Rehabilitation Psychology
2017, Vol. 62, No. 4, 525–533

© 2017 American Psychological Association
0090-5550/17/$12.00 http://dx.doi.org/10.1037/rep0000128

Solace in Solidarity: Disability Friendship Networks Buffer Well-Being

Arielle M. Silverman, Ivan R. Molton, Amanda E. Smith, and Mark P. Jensen
University of Washington

Geoffrey L. Cohen
Stanford University

Purpose/Objective: To determine whether having friends who share one's disability experiences is associated with higher well-being, and whether these friendships buffer well-being from disability-related stressors. ***Research Method/Design:*** In 2 cross-sectional studies, adults with long-term physical disabilities identified close friends who shared their diagnosis. We assessed well-being as a function of the number of friends that participants identified in each group. Study 1 included 71 adults with legal blindness living in the United States, while Study 2 included 1,453 adults in the United States with either muscular dystrophy (MD), multiple sclerosis (MS), post-polio syndrome (PPS), or spinal cord injury (SCI). ***Results:*** In Study 1, having more friends sharing a blindness diagnosis was associated with higher life satisfaction, even controlling for the number of friends who were not blind. In Study 2, Participants with more friends sharing their diagnosis reported higher quality of life and satisfaction with social role participation. Participants with more friends sharing their diagnosis also showed and attenuated associations between the severity of their functional impairment and their quality of life and social role satisfaction, suggesting that their friendships buffered the impact of their functional impairment on well-being. Participants reporting more friends with any physical disability showed similar benefits. ***Conclusions/Implications:*** Friends with disabilities can offer uniquely important informational and emotional support resources that buffer the impact of a functional impairment on well-being. Psychosocial interventions should help people with long-term disabilities build their peer support networks.

Impact and Implications

These are the first studies to isolate disability friendship as a correlate of well-being with disability. Despite the benefits of inclusion, befriending others who share a disability is linked with positive outcomes. This finding may help explain why identification with the disability community is similarly linked to positive outcomes. Many people with disabilities reported having no close friends who shared their diagnosis or who had any disability. This suggests the presence of barriers, both material and psychological, that may prevent people who share disabilities from connecting with one another. Community programs should promote friendship building between people who share disabilities.

Keywords: physical disability, social networks, peer support, well-being, coping

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Introduction

> At some points in our lives we may feel the need to immerse ourselves in groups of people who we perceive to be most like ourselves.
> —(Riggle & Rostosky, 2012, p. 134)

People often affiliate with others who share their circumstances. In his classic experiments, Schachter (1959) demonstrated people's preference to share support with others facing a similar stressful situation. Outside the laboratory, the vast array of support groups, both online and in person, underscores the ubiquity of people's inclination to exchange support with similar others. This is no less true for people with chronic health conditions and disabilities. For example, a 2009 search of Yahoo! Groups identified nearly 20,000 e-mail groups specifically devoted to discussions of chronic health conditions (Kaplan, Salzer, Solomon, Brusilovskiy, & Cousounis, 2011). Is this natural tendency adaptive for well-being?

The benefits of social support are well-documented. Perceived social support is associated with positive psychological functioning and mood in people with a variety of physical conditions, such as spinal cord injury and multiple sclerosis (Bambara, Turner, Williams, & Haselkorn, 2011; Müller, Peter, Cieza, & Geyh, 2012). Social supporters provide material resources, information and advice, emotional comfort, and distraction from stress (Cohen, 2004). Support from friends may be even more beneficial than

This article was published Online First April 10, 2017.

Arielle M. Silverman, Ivan R. Molton, Amanda E. Smith, and Mark P. Jensen, Department of Rehabilitation Medicine, University of Washington; Geoffrey L. Cohen, Stanford Graduate School of Education, Stanford University.

