



The psychological costs of social support imbalance: Variation across relationship context and age

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Diana Wang¹ and Tara Gruenewald²

Abstract

Psychological well-being benefits of receiving social support are well-established. Growing evidence also suggests parallel benefits of giving support. However, much less attention has been given to understanding the psychological correlates of imbalance in giving and receiving social support. We examined associations between social support (given, received, and imbalance) and psychological well-being in multiple relationship types (friends, family, and spouse). Greater levels of both receiving and giving social support were independently associated with more favorable psychological well-being, while imbalance in the ratio of support given and received was associated with poorer psychological well-being. Findings varied between relationship types and across age.

Keywords

equity, support bank, psychological well-being, social exchange theory, social support

Introduction

While most research on the links between social support and well-being has focused on the positive effects of receiving support from others, recent studies suggest that there are comparable and independent benefits of *giving* support (Konrath and Brown, 2013). Despite evidence that both giving and receiving support are linked to greater well-being, there has not been extensive research on the well-being correlates of the balance of support given and received. Furthermore, there is limited knowledge regarding how these associations vary by relationship type and across the life course. This study aims to investigate the psychological well-being correlates of under-benefiting and over-benefiting from social support in multiple relationships across the life course.

Benefits of receiving support

There is a substantial amount of evidence that receiving social support is associated with better physical and psychological health (Uchino et al., 2012). Higher levels of social support are associated with lower levels of depression and stress and higher levels of positive affect (Cohen, 1988; Uchino et al., 2012). Receiving social support not only directly improves psychological well-being under non-stressful conditions but also attenuates negative psychological experiences

¹University of Southern California, USA

²California State University, Long Beach, USA

Corresponding author:

Diana Wang, University of Southern California, 3715 McClintock Ave., Los Angeles, CA 90007, USA.
Email: wangdian@usc.edu

under stressful conditions. Receiving support may benefit health and well-being by enhancing an individual's coping ability (Thoits, 2011). Perceiving the availability of support can also buffer the effect of stress on psychological distress, anxiety, and depression, often by reducing negative appraisals of a stressor (Cohen and Wills, 1985; Kawachi and Berkman, 2001).

Benefits of giving support

There is also growing evidence that giving support to others is beneficial to one's own health and psychological well-being. Giving has been associated with greater psychological well-being (Bangerter et al., 2014; Brown et al., 2008) and longevity (Poulin et al., 2013, Brown et al., 2003). Feeling like one plays a useful, contributory role in the lives of others is associated with lower levels of depression and higher levels of mastery and control (Gruenewald et al., 2007) and predicts lower likelihood of the development of physical disability or risk of mortality with advancing age (Gruenewald et al., 2007, 2012). These findings suggest that supporting others may promote more positive states of one's own mental and physical well-being.

Imbalances in social support exchanges

A sizable body of research indicates that balance in social exchanges contributes to relationship satisfaction (Buunk and Mutsaers, 1999; Buunk and Van Yperen, 1991; Rook, 1987; Traupmann et al., 1981). However, less is known regarding associations between the balance in support receipt and provision and psychological well-being. Several theories posit that psychological well-being may be linked to the relative balance of support given and received.

Equity theory posits that individuals experience distress when one's ratio of inputs and outputs is unequal to another's (Adams, 1966). Equity theory suggests that both over-benefiting (receiving more than giving) and under-benefiting (giving more than receiving) in social exchanges are equally distressful. In contrast, the *norm of*

reciprocity suggests that people are more averse to over-benefiting since they are motivated by internalized moral beliefs to reciprocate in social exchanges (Gouldner, 1960). *Social exchange theory* (SET; Homans, 1958) on the other hand suggests that individuals are more motivated to over-benefit from social exchanges due to self-interest, but that people also abide by norms of reciprocity. Because individuals act to minimize losses in exchanges, SET suggests that people may be more distressed by under-benefiting. In summary, while each theory suggests that balance in exchanges is more favorable than imbalance, they differ in predicting whether over- or under-benefiting is less favorable.

