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Emotional and Instrumental Support Provision Interact to Predict Well-Being

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Abstract

Individuals in close relationships help each other in many ways, from listening to each other's problems, to making each other feel understood, to providing practical support. However, it is unclear if these supportive behaviors track each other across days and as stable tendencies in close relationships. Further, although past work suggests that giving support improves providers' well-being, the specific features of support provision that improve providers' psychological lives remain unclear. We addressed these gaps in knowledge through a daily diary study that comprehensively assessed support provision and its effects on well-being. We found that providers' *emotional support* (e.g., empathy) and *instrumental support* represent distinct dimensions of support provision, replicating prior work. Crucially, emotional support, but not instrumental support, consistently predicted provider well-being. These two dimensions also interacted, such that instrumental support enhanced well-being of both providers and recipients, but only when providers were emotionally engaged while providing support. These findings illuminate the nature of support provision and suggest targets for interventions to enhance well-being.

Keywords

support; provider; well-being; empathy; relationships

People are generous to strangers, but even more helpful to close others (Barry & Wentzel, 2006; Burnstein, Crandall, & Kitayama, 1994; Kogan et al., 2010; Maner & Gailliot, 2007). Individuals endure material and psychological burdens (e.g., lending money, sacrificing time and energy) in order to support close others, but these costs are often outweighed by the physical, mental, and material benefits of support provision. Helping others affords powerful and diverse positive outcomes to helpers (henceforth: "providers"), including reductions in morbidity, mortality, stress, and depression, as well as increases in positive mood, self-esteem, and monetary payoffs (Aknin, Dunn, Whillans, Grant, & Norton, 2013; S. L. Brown, Brown, House, & Smith, 2008; S. L. Brown, Nesse, Vinokur, & Smith, 2003; W. M. Brown, Consedine, & Magai, 2005; Rand & Nowak, 2013).

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Although prior work suggests that support provision constitutes a powerful salutary force for providers, several key features of support provision and its effects remain poorly understood. Past work demonstrate that social support dissociates into distinct categories – such as emotional (e.g., making someone feel valued, loved, and cared for) and instrumental support (e.g., helping with chores and errands) – and that each type of support differentially affects support recipients (Cutrona, Shaffer, Wesner, & Gardner, 2007; Helgeson, 1993, 2003; House, 1981; House, Umberson, & Landis, 1988; Shrout, Herman, & Bolger, 2006; Suhr, Cutrona, Krebs, & Jensen, 2004). However, much less is known about patterns of support provision in daily life and the effects of support provision on providers' well-being. Here, we address these gaps in knowledge by examining the structure and consequences of support provision using a novel multilevel approach.

The Structure of Support Provision

Previous research catalogues a litany of supportive actions that people perform for each other in daily life – such as spending money on others, providing tangible assistance, making sacrifices for others, and giving emotional support – but provides little information about whether these supportive actions collapse into a single dimension—such that providers who engage in one form of support provision also engage in others—or does not (Aknin, Dunn, Whillans, et al., 2013; S. L. Brown et al., 2003; Kogan et al., 2010; Layous, Nelson, Oberle, Schonert-Reichl, & Lyubomirsky, 2012; Telzer & Fuligni, 2009). Interestingly, Peysakhovich and collegues (2014) discovered that prosocial behaviors during economic games do not cohere into a single factor, but rather split into two distinct factors (i.e., cooperation vs. punishment/competitiveness). We build on this work by examining the structure of supportive, prosocial behaviors *in daily life* and further test the assumption that prosociality generalizes across domains.

Thus, we integrated measures from social and health psychology to create a comprehensive assessment of support provision in relationships. In particular, we conducted a two-week daily diary study to examine two classes of support provision that are typically assessed. First, many researchers focus on providers' *instrumental support*, typically measuring the type and number of supportive actions providers perform (S. L. Brown et al., 2003; Dunkel-Schetter & Skokan, 1990). Second, other researchers concentrate instead on providers' *emotional support*, typically measuring providers' empathy or emotional responsiveness (Batson, Duncan, Ackerman, Buckley, & Birch, 1981; Reis, Clark, & Holmes, 2004). The relationship between emotional support and instrumental support connects to a broader discussion about the nature of prosociality. On the one hand, a large body of work demonstrates that empathy drives support provision (Batson, 2011; Davis, 1994; Morelli, Lieberman, & Zaki, in press; Morelli, Rameson, & Lieberman, 2014; Zaki, López, & Mitchell, 2014), suggesting that emotional support and instrumental support should track each other. On the other hand, support provision can also reflect a host of ulterior motives, such as enhancing one's reputation or staving off guilt (Harbaugh, 1998; Hoffman, 1982; Penner, Dovidio, Piliavin, & Schroeder, 2005). This leaves open the possibility that emotional support and instrumental support might dissociate in some cases.

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To address these questions, we measured supportive actions individuals performed for a close friend, as well as providers' emotional support of recipients (e.g., empathy) each day. We leveraged this rich dataset to test two competing hypotheses: (1) all measures of support provision cohere into a single factor and (2) emotional support and instrumental support represent two different factors of support provision (consistent with past work on support receipt). We further employed a novel multilevel factor analytic approach to examine these potential structures at both the within-individual level (across days) and the between-subjects level (across individuals). This allowed us to simultaneously assess how support provision unfolds in daily life and emerges as a stable tendency (or tendencies).

Effects of Support Provision on Well-Being

After discovering that emotional and instrumental support diverge across individuals and across days (see Results), we explored which of these features maximally enhances providers' well-being. In particular, we tested two competing hypotheses. On the one hand, emotional support and instrumental support may *independently* relate to providers' well-being. On the other hand, these constructs might *interact* to predict well-being. For instance, providing emotional support may amplify the benefits of providing instrumental support. Under such a state of affairs, emotionally engaged providers might benefit from each episode in which they provide instrumental support to recipients, whereas unengaged providers might find instrumental support increasingly stressful and burdensome (Fredrickson & Joiner, 2002; Grunfeld et al., 2004). For example, when you resonate with a friend's stressful situation, it may feel more rewarding to take action and help him/her in any possible way. In contrast, it may feel taxing to help a friend fix a problem when you don't understand why he/she feels stressed.