Correspondence concerning this article should be addressed to Arielle M. Silverman, PhD, Department of Rehabilitation Medicine, University of Washington, 1959 NE Pacific Street, Seattle, WA 98195. E-mail: arielles@uw.edu

support from family and significant others for people with physical disabilities (Jensen et al., 2013). However, social support researchers have not examined the unique importance of support from friends who share the individual's disability experience.

This question is of considerable importance for the disability population. For many people with disabilities, most of their social connections are to family members and friends who do not share such disabilities. The disability inclusion movement emphasizes friendships that span disability boundaries as an ideal state of integration (Salmon, 2013). Nevertheless, there is reason to expect that friendships with others who share a disability or health condition could have unique, meaningful benefits for well-being.

Research on peer support groups and peer mentoring programs provides preliminary evidence consistent with this hypothesis. Structured support group membership or peer mentoring are associated with positive self-management outcomes for people with some chronic health conditions, such as cancer (Hogan, Linden, & Najarian, 2002; Mens, Helgeson, Lembersky, Baum, & Scheier, 2016; Spiegel, Kraemer, Bloom, & Gotheil, 1989), diabetes (Heisler, Vijan, Makki, & Piette,2010; Yin et al., 2015), and heart disease (Parry & Watt-Watson, 2010), although the evidence for peer support in mental health conditions is mixed (Kaplan et al., 2011; Valenstein et al., 2016). In qualitative studies, people describe numerous benefits of interacting with others who share diagnoses such as multiple sclerosis (Tabuteau-Harrison, Haslam, & Mewse, 2016), cystinosis (a rare metabolic disorder; Doyle, 2015), and various long-term physical and intellectual disabilities (Mejias, Gill, & Shpigelman, 2014; Salmon, 2013). Common themes across populations include a shared sense of kinship, opportunities to exchange symptom management strategies, emotional solidarity during challenging times, "insider" humor, and a sense of mutual belonging.

Qualitative studies further reveal that people perceive less stigmatization in groups defined by a disability or health condition, because everyone in the group shares this characteristic. People may thus engage in "self-exclusion," preferentially befriending those who share their stigmatized characteristic (Salmon, 2013) and finding relief from the accumulated stress that can result from perpetual stigmatization in the nondisabled world (Major & O'Brien, 2005; Pascoe & Smart Richman, 2009). Supporting this, mental health support group members who identified strongly with their support groups reported more stigma resistance and stereotype rejection than those who were more weakly identified with the group (Crabtree, Haslam, Postmes, & Haslam, 2010). Peer groups may represent oases of well-being that encourage positive coping strategies, such as reframing, benefit finding, and identification as a "survivor" or a "disabled person," all of which enhance well-being (Bogart, 2015; Bower, Moskowitz, & Epel, 2009; Jones et al., 2011; Nario-Redmond, Noel, & Fern, 2013).

While this evidence is promising, some questions remain. Many of the peer support interventions studied are group-based, unidirectional (with a trained peer giving support to a recipient), or combined with other intervention components such as self-management education. Relatively little is known about how reciprocal, enduring friendships between two people with a health condition might influence well-being. Friendship has been described as one of the most important social relationships (Duck, 1991) and friends share a wide variety of tangible, informational, and emotional resources. Thus, friendships with others who share a health condition could serve as effective conduits for increased well-being, but this has not been tested directly. Further, if within-diagnosis friendships are uniquely associated with well-being, it is unknown whether this benefit is a "main effect" or if it moderates the impact of other factors, such as the severity of the health condition. Moderation would suggest that these friendships act as buffers between symptoms and well-being, much as social support buffers health by moderating the effects of stress (Cohen, 2004; Cohen & Wills, 1985). Moderation would also suggest that within-diagnosis friendships would most benefit people with the most significant impairments. A final question concerns whether befriending others who identify as having a disability is beneficial, even if those friends do not share the same medical diagnosis. People with different physical conditions may still share a sense of common identity, culture, and experience (Nario-Redmond, Noel, & Fern, 2013), so bonds formed around these common experiences could be beneficial.

