to Top Problem Status.” Princeton, NJ. Retrieved May 25, 2011. http://www.gallup.com/poll/125846/unemployment-jumps-top-problem-status.aspx.

Granovetter, Mark. [1974] 1995. *Getting a Job: A Study of Contacts and Careers*. Chicago, IL: University of Chicago.

Greene, William H. 2003 (5th edition). *Econometric Analysis*. Upper Saddle River, NJ: Prentice Hall.

Groves, Robert M., Floyd Fowler Jr., Mick Couper, James Lepkowski, Eleanor Singer, and Roger Tourangeau. 2004. *Survey Methodology*. New York: Wiley & Sons.

Hauser, Robert M. and John Robert Warren. 1997. "Socioeconomic Index of Occupational Status: A Review, Update, and Critique." Pp. 177-298 in *Sociological Methodology*, edited by A. Raftery. Cambridge: Blackwell.

House, James S. 1981.*Work Stress and Social Support*. Addison-Wesley.

House, James S., Debra Umberson and Karl R. Landis. 1988. “Structures and Processes of Social Support.” *Annual Review of Sociology* 14:293–318.

Hughes, Mary Elizabeth and Linda J. Waite. 2009. "Marital Biography and Health at Mid-Life." *Journal of Health and Social Behavior* 50:344-358.

Hurlbert, Jeanne S., Valerie A. Haines, and John J. Beggs. 2000. "Core Networks and Tie Activation: What Kinds of Routine Networks Allocate Resources in Nonroutine Situations?" *American Sociological Review* 65:598-618.

Kessler, Ronald C., Richard H. Price and Camille B. Wortman. 1985. "Social Factors in Psychopathology: Stress, Social Support, and Coping Processes." *Annual Review of Psychology* 36:531–72.

Kramer, Michael W. 1993. "Communication and Uncertainty Reduction during Job Transfers: Leaving and Joining Processes." *Communication Monographs* 60:178.

Lennon, Mary Clare and Laura Limonic. 2010. "Work and Unemployment as Stressors." Pp. 213-25 in *A Handbook for the Study of Mental Health: Social Contexts, Theories, and Systems*, edited by T. L. Scheid and T. N. Brown. Cambridge: Cambridge University Press.

Liang, Jersey, Neal M. Krause and Joan M. Bennett. 2001. "Social Exchange and Well-Being: Is Giving Better Than Receiving?" *Psychology and Aging* 16(3):511-23.

Lin, Nan. 2000. "Inequality in Social Capital." *Contemporary Sociology* 29:785-795.

———. 2001. *Social Capital: A Theory of Social Structure and Action*. Cambridge University Press.

Lin, Nan, and Dan Ao. 2008. "The Invisible Hand of Social Capital: An Exploratory Study." Pp.107-32 in *Social Capital: Advances in Research*, edited by N. Lin and B. Erickson. Oxford University Press.

Lin, Nan, Xiaolan Ye, and Walter M. Ensel. 1999. "Social Support and Depressed Mood: A Structural Analysis." *Journal of Health and Social Behavior* 40:344-359.

Marsden, Peter V. and Elizabeth H. Gorman. 2001. "Social Networks, Job Changes, and Recruitment." Pp. 467-502 in *Sourcebook on Labor Markets: Evolving Structures and Processes*, edited by I. Berg and A. L. Kalleberg. New York: Kluwer Academic/Plenum Publishers.

McDonald, Steve. 2010. "Right Place, Right Time: Serendipity and Informal Job Matching." *Socio-Economic Review* 8:307-331.

McDonald, Steve and Jacob C. Day. 2010. "Race, Gender, and the Invisible Hand of Social Capital." *Sociology Compass* 4:532-543.

McDonald, Steve and Glen H. Elder, Jr. 2006. "When Does Social Capital Matter? Non-Searching For Jobs across the Life Course. "*Social Forces* 85:521-549.