Both theoretical and experimental work provides evidence that helping others may benefit emotionally engaged providers, but burden unengaged providers (S. L. Brown, Brown, & Preston, 2012; Canevello & Crocker, 2011; Crocker & Canevello, 2008; Poulin et al., 2010). For example, caregivers who viewed themselves as highly interdependent with their spouse experienced more positive emotion after providing instrumental support (e.g., cooking meals) (Poulin et al., 2010). In contrast, caregivers who did not view themselves as interdependent with their spouse experienced more negative emotion after helping. Similarly, individuals who helped because they genuinely cared about others' well-being subsequently received more support and felt less distressed than self-oriented individuals (Canevello & Crocker, 2011; Crocker & Canevello, 2008). Thus, feeling emotionally invested in the recipient may maximize the intrapersonal and interpersonal benefits of helpful action. To more directly test this idea, we examined if emotional and instrumental support provision would interact to predict provider well-being.

Although previous research documents the independent effects of emotional and instrumental on *recipient* well-being (Shrout et al., 2006), it is unclear whether these two types of support interact to predict recipient well-being. Recipients may benefit from instrumental support when the provider expresses empathy, but gain little when the provider lacks empathy and understanding. Thus, we also investigated the interactive effects of support provision on recipient well-being. Taken together, this work illuminates the nature

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of support provision and its salutary effects. In particular, it will grow scientific understanding of the relationship between interpersonal affect (e.g., empathy) and instrumental behaviors, and isolate the effect of each on health outcomes for providers. This work can further inform future interventions, for instance, by suggesting whether such interventions should target providers' emotional support, instrumental support, or both in efforts to improve well-being.

Methods

Participants

To determine sample size, we adhered to recommended guidelines for latent variable models (T. A. Brown, 2012; MacCallum, Browne, & Sugawara, 1996). In order to have usable data for a minimum of 96–100 participants, we recruited 55 same-gender pairs of undergraduates from fliers and advertisements posted around the Stanford campus. We excluded five pairs of friends because one member of the dyad completed less than 10 days of surveys. One pair withdrew from the study due to an interpersonal conflict. Therefore, the final sample consisted of 49 same-gender pairs (25 pairs of males, 24 pairs of females; total $N = 98$; mean age = 19.41) with 36% Caucasian, 14% Hispanic/Latino, 14% Black/African American, 12% East Asian, 3% South Asian, 2% Pacific Islander, 1% Middle Eastern, 5% Other/Undisclosed, and 13% Mixed Race. To qualify for the study, both members of the dyad needed to perceive a high degree of closeness with their friend (4 or higher on the Inclusion of Other in Self Scale on a 1–7 likert scale) and report seeing their friend at least three times per week (Aron, Aron, & Smollan, 1992). Participants completed informed consent and were compensated for completing the study.

Procedure

We instructed participants to complete 14 days of daily diary surveys. Each evening, we e-mailed each participant at 5 PM with a link to time-stamped online surveys. We also sent an additional text message or e-mail as a second daily reminder at a time close to when the participant typically went to bed. We instructed participants to complete the survey immediately before going to bed each night. Participants completed an average of 12.7 out of 14 days of surveys.

Measures

Participants reported on their own support provision, support receipt, and their personal well-being each day.

Instrumental support—We measured two forms of instrumental support: (i) number of emotional disclosures heard by the provider and (ii) tangible assistance provided. We defined "heard" as the *number* of positive events (e.g., doing well on an exam) and negative events (e.g., getting into an argument) participants heard from their friend each day. Because hearing emotional disclosures does not necessarily require emotional support (and only weakly related to emotional support, see below), we categorized heard events as an instrumental behavior. To quantify tangible assistance, participants read a list of helping behaviors selected from the Self-Report Altruism Scale (Morelli, Rameson, & Lieberman,

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2012; Rameson, Morelli, & Lieberman, 2012; Rushton, Chrisjohn, & Fekken, 1981), and reported on all the types of help they provided their friend that day. Items included buying a present, buying food/meal, providing care during sickness, helping fix a problem, giving advice, lending/giving money, helping with schoolwork, lending an item of value, and helping with chores/errands. Tangible helping scores were computed by creating a mean of all items, representing the proportion of instrumental support in which participants engaged each day.

Because each friend played the role of both a provider and a recipient, participants also responded to parallel questions about received instrumental support: the number of positive and negative events they told their friend and the amount of tangible assistance they received from their friend.

Emotional support—For both positive and negative emotional disclosures, we assessed two types of emotional support: empathy and emotional responsiveness. Since participants typically heard multiple disclosures from their friend, we asked participants to report how they responded on average across all of these exchanges. To measure empathy for positive events (i.e., *positive empathy*), participants rated how *happy* they felt on average when their friends told them about something positive that happened that day. To assess empathy for negative events (i.e., *negative empathy*), participants rated how *upset* they felt on average when their friends told them about something negative that happened that day (Morelli, Lieberman, Telzer, & Zaki, under review; Toi & Batson, 1982). As with our other measures, participants also assessed "received empathy"—or the extent to which their friend empathized with them—in response to positive and negative emotional disclosures.

To evaluate emotional responsiveness, participants indicated how they responded on average to their friends' positive or negative disclosures by rating the following three statements: (1) "I tried to make my friend feel understood," (2) "I tried to make my friend feel like I valued his/her abilities and opinions," and (3) "I tried to make my friend feel cared for" (Gable, Gonzaga, & Strachman, 2006; Maisel & Gable, 2009). These three ratings were averaged to form a composite score for positive and negative event responsiveness (both αs = .92). Ratings of responsiveness were only reported on days when friends shared at least one positive or one negative event with the participant. Participants indicated their emotional responsiveness by rating their agreement with each statement, using a 7-point scale from *1 (not at all true)* to *7 (very true)* for all measures of emotional support.