The Present Research

In the present investigation, we examined associations between having diagnosis-sharing friends and subjective well-being. Specifically, we assessed the number of friends who participants nominated as a correlate of their well-being scores. We performed our analyses in a two-study design, to incorporate the perspectives of both individuals with a sensory disability (blindness) and those with primarily physical disability (due to a number of acquired conditions).

In Study 1, among adults who were legally blind, we examined unique associations between the number of blind friends and well-being. We hypothesized that the number of blind friends would be positively associated with well-being even after the number of nonblind (i.e., sighted) friends was controlled.

In Study 2, we extended the investigation to a much larger sample of individuals with differing physical disabilities (muscular dystrophy, multiple sclerosis, post-polio syndrome, and spinal cord injury). We again hypothesized that participants with more friends sharing their diagnosis would report higher well-being. We also tested the hypothesis that these friendships would buffer the relationship between functional impairment and well-being. Specifically, we predicted that the relationship between higher functional impairment and lower well-being would be weaker among people with more within-diagnosis friends. Finally, we explored whether having more friends with any type of disability, not just friends within a specific diagnosis, would show similar positive associations with well-being.

Study 1

Study 1 was designed as an initial test of the hypothesis that having more friends sharing a physical condition would be uniquely associated with greater well-being, independent of the total number of close friends. To assess this, we asked a sample of blind participants to nominate all of their close friends who shared their sensory impairment (blind friends) and all of their close friends who did not (sighted friends). We expected that the number of blind friends would be associated with well-being even when the number of sighted friends was included in the model.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Method

Participants

Seventy-one adults who are legally blind participated in this online survey study in exchange for a raffle ticket. Participants were drawn from a registry of previous participants in online studies who are legally blind and live in the United States (Bell & Mino, 2013; Silverman & Cohen, 2014). This registry, in turn, was drawn from the two major U.S. blindness advocacy organizations (the American Council of the Blind and the National Federation of the Blind) and subscribers to the National Library Service for the Blind. Inclusion criteria required that participants be at least 18 years old, be able to read and understand English, and meet criteria for legal blindness (a corrected visual acuity of 20/200 or less, or a visual field of 20 degrees or less) from any cause.

Measures

Participants completed demographic measures, including age, gender, ethnicity, education, income level, and duration of blindness.

Friendship measures. Participants were asked to list the first and last initials of all of their close friends who were also blind and all of their close friends who were sighted. This served as an objective measure of each friendship network's size, independent of subjective satisfaction with the network (Sarason, Sarason, Shearin, & Pierce, 1987). Order of the two listings was counterbalanced. We counted the number of initials listed to compute the number of friends identified in each group.

Well-being. Well-being was assessed using the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The Satisfaction with Life Scale consists of five statements assessing global satisfaction with one's life as a whole (e.g., "So far I have gotten the important things I want in life"). Participants responded to these statements on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree)* and responses to the five items were averaged. The SWLS has been widely validated as a measure of global subjective well-being (Pavot, Diener, Colvin, & Sandvik, 1991) and has been validated in physical disability populations (Lucas-Carrasco, Den Oudsten, Eser, & Power, 2014; Pinquart & Pfeiffer, 2011). The scale was internally consistent in the current sample ($\alpha = .90$).

Procedures

Participants provided informed consent before beginning the survey. The study procedures were approved by the [masked for review] Institutional Review Board.

Analysis

We first assessed the means and distributions of the friendship measures for descriptive purposes and to test for normality. Any measure demonstrating significant skew (>2) or kurtosis (>5) was normalized via a square root transformation.

We tested our primary hypothesis in two ways. First, we performed hierarchical regression analyses to test the association between life satisfaction and the number of blind friends, when controlling for the number of sighted friends. To do this, we entered the number of sighted friends (transformed, if necessary) in the first step and the number of blind friends in the second step of the model, to examine the proportion of variance in SWLS scores explained by the number of blind friends with the number of sighted friends controlled. In the third step, we entered the interaction between blind and sighted friend counts, to see if there was any moderation.