McDonald, Steve, Nan Lin and Dan Ao. 2009. "Networks of Opportunity: Gender, Race, and Job Leads." *Social Problems* 56(3):385-402.

McDonald, Steve and Christine A. Mair. 2010. "Social Capital across the Life Course: Age and Gendered Patterns of Network Resources." *Sociological Forum* 25:335-359.

Mirowsky, John and Catherine E. Ross. 2001. "Age and the Effect of Economic Hardship on Depression." *Journal of Health and Social Behavior* 42:132-150.

Nahum-Shani, Inbal, Peter A. Bamberger, and Samuel B. Bacharach. 2011. "Social Support and Employee Well-Being: The Conditioning Effect of Perceived Patterns of Supportive Exchange." *Journal of Health and Social Behavior* 52:123-139.

Pearlin, Leonard I. 1985. “Social structure and Processes of Social Support.” Pp. 43-60 in *Social Support and Health*, edited by S. Cohen and S. L. Syme. Academic Press.

———. 1989. "The Sociological Study of Stress." *Journal of Health and Social Behavior* 30(3):241-56.

Pearlin, Leonard I., and Mary E. McCall. 1990. “Occupational Stress and Marital Support: A Description of Microprocesses.” Pp. 39-60 in *Stress between Work and Family*, edited by J. Eckenrode and S. Gore. New York: Plenum Press.

Pearlin, Leonard I., Elizabeth G. Menaghan, Morton A. Lieberman, and Joseph T. Mullan. 1981. "The Stress Process." *Journal of Health and Social Behavior* 22:337-356.

Pescosolido, Bernice A. 2006. “Of Pride and Prejudice: The Role of Sociology and Social Networks in Integrating the Health Sciences.” *Journal of Health and Social Behavior* 47: 189-208.

Radloff, Lenore Sawyer. 1977. “The CES-D Scale: A Self-Report Depression Scale for Research in the General Population.” *Applied Psychological Measurement* 1:385–401.

Revenson, Tracey A., Kathleen M. Schiaffino, S. Deborah Majerovitz, and Allan Gibofsky. 1991. "Social Support as a Double-Edged Sword: The Relation of Positive and Problematic Support to Depression among Rheumatoid Arthritis Patients." *Social Science & Medicine* 33:807-13.

Rook, Karen S. 1987. "Reciprocity of Social Exchange and Social Satisfaction among Older Women." *Journal of Personality and Social Psychology* 52:145-154.

Royston, Patrick. 2005. “Multiple Imputation of Missing Values: Update of ICE.” *The Stata Journal* 5: 527-36.

Schieman, Scott, Karen van Gundy, and John Taylor. 2001. "Status, Role, and Resource Explanations for Age Patterns in Psychological Distress." *Journal of Health and Social Behavior* 42:80-96.

Seidman, Gwendolyn, Patrick E. Shrout, and Niall Bolger. 2006. "Why Is Enacted Social Support Associated With Increased Distress? Using Simulation to Test Two Possible Sources of Spuriousness." *Personality and Social Psychology Bulletin* 32:52-65.

Shinn, Marybeth, Stanley Lehmann, and Nora W. Wong. 1984. "Social Interaction and Social Support." *Journal of Social Issues* 40:55-76.

Shrout, Patrick E., Craig M. Herman, and Niall Bolger. 2006. "The Costs And Benefits Of Practical and Emotional Support on Adjustment: A Daily Diary Study of Couples Experiencing Acute Stress." *Personal Relationships* 13:115-134.

Smith, Jacqui and Jacqueline J. Goodnow. 1999. "Unasked-for Support and Unsolicited Advice: Age and the Quality of Social Experience." *Psychology and Aging* 14:108-121.

Song, Lijun. 2013. "Institutional Embeddedness of Network Embeddedness in the Workplace: Social Integration at Work and Employee's Health across Three Societies." Pp.323-56 in *Research in the Sociology of Work 24: Networks, Employment and Inequality*, edited by Steve McDonald. Bingley, UK: Emerald Press.