We also measured "received emotional responsiveness" by asking participants how understood, validated, and cared for their friend made them feel in response to their own positive and negative emotional disclosures. We then computed composites for received positive (α = .92) and negative event responsiveness (α = .94).

Well-Being—We measured well-being by assessing loneliness, perceived stress, anxiety, and happiness each day. We measured daily loneliness with a 6-item measure, adapted from the UCLA loneliness scale (α = .88), assessing how alone or isolated individuals felt each day (Russell, 1996). Participants rated their daily perceived stress with the 4-item Perceived Stress Scale (α = .80), assessing how unpredictable, uncontrollable, and overloaded

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participants find their lives each day (Cohen, Kamarck, & Mermelstein, 1983). For both of these scales, participants rated their agreement with each statement using a 7-point scale from *1 (strongly disagree)* to *7 (strongly agree)* and composite measures, scores for each day were calculated by averaging all the items for each scale together.

We assessed daily anxiety (α = .88) with four adjectives (i.e., *anxious, stressed, upset,* and *scared*) and daily happiness (α = .81) with four items (i.e., *happy, joyful, excited,* and *elated)* (Gable, Gosnell, Maisel, & Strachman, 2012). We asked participants to indicate how much each term described how they felt each day. For both of these scales, participants rated their agreement with each statement using a 5-point scale from *1 (not at all)* to *5 (extremely).* We calculated a mean of the four items for each scale to create a composite score.

Data Analyses

Overview—We first conducted multilevel confirmatory factor analysis (MCFA) to examine the underlying *structure* of support provision. Next, we implemented multilevel modeling (MLM) procedures to examine relationships between each factor of support provision and well-being (Hox, 2002), while accounting for the hierarchical data structure (i.e., daily ratings nested within participant, and participants nested within dyads). For more information and guidelines pertaining to MCFA models, see (Kaplan, Kim, & Kim, 2009) and (Mehta & Neale, 2005). For additional details on MLM, see (Hox, 2002). All analyses were conducted in Mplus 7.0 (Muthén & Muthén, 2012).

What is the structure of support provision?—To explore the structure of support provision, we tested two competing hypotheses. First, emotional support (i.e., positive-event responsiveness, negative-event responsiveness, positive empathy, and negative empathy) and instrumental support (i.e., tangible helping, positive events heard, negative events heard) could dissociate (Model 1). Second, variation in all measures of support provision (tangible helping, events heard from friend, emotional responsiveness, and empathy) could collapse into a single factor (Model 2). See Figure 1 for a summary of both models.

To allow for the possibility that support provision operates differently at different levels of analysis, we conducted multilevel CFAs to establish the factor structure from day-to-day within an individual and at an aggregate level across individuals. We handled clustering at the dyad level via adjustment of standard errors which are derived using a sandwich estimator (Muthén & Muthén, 2012). This multilevel approach can reveal which features of support provision closely relate to each other *within* subjects (from day to day), as well as which features of support provision cluster together to comprise trait-like components *across* subjects. We evaluated model fit with the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and the Bayesian Information Criterion (BIC). Generally, CFI and TLI values above .90 suggest acceptable fit (Hoyle & Panter, 1995). RMSEA and SRMR values of .08 or less also indicate adequate fit (Hu & Bentler, 1999). We report level-specific[1] model fit (Ryu & West, 2009), which reflects how well each

[1]To obtain level-specific model fit, all pairwise covariances are estimated as free parameters at one level (e.g., saturating the within-person model) to obtain model fit at the other level (e.g., between-persons model).

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hypothesized model of support provision explains the observed relationships among support provision variables within an individual (from day to day) as well as across individuals.

To identify the best model at each level, we compared fit for Models 1 and 2 with the Satorra-Bentler scaled chi-square difference test (implemented when using maximum-likelihood estimation with robust standard errors for nested model comparisons). After determining the best measurement model at each level, we fit an overall measurement model incorporating this within-person model specification (reflecting the average day-to-day association) and between-persons specification (reflecting the correlation across participants).

We then repeated all these steps to determine the best measurement model at each level for *support receipt* (see Supplemental Materials). We used the following variables in the two models at each level: received tangible assistance, positive/negative events told to friend, received positive/negative event responsiveness, and received positive/negative empathy. After establishing the best measurement model at each level, we fit an overall measurement model for support receipt.

Which features of support most enhance providers' and recipients' well-being?—Our factor analytic approach revealed that support provision split into two factors tracking emotional support and instrumental support, respectively (see below). As such, our subsequent analyses tested two competing hypotheses: (1) emotional support and instrumental support each independently relate to well-being or (2) the *interaction* between these two factors predicts well-being, such that emotional support magnifies the benefits of instrumental support (Figure 2). We employed MLM[2] to examine the effects of each factor and their interaction on well-being outcomes (loneliness, perceived stress, anxiety, and happiness). See Supplemental Materials for full MLM equations for all analyses. To allow for the possibility that different features of support provision benefit recipients, we also conducted a separate set of analyses with support receipt (Supplemental Figure S1) as predictors. Due to a robust literature on the main effects of emotional and instrumental support on recipients, we relegate our replication of that work to Supplemental Materials.

We then built two sets of models—'within-person' and 'between-persons'—to examine associations between support provision and daily well-being (with daily ratings nested within person) and average well-being (with individuals' average well-being nested within dyad), respectively. As in the factor analysis, we modeled dyad-level clustering in the estimation of standard errors (Muthén & Muthén, 2012). Within-person analyses isolate features of support provision that oscillate with personal well-being from day to day. In contrast, between-persons analyses examine how support provision tendencies relate to general well-being (on average, from person to person). Taken together, these two classes of analyses examine the relationship between support provision and well-being across conceptually different units of measurement (day versus person).