Second, to obtain a more interpretable estimate of the size of the association and rule out the possible impact of non-normality, we repeated the analysis using categorical variables (small vs. large friendship networks) based on a median split on the numbers of blind and sighted friends. We performed an analysis of variance with these categorical variables (small vs. large blind-friend network, small vs. large sighted-friend network, and their interaction) included as independent variables and SWLS scores as the dependent variable. All analyses were conducted using SAS 9.4. Analyses were conducted both with and without covariates commonly used in social support research (age, sex, and income; Bambara et al., 2011; Jensen et al., 2014) but addition of these covariates had little impact on any of the results, so we present the raw results without these covariates.

Results and Discussion

Participant Characteristics

Table 1 shows detailed demographics for the sample, which consisted of 25 men, 39 women, and 7 individuals of unspecified gender. Mean age for the sample was 49.81 years ($SD = 12.04$; range = 20–81). Participants had been legally blind for an average of 32.03 years ($SD = 18.16$; range = 2–76 years) with 44% reporting blindness at birth or before age 2. A majority (73%) were Caucasian. The sample was well-educated, with 93% having graduated from high school and 53% having graduated from college.

Most participants (83%) identified at least one friend who is also blind. Among those identifying at least one blind friend, the mean raw number of friends identified was 7.37 ($SD = 7.59$; median = 4; range = 1–38). Nearly all participants (97%) identified at least one friend who was not blind. Participants identified a raw average of 9.25 sighted friends ($SD = 9.29$; median = 7; range = 1–59). Both friend count measures had a skewness >2 (2.25 and 2.96 for blind and sighted friends, respectively) and kurtosis >5 (5.97 and 11.64) so both measures were normalized with a square root transformation prior to regression analyses. As expected, the square root transformation reduced skew and kurtosis to acceptable levels (skew: 0.56 and 1.06; kurtosis: 0.34 and 2.81). The correlation between the transformed counts of blind and sighted friends was moderate ($r = .46$).

Associations Between Friendship Networks and Well-Being

The number of sighted friends (transformed) was not significantly associated with SWLS scores, *beta* = .13, $t = 1.06$, $p = .29$. However, when the number of blind friends (transformed) was added to the model, a significant association appeared between blind friends and SWLS scores, r^2-change = .08; *beta* = .32, $t =$

Table 1
Study 1 Sample Characteristics

Characteristics	*N* (%)
Sample size	71
Sex	
Male	25 (35%)
Female	39 (55%)
Unknown	7 (10%)
Age Mean (*SD*)	49.81 (12.04)
Ethnicity	
African American	2 (3%)
Asian	1 (1%)
Caucasian (White)	52 (73%)
Hispanic/Chicano	1 (1%)
Native American	1 (1%)
Pacific Islander	0 (0%)
Other/Mixed/Unknown	14 (20%)
Education	
Some High School	0 (0%)
High School Grad	5 (7%)
Some College/Voc/Tech	20 (28%)
College Grad	15 (21%)
Advanced Degree	23 (32%)
Unspecified	8 (12%)
Income	
<$20,000	28 (40%)
$20,000−$40,000	16 (23%)
$40,000−$60,000	18 (25%)
$60,000−$80,000	5 (7%)
$80,000−$100,000	1 (1%)
>$100,000	3 (4%)
Disability duration years Mean (*SD*)	32.03 (18.16)
Blind friends Mean (*SD*)	6.13 (7.44)
Sighted friends Mean (*SD*)	9.25 (9.29)
Life satisfaction Mean (*SD*)	4.34 (1.80)

2.45, $p = .017$. There was no interaction, r^2-change = .032, *beta* = .04, $t = .49$, $p = .62$.