Song, Lijun and Tian-Yun Chang. 2012. "Do Resources of Network Members Help in Help Seeking? Social Capital and Health Information Search." *Social Networks* 34(4): 658-69.

Song, Lijun, Joonmo Son and Nan Lin. 2011. "Social Support." Pp. 116-28 in *Handbook of Social Network Analyses*, edited by J. Scott and P. J. Carrington. SAGE.

Stock, James H. and Motohiro Yogo. 2005. "Testing for Weak Instruments in Linear IV Regression." Pp. 80-108 in *Identification and Inference for Econometric Models: Essays*

in Honor of Thomas Rothenberg, edited by D. W. K. Andrews and J. H. Stock. Cambridge: Cambridge University Press.

Tardy, Charles H. 1985. "Social Support Measurement." *American Journal of Community Psychology* 13:187-202.

Thoits, Peggy A. 1982. "Conceptual, Methodological, and Theoretical Problems in Studying Social Support as a Buffer against Life Stress," *Journal of Health and Social Behavior* 23: 145–59.

———. 1995. "Stress, Coping, and Social Support Processes: Where Are We? What Next?" *Journal of Health and Social Behavior* Extra Issue: 53–79.

———. 2011. "Mechanisms Linking Social Ties and Support to Physical and Mental Health." *Journal of Health and Social Behavior* 52:145-161.

Turner, R. Jay and Robyn Lewis Brown. 2010. "Social Support and Mental Health." Pp. 200-12 in *A Handbook for the Study of Mental Health: Social Contexts, Theories, and Systems* (2nd edition), edited by T. L. Scheid and T. N. Brown. Cambridge: Cambridge University Press.

Turner, J. Blake, and R. Jay Turner. 2013. "Social Relations, Social Integration, and Social Support." Pp. 341-56 in *Handbook of the Sociology of Mental Health* (2nd edition), edited by C.S. Aneshensel, J.C. Phelan, and A. Bierman. New York: Springer.

Uchino, Bert N. 2004. *Social Support and Physical Health: Understanding the Health Consequences of Relationships*. New Haven, CT: Yale University Press.

———. 2006. "Social Support and Health: A Review of Physiological Processes Potentially Underlying Links to Disease Outcomes." *Journal of Behavioral Medicine* 29:377-387.

———. 2009. "Understanding the Links between Social Support and Physical Health: A Life Span Perspective with Emphasis on the Separability of Perceived and Received Support." *Perspectives on Psychological Science* 4:236-55.

Umberson, Debra. 1995. "Marriage as Support or Strain? Marital Quality Following the Death of a Parent." *Journal of Marriage and the Family* 57: 709-723.

Vinokur, Amiram, Yaacov Schul, and Robert D. Caplan. 1987. "Determinants of Perceived Social Support: Interpersonal Transactions, Personal Outlook, and Transient Affective States." *Journal of Personality and Social Psychology* 53:1137-1145.

Wellman, Barry and Scot Wortley. 1990. "Different Strokes from Different Folks: Community Ties and Social Support." *The American Journal of Sociology* 96:558-588.

Wethington, Elaine and Ronald C. Kessler. 1986. "Perceived Support, Received Support, and Adjustment to Stressful Life Events." *Journal of Health and Social Behavior* 27:78-89.

Wortman, Camille B. and Darrin R. Lehman. 1985. "Reactions to Victims of Life Crises: Support Attempts that Fail." Pp. 463-89 in *Social Support: Theory, Research, and Applications*, edited by I. G. Sarason and B. R. Sarason. Dordrecht, the Netherlands: Martinus Nijhoff.