[2]We utilized MLM, rather than multilevel structural equation modeling, due to model convergence issues. Our attempts to (a) model latent interactions and (b) specify an interaction factor using observed product terms as indicators resulted in estimation problems, inadmissible (out-of-bounds) solutions and non-convergence (Klein & Muthén, 2007).

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Therefore, to assess the role of each support provision dimension on well-being at the within- and between-person level, we created a composite variable for each newly identified factor of support provision at each level. Drawing from the results of the MFCAs, we multiplied each indicator (e.g., responsiveness to positive events) by its factor loading at that level and then averaged across all items for that factor. Using this structure, we ran 3 sets of analyses, described in Table 1. In our Supplementary Materials, we addressed a similar set of question for received support (Table S1).

Because previous research demonstrates that providing and receiving support both affect personal well-being (S. L. Brown et al., 2008; Kleiboer, Kuijer, Hox, Schreurs, & Bensing, 2006), our analyses focused on how support provision relates to well-being, *above and beyond* the effects of support receipt. Due to high correlations between provided and received emotional support (within-subjects r = .60, between-subjects r = .80), as well as between provided and received instrumental support (within-subjects r = .79, between-subjects r = .88), we opted to enter support receipt upstream (i.e., as predictors of support provision). This approach ensures that the focal effects represent 'pure' effects of provided (minus received) support on well-being. By 'pure' effects, we mean the effects on well-being resulting from residualized support provision variables.

Does support provision predict well-being the next day?—To examine the duration of the effects of support provision on well-being, we conducted within-person lagged analyses for provided emotional support. We tested the effects of the previous day's provided emotional support on the current day's well-being. To control for potential confounding variables, we included the previous day's well-being and the current day's provided emotional support as covariates. We found a high correlation between the current day and previous day's provided emotional support (r = .568). Therefore, we entered the current day's provided emotional support downstream of the previous day's provided emotional support (i.e., as an outcome in the multilevel model, predicted by the previous day's emotional support) and as a predictor of current day's well-being (Figure 3) in each analysis. In our Supplmentary Materials, we test a similar model for support receipt (Figure S2).

Results

The Structure of Support Provision in Relationships

Emotional and instrumental support provision as dissociable dimensions—When comparing different models for support provision, only Model 1—under which emotional support and instrumental support constitute dissociable factors—exhibited acceptable fit[3] at both within- and between-subject levels (Table 2). Furthermore, Model 1 showed an improvement over Model 2 at the within-person level ($\Delta\chi^2(1) = 97.37$, $p < .001$) and at the between-persons level: ($\Delta\chi^2(1) = 82.48$, $p < .001$). Because Model 1 had the best

[3]The within-person model TLI and the between-person model SRMR indicated slightly poor fit. It is not uncommon to obtain one fit index at odds with other fit indices given that they assess model fit in slightly different ways. The low TLI is likely due to the small sample size (Hoyle & Panter, 2005) and can be overlooked due to the corresponding high CFI. Given that all other between-person indices reflect excellent fit, we can safely overlook this borderline high SRMR.

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fit at both levels, we used this factor structure when fitting an overall measurement model. Factor loadings for the within- and between-persons models indicated relatively high internal consistency, (*ps* < .001; see Figure 4), ranging from .38 to .75 (within-person) and .57 to 1.00 (between-persons). Overall, these analyses reveal that support provision consists of two distinct factors – emotional and instrumental support – rather than cohering into one latent dimension of support provision (Model 2). Further, we replicated this multilevel factor structure for support receipt (Table S2).

To more deeply probe this structure, we tested if these two factors relate to each other within- and between-individuals. For Model 1 (now the primary model), provided emotional support and instrumental support were positively correlated at the within-person level ($r = .51$, $p < .001$; see Figure 4). By contrast, provided emotional support and instrumental support did not show any significant associations at the between-person level ($r = .13$, *ns*). Thus, individuals generally increase (or decrease) their emotional support and instrumental support together from day to day. Interestingly, however, we observed only a minimal (and non-significant) correspondence between individuals' general tendencies towards providing emotional support and instrumental support. As such, some individuals likely provide high levels of instrumental support, but low levels of emotional support, whereas other individuals provide low levels of instrumental support, but are highly emotionally supportive. For information about the how these factors relate to each for support receipt, see Figure S3 in Supplemental Materials.

Features of Support Provision That Maximize Well-Being

We next investigated the extent to which each dimension of support provision – emotional and instrumental support –predict well-being (i.e., loneliness, perceived stress, anxiety, and happiness). We further investigated whether contributions of each dimension to well-being are independent or interactive. Finally, we related emotional and instrumental support provision to well-being on not only the same day, but also on the following day. In our Supplemental analyses, we also conducted all these analyses for support receipt (Table S3). However, we only include the most novel findings for support receipt below.

Provided emotional and instrumental support as independent predictors of well-being—At the within-person level, provided emotional support negatively predicted loneliness, perceived stress, and anxiety, and positively predicted happiness (see Table 4). Effects of instrumental support were less consistent: provided instrumental support negatively related to loneliness and positively related to happiness (marginal effect), but did not relate to stress or anxiety. At the between-subjects level, we observed a significant negative effect of provided emotional support on loneliness and perceived stress, and a marginally significant positive effect on happiness (Table 4). In contrast, provided instrumental support positively predicted perceived stress and (marginally) anxiety.

Broadly speaking, this suggests that more emotionally supportive individuals also report enhanced well-being, whereas individuals who regularly provide instrumental support do not consistently report elevated well-being. Notably, these findings replicate at the within- and

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between-subjects levels, highlighting the strong link between emotional support and well-being over time and across individuals.