The majority of studies of the effects of imbalanced exchanges on psychological well-being have not distinguished between over-benefiting and under-benefiting (Buunk et al., 1993; Davey and Eggebeen, 1998). Studies that have directly compared under- and over-benefiting resulted in mixed findings. Under-benefiting is associated with worse relationship well-being than over-benefiting in couples (Grote and Clark, 2001; Sprecher, 2013). However, over-benefiting was associated with less favorable affective well-being, while under-benefiting was unrelated to well-being, in a sample of older adults (Keyes, 2002). Thus, it remains unclear whether over- or under-benefiting is associated with better psychological well-being and how such links might vary by relationship type and age.

Psychological well-being correlates of imbalance may vary across multiple relationship types (spouse, family, or friend). However, this difference has not been investigated thoroughly. Relationships with friends tend to be more balanced than with family (Li et al., 2011). Since friendships are more voluntary, individuals unsatisfied with imbalance in friendships can end them (Li et al., 2011). In familial relationships, however, individuals who are dissatisfied with imbalance may not have the choice to end the relationship. It is possible that imbalance in compulsory relationships with family members and spouses may be more distressful

because individuals are not able to end them at will.

Life course perspective

The nature of social support exchanges evolves over the life course; the psychological correlates of imbalance may vary with age, as well. The concept of a “support bank” has been used to illustrate that individuals keep track of the support they exchange with others (Antonucci and Jackson, 1986). Social exchanges can be reciprocated both in the short-term and the long-term, potentially reducing the negative effects of imbalance in later life (Antonucci et al., 1990). Older adults may not be as distressed by imbalance since they draw from a longer banking history of giving or receiving in the past. However, studies of older adults demonstrated that greater imbalance in perceptions as well as number of hours of support exchanged are associated with *more* psychological distress (Rook, 1987) and greater levels of negative affect (Keyes, 2002). More research is needed to compare the imbalance—well-being link across different stages of the life course.

Present study

There has yet to be an investigation comparing the psychological well-being correlates of under- and over-benefiting in different relationships. This study aims to address this gap by comparing the psychological well-being correlates of giving and receiving support, as well as under- and over-benefiting in relationships with spouses, friends, and family members. We predict greater levels of psychological well-being among those who report higher levels of support given and received. We hypothesize that under- and over-benefiting will both be associated with less favorable psychological well-being, and that these associations will vary by relationship type. We aim to add to a growing body of evidence for independent psychological benefits of support-giving, as well as to resolve mixed findings in imbalance by directly

comparing under- and over-benefiting in specific relationships and across the ages.

Methods

Sample

The data in this study are from the Biomarker Substudy ($n=1255$) of the second wave of the Study of Midlife in the United States (MIDUS; Brim et al., 2004). Two waves of data have been collected from participants in the parent MIDUS via telephone and mail surveys. In addition, surveys and health assessments were collected via an in-person visit in the substudy. The first wave (1994–1995) of 7108 participants were drawn from a main sample from a random digit dialing (RDD) procedure, oversamples from five US cities, siblings of the RDD sample, and a sample of twin pairs. A 10-year follow-up (2004–2006) re-surveyed approximately 83 percent ($n=4963$ telephone; $n=4032$ mail). An additional subsample ($n=592$) of African-American participants from Milwaukee, WI was added at this wave. The substudy collected medical history, health status, and biomarker data on a subset ($n=1255$) of MIDUS II participants. Substudy participants had comparable demographics and health to the larger MIDUS II cohort, with the exception that the substudy participants had higher educational attainment (42.1% college degree or higher in substudy; 34.5% in MIDUS II). The analytic sample used in this study is limited to those who had data on psychological well-being and social support measures ($n=1231$). A smaller analytic sample ($n=819$) is utilized in analyses of social support within married participants.

Measures

Perceptions of social support. Participants reported perceptions of support *given* to family, friends, and spouse in response to “How much can your family rely on you for help with a serious problem? How much can your family open up to you if they need to talk about their worries?” Perceptions of support *received* from family, friends,

and spouse were measured by the converse of the previous questions. Separate mean scores were calculated for each social target (family, friends, spouse) which ranged from 1 (*not at all*) to 4 (*a lot*; Walen and Lachman, 2000). Higher scores signify a higher level of perceived support given or received. Cronbach's alpha (α) internal reliability coefficients for all social support measures were good: support to family $\alpha = .65$, to friends $\alpha = .71$, and to spouse $\alpha = .78$, perceived support from family $\alpha = .84$, from friends $\alpha = .88$, and from spouse $\alpha = .90$.