Results of the ANOVA were very similar, with only blind-network size relating to SWLS scores (see Table 2). There was a main effect of blind-network size on SWLS scores with people reporting four or more blind friends having higher life satisfaction ($M = 4.90$, $SD = 1.62$) than those with three or fewer blind friends ($M = 3.69$, $SD = 1.80$; $F(1, 67) = 8.36$, $p = .005$, $d = .71$. There was no main effect of sighted-friend network size, $F(1, 68) = .09$, $p = .76$, and no interaction between blind and sighted network size, $F(1, 68) = 1.79$, $p = .19$.

This study thus provides preliminary evidence that having friends who share a long-term physical condition (blindness) is uniquely associated with subjective well-being. Regardless of the number of sighted friends, participants with a larger network of blind friends reported higher subjective well-being. Importantly, subjective well-being was associated with the objective number of blind friends who participants nominated, not a subjective measure of satisfaction with the friendships, which can be confounded with well-being reports.

Study 2

Study 2 extended Study 1's findings in several important ways. First, Study 2 included a much larger sample of more than 1,400 people across four physical disabilities: muscular dystrophy (MD), multiple sclerosis (MS), post-polio syndrome (PPS), and spinal cord injury (SCI). This sample was drawn from a broader array of participant registries, allowing us to include more people who were unaffiliated with their disability community. We used two measures of well-being: a measure of overall perceived quality of life and a measure of satisfaction with social role participation. Our first hypothesis was that people with more friends sharing their diagnosis would report higher quality of life and social role satisfaction.

Second, our large sample provided enough statistical power to test whether disability affiliation could buffer the relationship between functional impairment and well-being. Functional impairment severity is a well-known correlate of reduced subjective well-being in people with disabilities (e.g., Alschuler et al., 2013; Erosa, Berry, Elliott, Underhill, & Fine, 2014). However, just as social support can buffer the effects of stress (Cohen, 2004), affiliation with friends sharing a diagnosis could buffer the relationship between functional impairment and well-being. We thus hypothesized that the relationship between functional impairment severity and well-being would be weaker for people with friends sharing their diagnosis than for people without such friendships.

Finally, on an exploratory basis, we tested whether having friends with any type of disability is associated with higher subjective well-being, or if the friends must share one's specific medical diagnosis. To do this, we asked participants to nominate friends with any type of physical disability as well as friends who shared their diagnosis. We assessed the separate associations between each of these affiliation measures and well-being.

Method

Procedures

Data for Study 2 were collected as part of the fifth time point of an ongoing longitudinal survey study, administered nationally through the [university masked for review]. Participants continuing from the first four years of data collection ($n = 1{,}380$) as well as newly recruited "refresher" participants ($n = 196$) were mailed paper surveys between October 2014 and March, 2015. Participants were invited to participate through disability specific registries (such as the University of Rochester Muscular Dystrophy Registry), from other ongoing studies at the [university masked for review], and through web and print advertisements. Screening criteria from the first year of this study, administered in 2009, required that all participants be 18 years of age or older, able to read, write and understand English, and self-report a physician's

Table 2
Average Satisfaction With Life Scale Scores for People With Small and Large Networks of Blind and Sighted Friends

Blind network size	Sighted network size	SWLS Mean (*SD*)
Small	Small	3.87 (1.85)
Small	Large	3.45 (1.77)
Large	Small	4.51 (1.81)
Large	Large	5.19 (1.44)

Note. SWLS = Satisfaction with Life Scale.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

diagnosis of MS, MD, SCI, or PPS. All new study participants were screened over the phone by research staff, and if interested in participating, reviewed an oral Information Statement. Participants were then mailed a survey, which included a copy of the Information Statement and a postage paid return envelope. Participants were sent a check for $25 as a thank-you for their time and effort, and all study procedures were reviewed and approved by the [masked for review] Institutional Review Board.

Measures

Demographics. Participants reported on various demographics, including sex, age, race, education level, year of disability diagnosis, and annual household income.