Table 1. Summary of Sample Characteristics (N=3,000)

	Mean/ Percent	SD
Dependent Variable		
Depression (CES-D Scale) in the Past Week	6.17	6.66
Depression(log)	1.54	.97
Explanatory Variable		
Receipt of Unsolicited Job Leads in the Past Twelve Months	34.57%	
Moderating Variables		
Full-Time Employment (1=Full-Time Employed)	77.23%	
Duration of Lack of Full-Time Employment (Years)	1.32	4.02
Financial Dissatisfaction		
Very Satisfied	27.30%	
Moderately Satisfied	46.07%	
A Little Dissatisfied	16.63%	
Very Dissatisfied	10.00%	
Control Variables		
Age	41.46	10.56
Gender (1=Female)	53.90%	
Race/Ethnicity		
White	68.57%	
Black	11.83%	
Latino	13.73%	
Other Race/Ethnicity	5.67%	
Quota	.44	
Marital Status (1=Married)	63.83%	
Social Participation (Number of Memberships in Voluntary Organizations)	2.01	1.87
Self-Reported Health Limitation		
Never	45.83%	
Seldom	30.77%	
Occasionally	12.23%	
Frequently	11.17%	
Education (Years)	14.59	3.58
Occupational Socioeconomic Status (HWSEI) (Current/Last Job)	39.27	14.53
Annual Family Income		
Less Than 35,000 (U.S. Dollars)	25.84%	
35,000-60,000	26.85%	
60,000-90,000	22.64%	
90,000 and More	24.68%	
Instrumental Variable (IV)		
Receipt of Unsolicited Job Leads When Starting the Current/Last Job	40.97%	

Note: HWSEI= the Hauser and Warren Socioeconomic Index (Hauser and Warren 1997).

Table 2. OLS Regressions of Depression on Two Employment Indicators, Financial Dissatisfaction, Receipt of Unsolicited Job Leads, Control Variables, and Interaction Terms (N=3,000).

Independent Variables	Depression						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Age	-.006***	-.005***	-.005***	-.005***	.001	-.005***	-.005***
	(.002)	(.002)	(.002)	(.002)	(.003)	(.002)	(.002)
Gender (1=Female)	.040	.041	.043	.043	.144†	.040	.042
	(.034)	(.034)	(.034)	(.034)	(.083)	(.034)	(.034)
Race/Ethnicity (Reference: White)							
Black	-.028	-.036	-.039	-.042	.034	-.038	-.043
	(.055)	(.054)	(.054)	(.054)	(.121)	(.054)	(.054)
Latino	-.124*	-.128*	-.128*	-.125*	-.177	-.128*	-.125*
	(.054)	(.054)	(.054)	(.054)	(.117)	(.054)	(.054)
Other Race/Ethnicity	-.038	-.037	-.038	-.044	.003	-.032	-.039
	(.072)	(.072)	(.072)	(.072)	(.149)	(.072)	(.072)
Quota	-.004	.001	.003	.006	-.037	.002	.006
	(.036)	(.036)	(.036)	(.036)	(.081)	(.036)	(.036)
Married	-.133***	-.129***	-.128***	-.128***	-.243**	-.130***	-.128***
	(.037)	(.037)	(.037)	(.037)	(.086)	(.037)	(.037)
Social Participation (Number of Memberships	.017†	.014	.014	.015	.027	.014	.015
in Voluntary Organizations)	(.010)	(.010)	(.010)	(.010)	(.022)	(.010)	(.010)
Self-Reported Health Limitation	.201***	.200***	.201***	.200***	.174***	.200***	.200***
	(.017)	(.017)	(.017)	(.017)	(.032)	(.017)	(.017)
Education (Years)	-.013*	-.014*	-.013*	-.013*	-.027*	-.014*	-.014*
	(.006)	(.006)	(.006)	(.006)	(.012)	(.006)	(.006)