A ratio of support given to support received was calculated by dividing the perceived support given to each target by the support received by each target. Ratio scores were then categorized into three groups: "giving more than receiving" (ratio cutoff score = 1 standard deviation (SD) above the mean), "balanced exchange" (ratio cutoff score = within 1 SD above and below the mean), and "giving less than receiving" (ratio cutoff score = 1 SD below the mean). Analyses of support balance employed a categorical support balance variable representing over-benefiting, balance, and under-benefiting in each relationship.

Sociodemographic and health status covariates. Sociodemographic covariates included age (in years), sex (male; female), educational attainment (high school diploma or less; some college or more), and race/ethnicity (White; non-White). A health condition burden score was calculated as the sum of lifetime diagnosis of lung problems, high blood pressure, diabetes, transient ischemic attack (TIA)/stroke, cancer, heart disease, circulation problems, and blood clots (scores range from 0 to 8).

Psychological well-being

Perceived stress was assessed with the Perceived Stress Scale (PSS; Cohen et al., 1983). The PSS is a measure of perceived frequency (1 = *never* to 5 = *very often* in past month) of stress or strain over the last month ("felt difficulties were piling up so high that you couldn't overcome them"). A summary

score was computed by summing frequency ratings (possible composite score range is from 10 to 50). The scale exhibits good internal reliability ($\alpha = .86$; Cohen et al., 1983).

Depression was measured with Center for Epidemiologic Studies Depression Scale (CESD; Radloff, 1977). Respondents rate the frequency (0 = *rarely or none of the time* to 3 = *most or all the time*) of 20 symptoms of depression over the past week ("during the past week, I had crying spells."). This scale exhibits good internal reliability ($\alpha = .89$).

Distress-anxiety and positive affect were measured by subscales of the Mood and Symptom Questionnaire (MASQ; Clark and Watson, 1991). The MASQ was used to assess the degree of experience (1 = *not at all* to 5 = *extremely*) that respondents experienced symptoms of anxiety (e.g. "felt on edge") and positive affect (e.g. "felt really up or lively") during the past week. The distress-anxious and positive affect symptoms' subscales exhibit adequate to good internal reliability ($\alpha = .82$) and ($\alpha = .93$), respectively.

Analyses

Complete data for the measures in the models were available for 1231 participants for friend and family support data and 819 participants for analyses of spousal support. For each social target (friend, family, spouse), the association between level of support given to and received by respondents and psychological well-being outcomes (perceived stress, anxiety, depression, positive affect) was examined in regression models controlling for sociodemographic and health status covariates. The moderation of age was tested with the interaction of centered age and centered continuous variables for giving and receiving social support. Associations between patterns of support imbalance and psychological well-being were examined in analysis of covariance (ANCOVA) models that assessed the mean levels of each psychological well-being measure as a function of a categorical independent variable reflecting over-benefiting, under-benefiting, or a balanced ratio of perceived support. Using Hayes' PROCESS

macro, a continuous measure of age and a dichotomous indicator of sex were tested as moderators of the associations between giving, receiving, and imbalance in each relationship type and each form of psychological well-being (Hayes and Matthes, 2009). All statistical analyses were conducted in SPSS (v. 22).

Results

The sample was primarily White, well-educated (72.3% had some college or greater), and aged 34–85 years, with a mean age of 55 years (Table 1). Perceptions of support given and received were generally favorable. Over-benefiting was more commonly reported in familial and spousal relationships, while under-benefiting was more frequently reported in friendships.

Greater perceptions of the receipt of support significantly predicted more favorable levels of all measures of psychological well-being (see Table 2). Likewise, greater perceptions of giving support also generally predicted more favorable psychological well-being for all measures except anxiety, although the association was in the expected direction. These results demonstrate that there are significant associations between degree of support provision and psychological well-being, even when controlling for the effects of received support.