Disability networks. As in Study 1, participants were asked to list the initials of all of their close friends who shared their diagnosis of MD, MS, PPS, or SCI. Participants were also asked to list the initials of all of their close friends who experienced "*some physical disability, such as difficulty in getting around, working, or completing tasks at home due to physical limitations*."

Functional impairment. Severity of impairment was measured using the short form for mixed-mobility aid users, developed from the NIH funded Patient Reported Outcomes Measurement Information System (PROMIS) item bank for physical function (Amtmann, Cook, Johnson, & Cella, 2011). Participants reported their usual or average difficulty in doing various activities from 5 (*No difficulty*) to 1(*Unable to do*). Activities included getting in and out of bed, pushing open a heavy door, and walking up and down two steps (only administered to those who reported being able to walk 25 feet on a level surface). Total scores were calculated by summing the items, with higher scores indicating greater physical function (or less severe impairment). Scores are then reported on a t-score metric ($M = 50$, $SD = 10$). The PROMIS Physical Function item bank has been tested in a variety of populations, including those with MS and SCI, and has exhibited excellent validity and reliability (Alschuler et al., 2013; Cella et al., 2010), with an alpha of .93 in the current sample.

Quality of life. The Older People's Quality of Life Questionnaire—Brief (OPQOL; Bowling, Hankins, Windle, Bilotta, & Grant, 2013) was used to measure quality of life. The OPQOL brief is a 13-item measure, which asks participants the extent to which they agree with various statements, such as "*I look forward to things*," and "*I am healthy enough to get out and about*." The measure was developed in Britain, and one item ("*I can please myself what I do*") was deemed by investigators to include language which was not relevant to the U.S. population. This item was included in this analysis, but was edited to "*I can do what I please.*" The OPQOL-brief is scored by calculating a total score, with higher scores indicating higher reported quality of life. The OPQOL-brief has been shown to be reliable and valid (Bowling et al., 2013). Although the scale has been primarily tested in the older adult population (65 years and older), the items are face-valid for younger adults as well. In our sample, scale psychometrics were very similar in the participants under and over age 65, with the items loading strongly on a single factor in both groups, and comparably high alpha coefficients in both groups (.92 and .91 in the younger and older age groups, respectively).

Social role satisfaction. Satisfaction with social roles was measured using the standard four-item short form from the PROMIS item bank for satisfaction with social roles and activities (Hahn et al., 2010). Participants responded the degree to which, on a scale of 1 (*Not at all*) to 5 (*Very much*), they were satisfied with their ability to perform daily routines, do things for their family, do things for fun with others, and do things for their friends. *T* scores were calculated, and as with the physical function measure, were converted to *T* scores. Higher scores reflected greater satisfaction with one's social roles. The PROMIS item bank for social role satisfaction has been tested and validated in people with physical disabilities (e.g., Cook, Bamer, Amtmann, Molton, & Jensen, 2012) and was reliable in the current sample ($\alpha = .94$).

Analysis

Our approach involved replication and extension of the analytic plan for Study 1. First, as in Study 1, we performed descriptive analyses on the demographic variables and the number of within-diagnosis friends, assessing mean, variability, and distribution. Because there were four diagnostic groups included in this study, we also assessed differences in the number of within-diagnosis friends as a function of diagnostic group (MD, MS, PPS, or SCI) using a one-way analysis of variance with diagnostic group as the independent variable, for descriptive purposes.

Next, we extended the previous analytic approach by assessing the main effect of number of within-diagnosis friends and its interaction with functional impairment. To do this, we conducted two hierarchical regressions, one with quality of life as the outcome variable and the other with social role satisfaction as the outcome variable. For each regression, we first entered the number of within-diagnosis friends (normalized, if necessary) and functional impairment as predictors in the first step. We then entered their interaction in the second step, to test for moderation. To aid in the interpretation of any interactions, we planned to assess the simple effect of functional impairment separately for participants with small and large within-diagnosis friend networks, based on a median split as in Study 1. As in Study 1, we performed the analysis both with and without covariates (sex, age, diagnostic group and income, based on previous social support research) but as no substantive differences were found, we report the simpler analyses without covariates.