Emotional support provision as a moderator of instrumental support provision on well-being—We next tested whether instrumental and emotional support provision interact to predict well-being. Consistent with this prediction, at the within-person level, provided emotional support moderated the effect of provided instrumental support on loneliness (β = −.49, p = .06; marginal effect), perceived stress (β = −.43, p = .01), anxiety (β = −.34, p = .04), and happiness (β = .38, p = .03; Figure 5). With regard to happiness, those reporting higher levels of emotional support provision were happier as instrumental support provision increased (B = .53, SE = .18, p = .003) whereas instrumental support provision and happiness were unrelated for those with lower levels of emotional support provision (B = .04, SE = .15, p = .77). We observed similar effects for negative outcomes: provided instrumental support predicted less stress (B = −.69, SE = .27, p = .011), anxiety (B = −.37, SE = .15, p = .017), and loneliness (B = −.83, SE = .25, p = .001) for people with high emotional support provision. In contrast, instrumental support provision did not relate to stress (B = .02, SE = .22, p = .94), anxiety (B = .02, SE = .11, p = .85), and loneliness (B = −.14, SE = .19, p = .44) for providers with lower levels of emotional support provision. Thus, individuals may benefit the most on days they provide large amounts of instrumental support *and fe*el more emotionally connected to their friend. At the between-persons level, no significant interaction effects were observed on well-being.

Emotional support provision as a predictor of well-being the following day—After discovering that emotional support provision positively related to well-being on the same day, we conducted time-lagged analyses to determine if the previous day's emotional support provision predicted the current day's well-being. Previous day emotional support provision significantly predicted decreases in current day loneliness (β = −.14, p < .05). In addition, previous day emotional support provision showed a marginally significant negative relationship with current day perceived stress (β = −.06, p = .07). However, previous day emotional support provision did not have a significant relationship with current day happiness (β = .05, ns) or current day anxiety (β = −.03, ns). Overall, this suggests that emotional support provision not only negatively predicts loneliness and perceived stress on the same day (see above), but also on the following day. These results raise the possibility that emotional support provision may *cause* these improvements in well-being.

Features of Support Provision That Maximize Well-Being

Although we placed most findings about recipients in Supplemental Materials as a replication of past work, here we include interaction effects on recipient well-being because this idea is novel and untested in past literature.

Received emotional support as a moderator of received instrumental support on well-being—We also examined whether received emotional support moderated the effect of received instrumental support on recipients' well-being. At the within-person level, we observed significant interaction effects on loneliness (β = −.32, p = .04; Figure 6) and perceived stress (β = −.27, p = .045), as well as marginally significant interaction effects on

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anxiety (β = −.24, p = .07) and happiness (β = .28, p = .05). As shown in Figure 6, receiving higher levels of instrumental support predicted less loneliness for those receiving high levels of emotional support (B = −.67, SE = .20, p = .001), whereas receiving instrumental support did not predict loneliness for those receiving low levels of emotional support (B = −.22, SE = .15, p = .13).

In addition, even given the marginal interaction, receiving higher levels of instrumental support predicted greater happiness for those receiving high emotional support (B = .67, SE = .17, p < .001), whereas for those receiving low emotional support, receiving instrumental support predicted more modest (but still statistically significant) increases in happiness (B = .31, SE = .16, p = .047). Effects on perceived stress and anxiety were in a similar direction (though failing to reach statistical significance) for those who received high and low levels of emotional support (*p*s > .11). Thus, the more emotionally supportive friends were, the larger an effect their instrumental support exerted on recipients' well-being, paralleling the effects of support provision on providers.

Discussion

Our results suggest that support provision in the context of close relationships consists of two distinct components: emotional and instrumental support. This two-factor structure replicates previous findings about support receipt and extends this structure to support provision, at both the within-subject and between-subjects levels. Further, emotional and instrumental support provision—although significantly tracking each other within individuals across time – did not track each other at a between-person level.

This demonstrates, intriguingly, that the amount of time individuals spend providing instrumental support does not always relate to how emotionally engaged they feel during these interactions. These findings support the view that two forms of support provision may exist: (1) instrumental support in combination with emotional support and (2) instrumental support driven by other motives. More broadly, these data connect with theory and debate surrounding the relationship between empathy and support provision (Batson, 1991; Batson et al., 1988; Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Cialdini & Kenrick, 1976). Our data suggest that emotional support indeed accompanies many instances of instrumental support for some individuals, but that instrumental support can also diverge from emotional support for other individuals.

Moreover, our work suggests that these classes of support provision generate interactive effects on well-being. In particular, when providers engaged in instrumental support, but were not emotionally supportive, they did not experience increased well-being. However, when providers felt more emotionally engaged, their instrumental support exerted a large, positive effect on their well-being, as well as on recipients' well-being. As such, these findings demonstrate the broader value of emotional support for well-being. These results further add to an emerging literature on the relationship between prosociality and happiness. Although many studies suggest that prosocial acts, such as spending money on others, generally promote happiness (Dunn, Aknin, & Norton, 2008; Dunn, Aknin, & Norton, 2013; Layous et al., 2012), our findings add an additional nuance. At least in the context of

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relationship support, acting kindly might only improve well-being to the extent providers feel emotionally engaged during instrumental support. This is consistent with recent work suggesting that support provision maximally boosts providers' happiness when providers and recipients are socially connected (Aknin, Dunn, Sandstrom, & Norton, 2013; Aknin, Dunn, Whillans, et al., 2013).

These data also hold translational implications, for instance in crafting interventions to optimize support behaviors within close relationships (Hogan, Linden, & Najarian, 2002). In particular, our data suggest that such interventions should not only encourage individuals to provide more instrumental support to each other, but should concurrently train individuals to enhance their emotional connection to recipients. Thus, recent interventions to cultivate empathy and compassion (Klimecki, Leiberg, Ricard, & Singer, 2013; Weng et al., 2013)—in combination with more support interventions to bolster instrumental support (Layous et al., 2012)—should help individuals provide emotional support to each other, and maximally reap the benefits of such support.