Occupational Socioeconomic Status (HWSEI)	-.001	-.001	-.001	-.001	-.002	-.001	-.047
(Current/Last Job)	(.001)	(.001)	(.001)	(.001)	(.003)	(.001)	(.060)
Annual Family Income (log)	-.052*	-.054*	-.053*	-.053*	-.086†	-.055*	.005
	(.026)	(.026)	(.026)	(.026)	(.049)	(.026)	(.006)
Full-Time Employment	-.043	-.049	-.107†	-.057		-.047	-.001
	(.051)	(.051)	(.058)	(.051)		(.051)	(.001)
Duration of Lack of Full-Time Employment	-.003	-.003	-.004	.004	.002	-.003	-.057*
(Years)	(.005)	(.005)	(.005)	(.006)	(.006)	(.005)	(.024)
Financial Dissatisfaction	.262***	.259***	.260***	.260***	.304***	.293***	.295***
	(.020)	(.020)	(.020)	(.020)	(.039)	(.024)	(.024)
Receipt of Unsolicited Job Leads		.123***	-.023	.111***	.124	.125***	.132
		(.035)	(.078)	(.035)	(.093)	(.035)	(.091)
Receipt of Unsolicited Job Leads *			.181*				-.024
Full-Time Employment			(.086)				(.107)
Receipt of Unsolicited Job Leads *				-.034***	-.031*		-.035**
Duration of Lack of Full-Time Employment				(.010)	(.012)		(.012)
Receipt of Unsolicited Job Leads *						-.098**	-.100**
Financial Dissatisfaction						(.037)	(.038)
Intercept	1.746***	1.740***	3.062***	3.014***	3.475***	2.295***	2.294***
	(.296)	(.295)	(.270)	(.270)	(.507)	(.280)	(.262)
Adjusted R-Squared	.160	.163	.164	.166	.228	.165	.163
Observations	3,000	3,000	3,000	3,000	683	3,000	3,000

Notes: HWSEI= the Hauser and Warren Socioeconomic Index (Hauser and Warren 1997); standard errors in parentheses; †$p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Figure 1. The Conceptual Model of Depression, Receipt of Unsolicited Job Leads, and Need for Job Leads

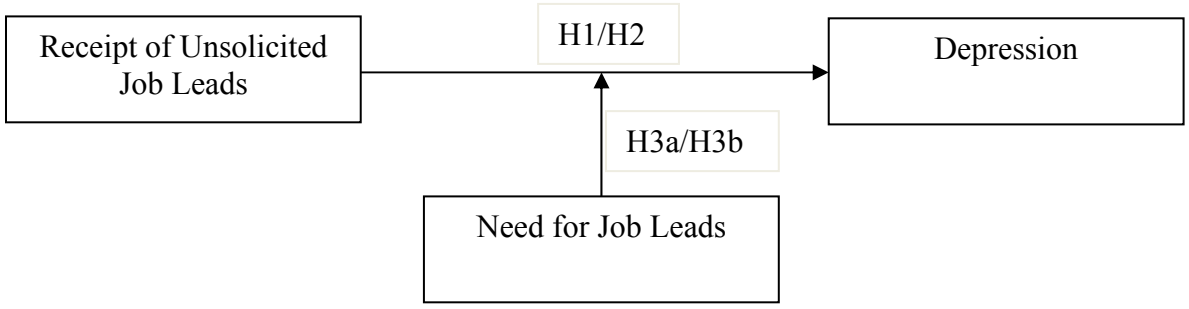

Figure 2. Interaction Effects of Receipt of Unsolicited Job Leads with Full-Time Employment, Duration of Lack of Full-Time Employment, and Financial Dissatisfaction