Finally, on an exploratory basis, we repeated these analyses examining the number of friends with any type of physical disability instead of the number of within-diagnosis friends, to assess whether having friends with any physical disability was associated with similar outcomes.

Results

Participant Characteristics

Table 3 describes major demographic characteristics of the sample, both as a whole and divided by diagnostic group. The final sample consisted of 1,453 participants (MD = 282; MS = 446; PPS = 374; SCI = 351). Participant age ranged from 27–99 years ($M = 61.37$, $SD = 12.39$). The sample was 65% female, and a majority (90%) were Caucasian. Participants had experienced their disability for an average of 20.57 years ($SD = 10.55$; range = 1–77 years). Most participants (87%) reported at least some education beyond high school.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 3
Study 2 Sample Demographics

Characteristics	Entire sample	MD	MS	PPS	SCI
Sample size	1,453	282	446	374	351
Sex					
Male	512 (35%)	108 (38%)	70 (16%)	105 (28%)	228 (65%)
Female	941 (65%)	174 (62%)	376 (84%)	268 (72%)	123 (35%)
Age Mean (*SD*)	61.4 (12.4)	57.99 (11.93)	59.82 (10.38)	71.58 (7.7)	55.17 (12.67)
Ethnicity					
African American	58 (4%)	2 (1%)	24 (5%)	5 (1%)	27 (8%)
Asian	11 (1%)	1 (0%)	1 (0%)	3 (1%)	6 (2%)
Caucasian (White)	1302 (90%)	269 (96%)	396 (89%)	342 (92%)	295 (84%)
Hispanic/Chicano	31 (2%)	7 (2%)	9 (2%)	8 (2%)	7 (2%)
Native American	7 (0%)	0 (0%)	2 (0%)	1 (0%)	3 (1%)
Pacific Islander	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Other	38 (3%)	2 (1%)	12 (3%)	12 (3%)	12 (3%)
Education					
Some High School	21 (1%)	2 (1%)	3 (1%)	6 (2%)	10 (3%)
High School Grad	177 (12%)	53 (19%)	38 (9%)	29 (8%)	51 (15%)
Some College/Voc/Tech	438 (30%)	82 (30%)	151 (34%)	97 (26%)	108 (31%)
College Grad	429 (30%)	72 (26%)	146 (33%)	100 (27%)	111 (32%)
Advanced Degree	394 (27%)	73 (26%)	108 (24%)	141 (38%)	71 (20%)
Income Mean (*SD*)	70,656 (85,421)	85,304 (90,213)	74,222 (114,686)	62,357 (53,209)	64,198 (63,146)
Disability duration years Mean (*SD*)	20.57 (10.55)	20.32 (11.70)	20.10 (9.5)	20.25 (9.13)	21.7 (12.00)
Within diagnosis friends Mean (*SD*)	1.31 (2.86)	.88 (1.78)	1.12 (2.19)	1.62 (3.23)	1.56 (3.70)
Cross disability friends Mean (*SD*)	2.32 (3.61)	1.74 (2.64)	2.06 (3.22)	3.02 (4.06)	2.37 (4.10)
Physical function T-score Mean (*SD*)	36.11 (10.45)	36.01 (10.38)	40.98 (10.98)	35.69 (7.66)	31.12 (10.02)
Quality of life Mean (*SD*)	53.13 (8.39)	51.80 (8.66)	53.72 (8.8)	53.99 (7.43)	52.53 (8.46)
Social role satisfaction T-score Mean (*SD*)	45.00 (9.05)	43.76 (9.08)	45.96 (9.71)	44.81 (7.92)	45.57 (8.99)

Note. MD = muscular dystrophy; MS = multiple sclerosis; PPS = post-polio syndrome; SCI = spinal cord injury.
* Numbers may not add to total due to missing data.