Our data also illuminate ways in which support provision—and emotional support in particular—benefit both sides of supportive dyads. Prior work suggests that *recipients* maximally benefit from support that they (recipients) deem to be responsive and engaged (Gable et al., 2006; Maisel & Gable, 2009), and that the receipt of such support mediates the effect of relationships on psychological health (Cohen, 2004). Our findings extend this insight by demonstrating that *providers* also benefit from feeling empathic and responsive. Further, these benefits (1) hold even when controlling for the support that providers received on a given day, and (2) have *lasting effects* on providers, improving provider well-being on the following day. This insight suggests that empathy, like other emotional states such as gratitude (Wood, Froh, & Geraghty, 2010), might generate well-being over time. Future research should build on our initial evidence and directly test this causal link, for instance by manipulating providers' empathy and examining subsequent effects on well-being (see (Rash, Matsuba, & Prkachin, 2011) for a similar intervention manipulating gratitude). In addition, future studies could examine whether benefits to emotionally engaged providers extend beyond enhanced well-being and lead to increased material benefits in their close relationships (Rand & Nowak, 2013).

Overall, the present study uncovers a novel factor structure for support provision that enriches our understanding of the phenomenon, produces insight as to which features of support provision maximally enhance individuals' well-being, and suggests ways to refine interventions that could boost individuals' happiness and buffer them from loneliness, stress, and anxiety.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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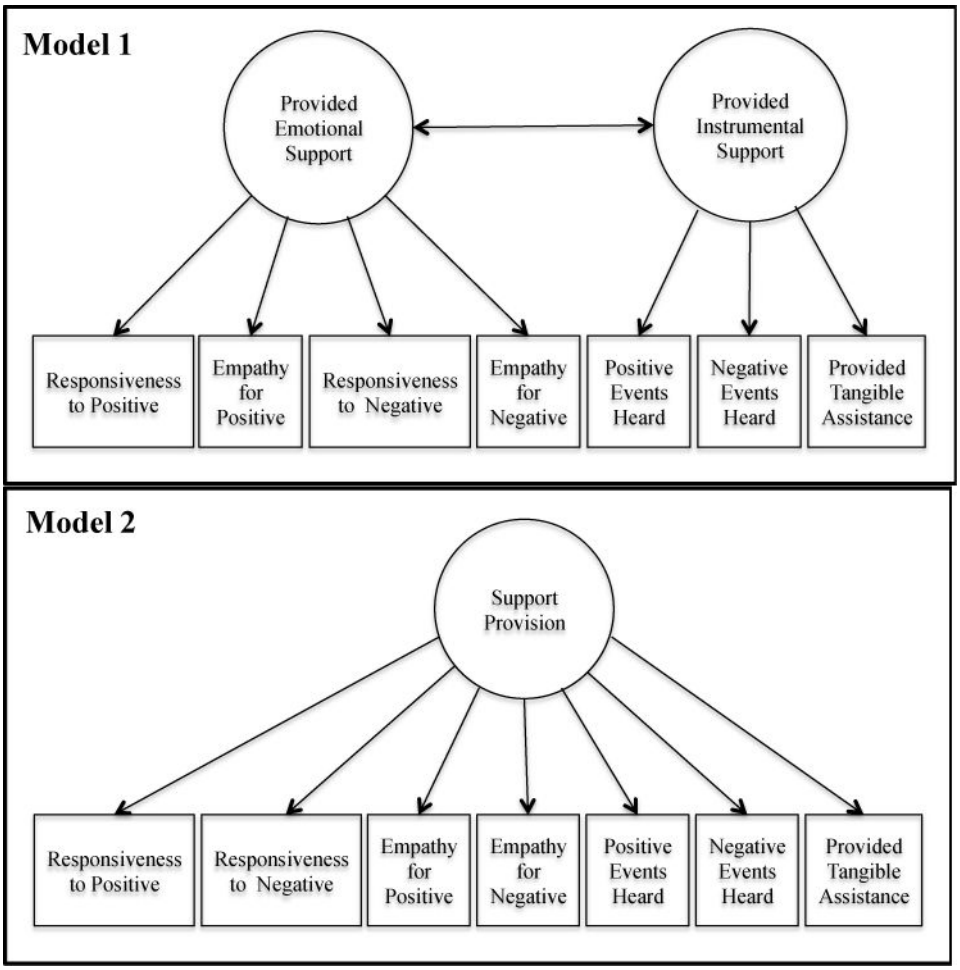

Figure 1.
Two potential factor structures for support provision

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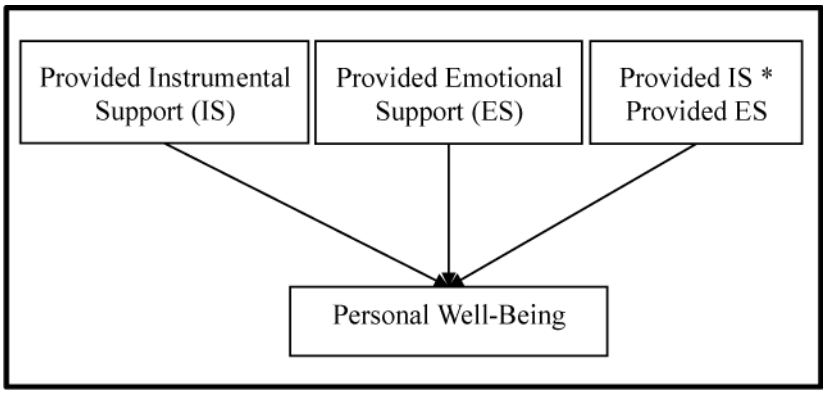

Figure 2.

Models at within-person and between-persons levels of how support provision (with support receipt partialled out) relates to well-being. For diagram simplicity, we did not depict upstream support provision covariates.