Age moderated the associations between giving support and all forms of psychological well-being except anxiety, although the results varied by relationship type. The Johnson–Neyman technique within the Hayes' PROCESS macro was used to identify regions of significance within significant interactions. Analyses indicated that greater support provision was associated with lower levels of depression within familial relationships in those aged 37–57 years and within spousal relationships for those aged 40–63 years. Greater support provision in all relationship types was also associated with lower levels of perceived stress in middle-aged individuals (association significant for those between ages 40 and 70 years). Greater perceptions of support provision were also linked to higher levels of positive affect in friendships for

those aged 47–86 years and in spousal relationships for those aged 50–60 years. The patterns of age moderation for associations between receiving support and psychological well-being were similar with associations typically significant for young and middle-aged, but not older adult participants. Greater perceived support receipt was associated with lower levels of depression in familial (under age 78 years) and spousal (under age 65 years) relationships, lower levels of perceived stress in familial (under age 70 years) and spousal (ages 37–70 years) relationships, and higher positive affect in spousal relationships (ages 40–65 years). Higher perceptions of support receipt were also linked to lower levels of anxiety in those under age 65 years for all relationship types. Among the associations between giving and receiving and psychological well-being, sex only significantly moderates the link between giving support to family and depressive symptoms: among females, giving more support was not associated with depression, whereas among males, giving more support was associated with lower levels of depressive symptoms ($\beta = -2.55$; $p = .0005$). The associations between giving or receiving support and other measures of well-being did not vary by sex.

Those who under-benefit have poorer psychological well-being, as indicated by higher levels of stress, anxiety, and depression and lower levels of positive affect, compared to those who have balanced relationships (Supplemental Figure 1(a) to (d)). Those who over-benefit in familial and spousal relationships also had greater levels of stress and depression compared to those who had balanced relationships. Over-benefiting in friendships was not associated with poorer psychological well-being. When comparing both forms of imbalance, we find that those who under-benefit have greater levels of stress, depression, and anxiety and lower levels of positive affect than those who over-benefit in relationships with friends and family. This difference is not found within spousal relationships.

Age moderated the associations between imbalance and distress, but the significance of moderation depended on the form of distress

Table 1. Sociodemographic, psychological, and social exchange behavior characteristics of study sample ($n = 1228$); MIDUS II (2004–2006).

	%	Mean (SD)	Range
Socio-demographic covariates			
Age (years)		54.51	34–85
Gender			
Male (referent)	43.4		
Female	56.6		
Race/ethnicity			
White (referent)	77.8		
Non-White	22.2		
Education			
College degree or more (referent)	72.3		
High school degree	27.7		
Health covariate			
Major health conditions		1.06 (1.11)	
Social support variables			
Give to family		3.78 (0.44)	0–4
Receive from family		3.61 (0.54)	1–4
Equity of exchange with family	72.7		
Give more to family than receive	12.7		
Give less to family than receive	14.0		
Give to friends		3.74 (0.43)	1–4
Receive from friends		3.26 (0.79)	1–4
Equity of exchange with friends	79.5		
Give more to friends than receive	10.1		
Give less to friends than receive	9.1		
Give to spouse		3.85 (0.35)	1–4
Receive from spouse		3.62 (0.62)	1–4
Equity of exchange with spouse	79.8		
Give more to spouse than receive	5.9		
Give less to spouse than receive	8.5		
Mental health outcomes			
Depression		8.73 (8.16)	0–54
Anxiety		16.73 (4.92)	11–47
Perceived stress		22.24 (6.32)	10–48
Positive affect		44.50 (10.21)	14–70

SD: standard deviation; MIDUS: Study of Midlife in the United States.

and relationship type. The Johnson–Neyman technique was again used to identify regions of significance within each interaction. Age moderated the association between over-benefiting in families and stress, but over-benefiting was only associated with higher stress in participants aged 63 years and younger ($p_{\text{int}} < .01$). There was also a significant interaction of age and under-benefiting in family and friends ($p_{\text{int}} < .01$;

$p_{\text{int}} < .05$) on anxiety, with under-benefiting associated with greater anxiety in those younger than 57 years. Age also moderated the association between under-benefiting and greater depressive symptom experience in spouses ($p_{\text{int}} < .05$), but only among those aged 60 years and younger. These associations between imbalance in support exchanged and psychological well-being did not vary by sex.