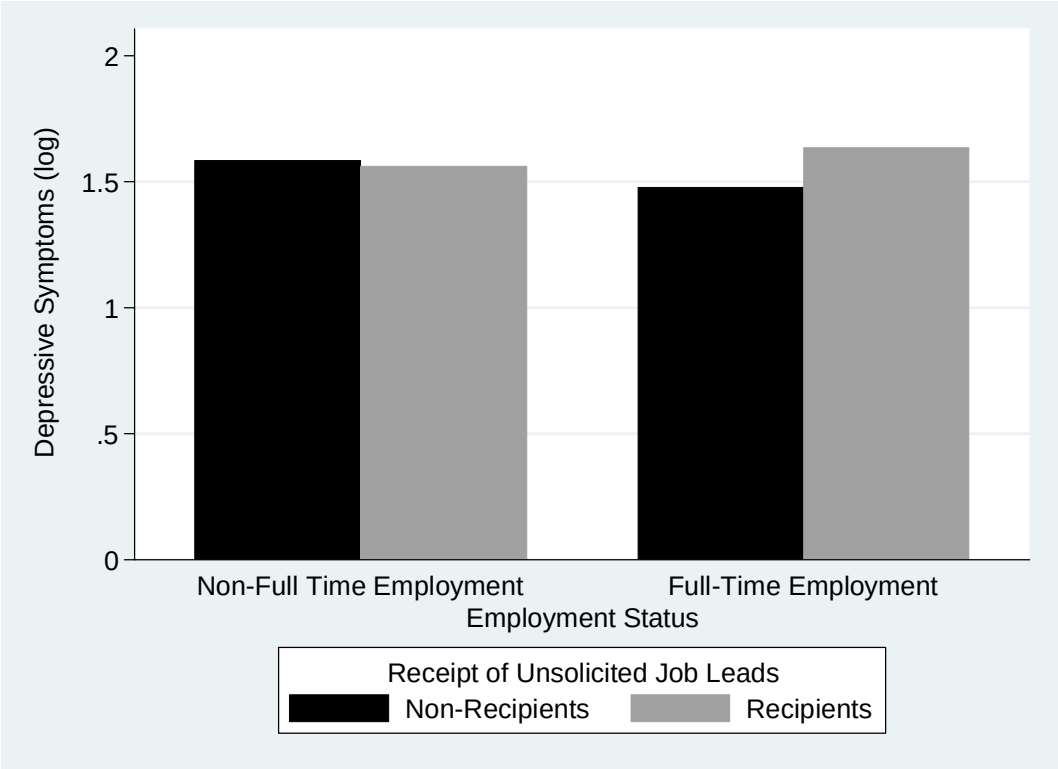

Figure 2a. Interaction Effect of Receipt of Unsolicited Job Leads with Full-Time Employment