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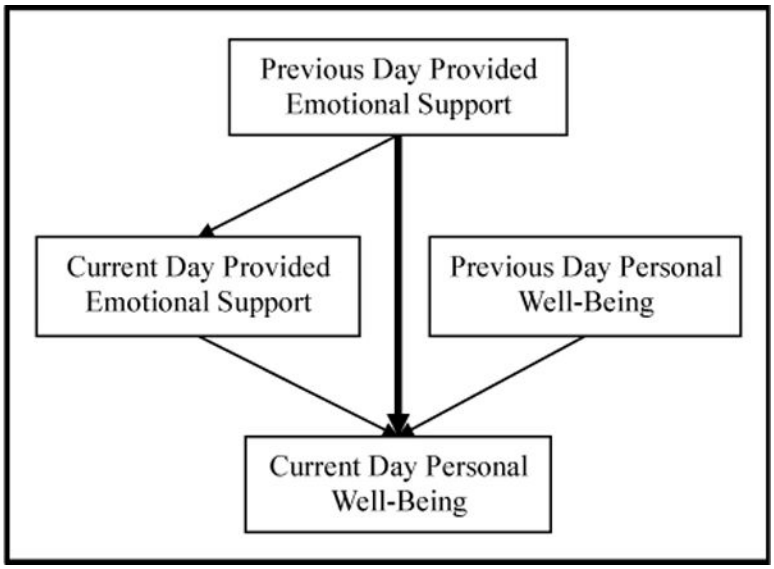

Figure 3.
Within-subject time-lagged model of how the previous day's provided emotional support affects the current day's well-being

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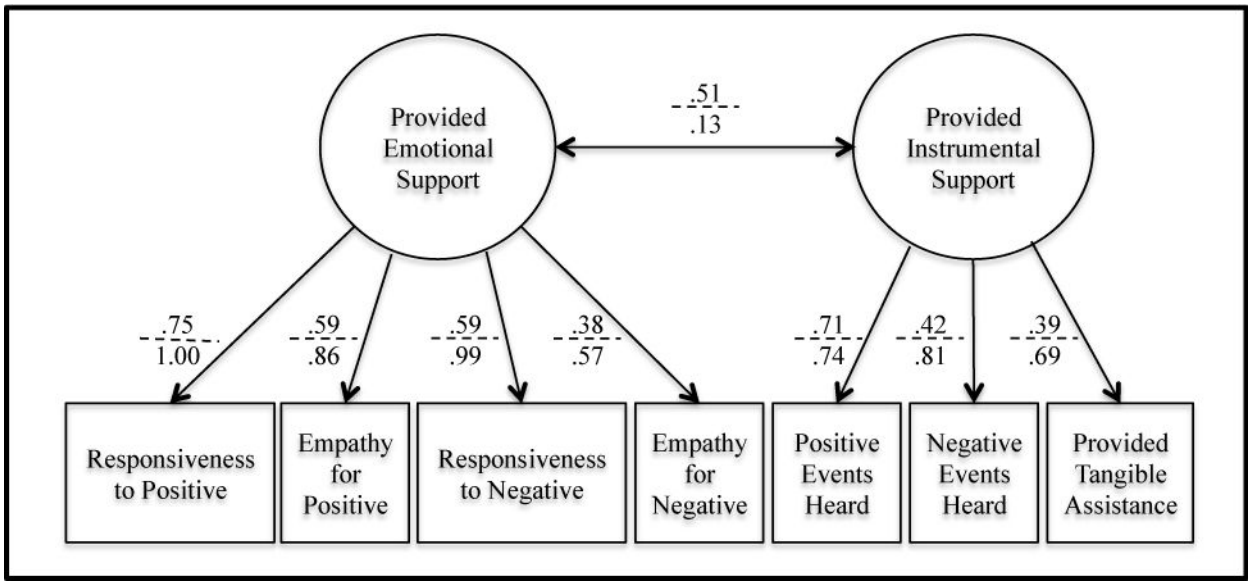

Figure 4.

Standardized factor loadings and latent factor correlations for within-person (above the dashed line) and between-persons levels (below the dashed line) for Model 1 for support provision.

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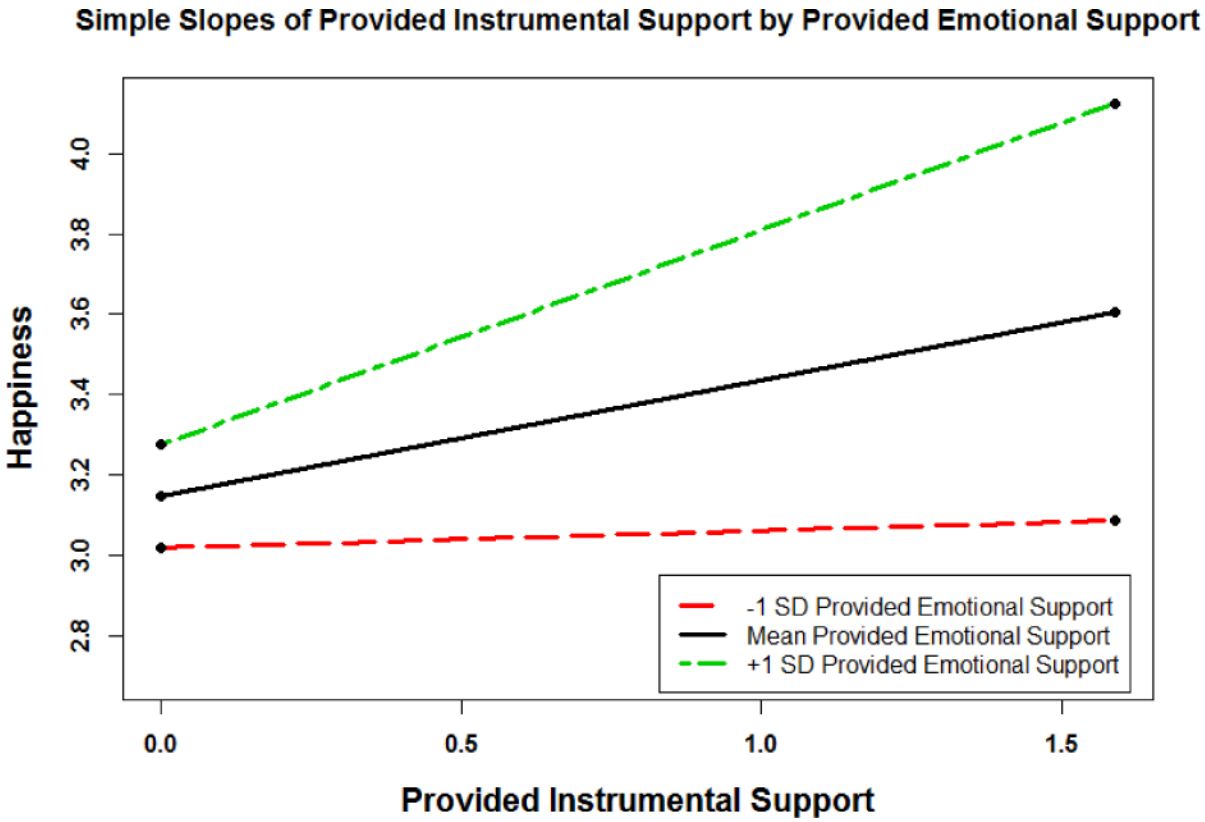