Table 2. Associations between perceived support exchanges (giving and receiving; imbalance) and psychological well-being across relationship types.

Relationship type	Social support	Psychological well-being			
		Positive affect <i>B</i> (β)	Anxiety <i>B</i> (β)	Depression <i>B</i> (β)	Stress <i>B</i> (β)
Spouse	Giving	2.49 (.084)*	-0.38 (-.029)	-2.53 (-.115)**	-3.39 (-.184)***
	Receiving	2.12 (.132)***	-0.71 (-.099)**	-1.80 (-.151)***	-1.32 (-.132)***
Friends	Giving	2.55 (.106)***	-0.12 (-.011)	-0.97 (-.051)	-1.36 (-.092)**
	Receiving	2.53 (.197)***	-0.69 (-.112)***	-2.23 (-.215)***	-1.38 (-.172)***
Family	Giving	1.31 (.056)	-0.28 (-.025)	-1.20 (-.064)*	-1.49 (-.103)***
	Receiving	3.51 (.189)***	-1.13 (-.129)***	-3.25 (-.217)***	-1.92 (-.166)***
		Positive affect <i>M</i>	Anxiety <i>M</i>	Depression <i>M</i>	Stress <i>M</i>
Spouse	Balance	45.27	16.21	6.99	21.21
	Over-benefit	43.98	16.87	9.38 ^a	23.96 ^a
	Under-benefit	42.51 ^b	17.75 ^b	10.82 ^b	24.09 ^b
Friends	Balance	44.99	16.57	8.25	21.92
	Over-benefit	45.39 ^c	16.34 ^c	8.02 ^c	22.18 ^c
	Under-benefit	41.26 ^{b,c}	17.91 ^{b,c}	12.68 ^{b,c}	24.47 ^{b,c}
Family	Balance	45.69	16.44	7.85	21.60
	Over-benefit	42.97 ^{a,c}	17.02	9.70 ^{a,c}	23.65 ^{a,c}
	Under-benefit	40.15 ^{b,c}	17.64 ^b	12.51 ^{b,c}	24.25 ^{b,c}

OLS: ordinary least squares; ANCOVA: analysis of covariance. Shaded rows indicate results from OLS regression. Unstandardized regression coefficients are presented, with standardized coefficients in parentheses. Covariates include age, gender, education, chronic and health burden. Unshaded rows indicate results from ANCOVA models using categorical predictors of support balance. Covariates include age, gender, education, chronic health burden. Estimated means of psychological measures in each group are presented, with superscripts indicating significant ($p < .01$) mean difference between each group. ^aEstimated effect of over-benefiting varies from that of balanced. ^bEstimated effect of under-benefiting varies from that of balanced. ^cEstimated effect of under-benefiting varies from that of over-benefiting. * $p < .05$; ** $p < .01$; *** $p < .001$.

Discussion

We found that both perceptions of giving and receiving support from others are independently predictive of more favorable psychological well-being. Greater perceptions of received support were associated with more favorable levels of all forms of psychological well-being examined (higher positive affect, lower anxiety, depression, and stress) in all relationships. Greater perceptions of provided support were also associated with more favorable levels of psychological well-being, apart from anxiety, which was not significantly associated. Overall, the magnitude of associations between support-receiving and psychological

well-being was higher than those for support-giving.

Under-benefiting in social exchanges predicts less favorable well-being compared to balance in all relationships. Compared to balanced relationships, over-benefiting was also associated with lower levels of some forms of psychological well-being in spousal and familial relationships, but not friendships. While both forms of imbalance were associated with poorer psychological well-being compared to balanced support states, under-benefiting tends to be associated with significantly higher levels of distress than over-benefiting in friendships and familial relationships.

Different imbalance-related theories are supported in each relationship type (Adams, 1966; Homans, 1958; Walster et al., 1976). Our findings of spousal relationships support equity theory, in which under-benefiting and over-benefiting are equally distressful. We find support for SET in our findings of familial and friendship relationships, in which it is more distressful to under-benefit than over-benefit (Homans, 1958), albeit greater distress is found in those who over-benefit in familial relationships while distress is unrelated to over-benefiting in friendships. This latter finding aligns with the hypothesis that imbalance in compulsory relationships (i.e. family, spousal relationships) may be more distressing than in non-compulsory friendships. It is possible that individuals are more likely to end friendships in which they received unsolicited support that contribute to over-benefiting. Or, it is possible that over-benefiting does not elicit distress, because it is more normative to receive more support from friends. More research is needed to understand why over-benefiting is not associated with greater distress in friendships; the length of the friendship may explain more of the variation in these associations and is an important aspect to examine in the future.