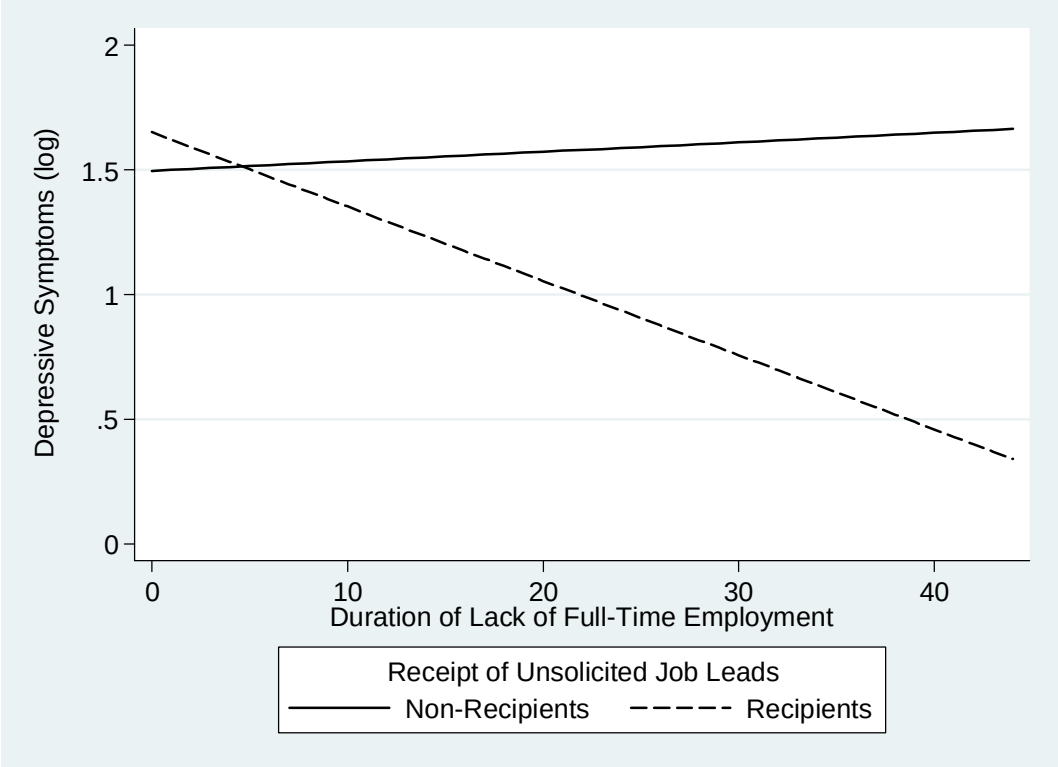

Figure 2b. Interaction Effect of Receipt of Unsolicited Job Leads with Duration of Lack of Full-Time Employment

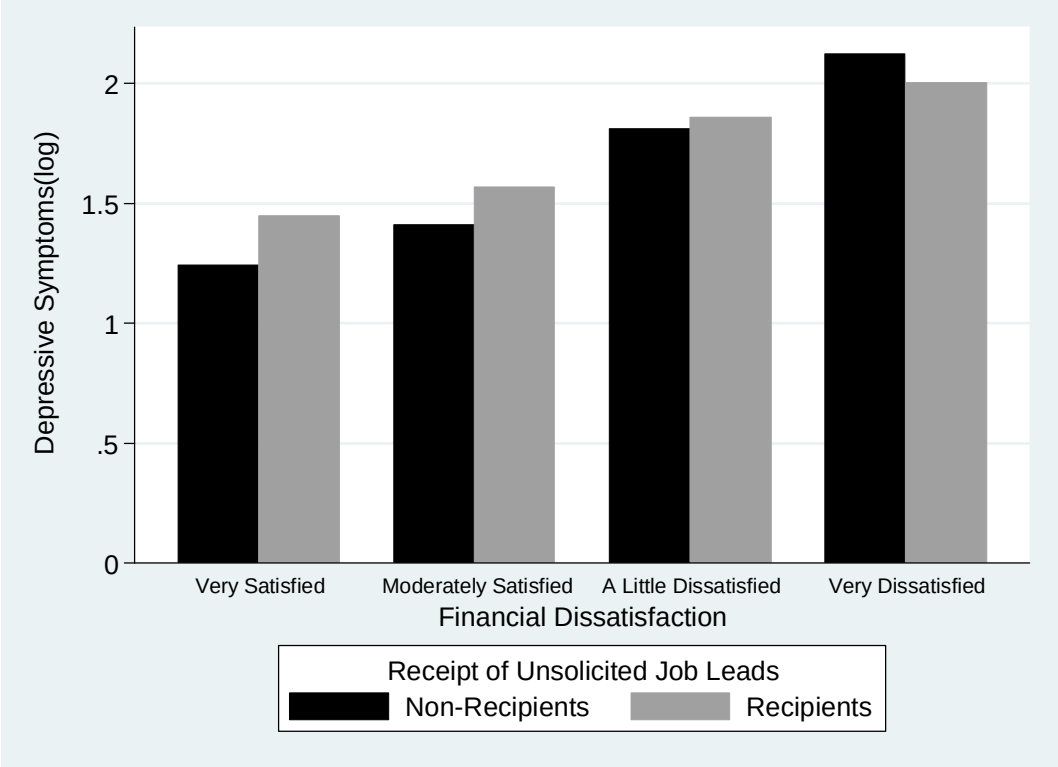

Figure 2c. Interaction Effect of Receipt of Unsolicited Job Leads with Financial Dissatisfaction