Figure 5.
Within-subjects interaction between provided emotional and instrumental support predicting happiness

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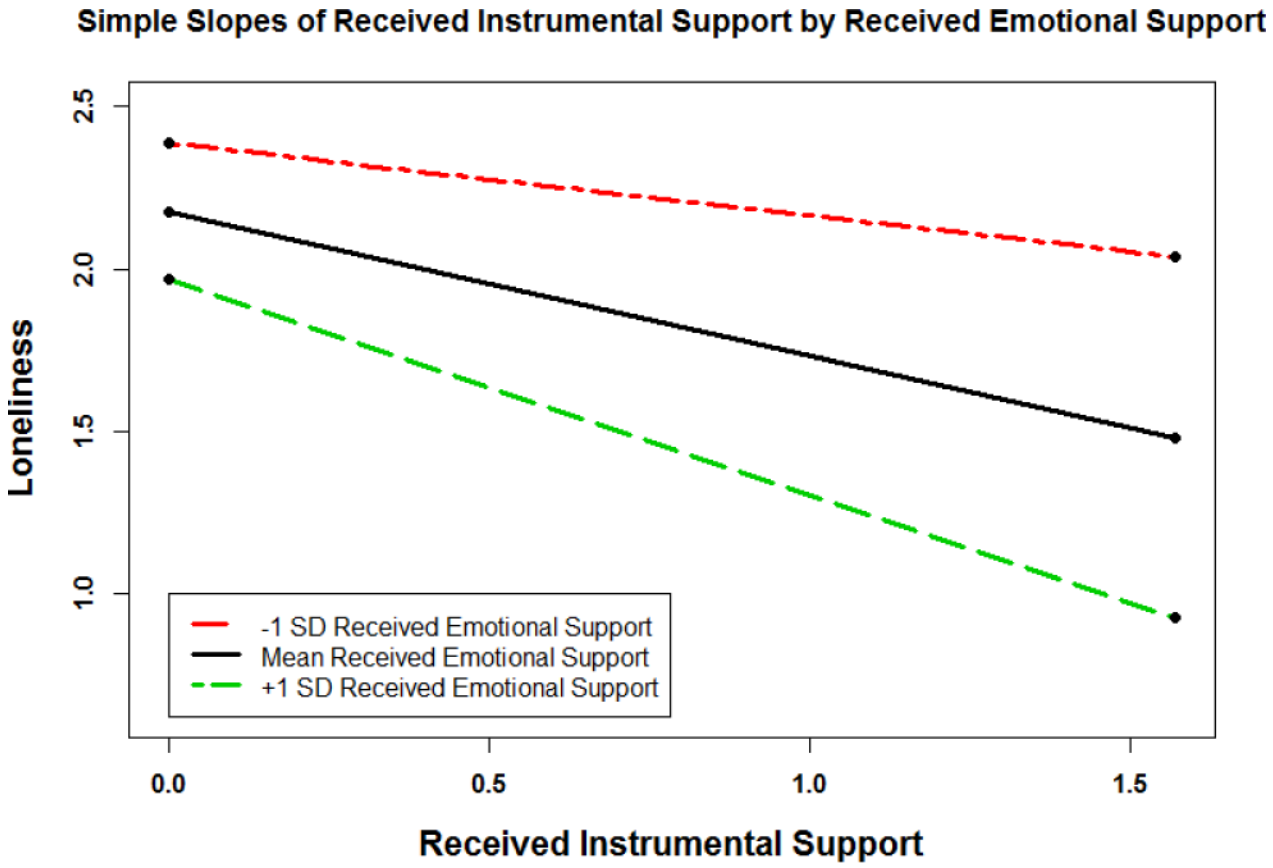

Figure 6.
Within-subjects interaction between received emotional support and instrumental support predicting loneliness

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Table 1

Summary of multilevel analyses

	Question	Model	Level 1	Level 2	Figure
1	Does support provision relate to daily well-being?	Within-person	Day	Person	2A
2	Does support provision relate to average well-being?	Between-persons	Person	Dyad	2A
3	Does provided emotional support predict well-being the following day?	Within-person	Day	Person	3A

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Table 2

Model fit indices for support provision

	χ^2	*df*	CFI	TLI	RMSEA	SRMR	BIC
Model 1: Emotional versus Instrumental							
Within-person	77.81	13	.93	.76	.07	.06	14271.66
Between-persons	27.66	13	.98	.95	.03	.10	14225.60
Model 2: Single dimension							
Within-person	175.18	14	.82	.45	.10	.08	14348.44
Between-persons	90.52	14	.91	.74	.07	.21	14277.32

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Table 4

MLM estimates for support provision predicting well-being

	Provided Emotional Support		Provided Instrumental Support	
	Within-Person	**Between-Persons**	**Within-Person**	**Between-Persons**
Loneliness	−.29**	−.46**	−.14**	.16
Stress	−.17**	−.27*	−.07	.23*
Anxiety	−.14**	−.17	−.05	.22†
Happiness	.25**	.28†	.08†	.05

Note:

† p < .10

* p < .05

** p < .01

Standardized estimates are displayed.