Age moderates a few associations between imbalance in some relationships and some domains of psychological distress. Imbalance was associated with greater distress in young and middle-aged adults, but not older adults, which supports the notion of a "support bank" (Antonucci and Jackson, 1986); older adults may be less distressed with either form of imbalance because it can more easily be rationalized as repayment for numerous instances of previously exchanged support. Our findings vary from the other study comparing effects of imbalance across the life course (Keyes, 2002), in which it was found that imbalance in support was associated with worse affect in older but not younger adults. This discrepancy may be due to the use of the *number of hours* rather than *perceptions* of support. Additionally, the perceptions of support investigated in this study refer to emotional support, rather than instrumental

support. Findings from past research indicate that receiving more than giving is distressful to older adults as it may indicate dependency (Dunbar et al., 1998; Zunzunegui et al., 2001). However, this prior research operationalizes social support as instrumental rather than emotional. Thus, more research is needed to further understand age differences in the support imbalance—distress connection across different types of social support.

Apart from a significant association between greater giving and lower depressive symptoms among males but not females, we do not find any sex differences in other giving/receiving or over-/under-benefiting and psychological well-being associations. There have been mixed findings with regard to sex differences in associations between imbalance and well-being. In one study of couples, wives who over-benefit are less satisfied with their marriages, while husbands' perceived imbalance was not associated with satisfaction (Goodman, 1999). In another, it was found that while women receive more support than men, there are no differences in the reported imbalance in support, nor are there differences in associations between imbalance and happiness (Antonucci and Akiyama, 1987). More research is needed to clarify these mixed findings in the role of sex as a moderator of the relationship between social support imbalance and psychological well-being.

An important limitation of this study is the cross-sectional analysis of associations between forms of social support exchange and well-being, due to the availability of all the variables of interest in only wave II of the MIDUS. Longitudinal data are needed to investigate how changes in the perceptions of support predict changes in well-being. Strengths of this study include the comparisons between specific types of relationships, efforts to distinguish between effects of over-benefiting and under-benefiting, and examination of age as a moderator of these associations. Since most previous research does not directly compare under- and over-benefiting or the effects of imbalance across different relationships, our findings help clarify some of the previously conflicting support for different

theories of social support inequity (Buunk et al., 1993; Rook, 1987; Väänänen et al., 2005).

Other inter-individual differences, such as personality factors, may moderate the links between imbalance and well-being. Those who are more extraverted receive and perceive higher levels of support (Asendorpf and Van Aken, 2003; Swickert et al., 2002), have larger social networks (Cutrona et al., 1997), and are less likely to feel burdened, frustrated, or dependent as a function of support provision or receipt (Lu, 1997). Additionally, it has been proposed that individuals differ in levels of *exchange orientation*, or the degree to which they are oriented toward direct and immediate reciprocity (Murstein et al., 1977). A greater exchange orientation is linked to greater levels of stress and loneliness (Buunk et al., 1993; Buunk and Prins, 1998). Our findings of age differences may be explained by change in exchange orientation or personality traits over the life course. Thus, personality trait moderation of associations observed in the present analyses between support imbalance and psychological well-being is an important focus for future research.

In summary, we find that psychological well-being is consistently greater in those who perceive balanced support exchanges compared to both the under- and over-benefited. Under-benefiting is more strongly associated with poor well-being than is over-benefiting in familial relationships. Under-benefiting is the only form of imbalance associated with poorer well-being in friendships, while both forms of imbalance are equally linked to greater distress in spousal relationships. The strength of association between imbalance and poorer psychological well-being also appears to fade with age. Considerable progress has been made in the social support and health field in the identification of health correlates of receiving support, and more recently, in the identification of the potential benefits of giving support. The present findings further contribute to our understanding of the psychological well-being correlates of the balance in giving and receiving in different relationship types across the life course.

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