Over half of the sample (57%) reported that none of their friends shared their diagnosis of MD, MS, PPS, or SCI; thus, the median number of friends was 0. Among the 43% of the sample reporting at least one friend with their diagnosis, the average number (before transformation) was 3.05 ($SD = 3.70$; range = 1–24 friends). As in Study 1, the raw count of within-diagnosis friends was positively skewed (skewness = 4.70) and peaked (kurtosis = 28.78), so a square-root transformation was performed, again reducing skew and kurtosis to acceptable levels (skew = 1.50, kurtosis = 2.67).

Demographic Differences

The number of within-diagnosis friends in Study 2 was unrelated to age, sex, or disability duration, but it was positively associated with higher education level, $r = .074$, $p = .004$. Within-diagnosis friends differed between diagnostic groups, $F(3, 1447) = 6.37$, $p = .003$. As can be seen in Table 3, people with MD had the smallest within-diagnosis friendship networks, and people with PPS had the largest within-diagnosis friend networks.

Main-Effect Associations Between Within-Diagnosis Friends and Outcomes

People with more within-diagnosis friends reported higher quality of life, $beta = .14$, $t = 5.98$, $p < .0001$, and higher social role satisfaction, $beta = .07$, $t = 2.92$, $p = .004$.

Functional Status Moderation

People with more within-diagnosis friends showed attenuated associations between their functional status and their quality of life and social role satisfaction. In the regression analyses, both interaction terms were significant (for quality of life: $beta = -.06$, $t = -2.11$, $p = .035$; for social role satisfaction, $beta = -.05$, $t = -2.04$, $p = .041$). Because more than half of participants reported no friends sharing their diagnosis, we interpreted the interactions by comparing the correlation between functional impairment and each outcome for participants with no within-diagnosis friends and those with at least one within-diagnosis friend. As shown in Table 4, for participants having no within-diagnosis friends, correlations between functional impairment and both well-being outcomes were strong ($r = .40$ and .54 for quality of life and social role satisfaction, respectively). For participants having at least one friend sharing their diagnosis, these correlations were attenuated to .32 for quality of life and .44 for social role satisfaction.

Associations Between Cross-Disability Friends, Demographic Factors, and Outcomes.

All analyses were repeated with cross-disability network size (the number of friends that participants identified with any phys-

Table 4
Correlations Between Functional Status and Outcomes for Participants With and Without Friends Sharing Their Diagnosis

Measure	Function *r* (no within-disability friends)	Function *r* (at least one within-disability friend)
Quality of life	.4	.32
Social role satisfaction	.54	.44

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

ical disability) included in place of the number of within-diagnosis friends. Regression results were essentially the same, with significant main effect associations between cross-disability friends and both well-being outcomes as well as attenuated relationships between both well-being outcomes and functional impairment for people having more cross-disability friends. The demographic correlates of cross-disability friendship were slightly different, however. First, women reported having more cross-disability friends ($M = 2.44$, $SD = 3.60$) than did men ($M = 2.22$, $SD = 3.81$), though the difference was small, F (1,1447) $= 6.18$, $p = .013$, $d = .13$. Second, there was a small but significant association between age and cross-disability network size such that increasing age was associated with a greater number of disabled friends (F [1,1447] $= 5.69$, $p = .017$, partial $r = .061$).

Discussion

Affiliation and companionship are central to the human experience. Friendships provide a wide array of social, cognitive, and emotional benefits (Rubin, Fredstrom, & Bowker, 2008). For individuals who are either born with or acquire disabilities, the friendship network can provide not only mutual affection, socialization and affirmation, but also access to important information about coping strategies. In a social context where disability stigma and discrimination remain a troubling reality (Salmon, 2013), such friendships may be especially important.

To our knowledge, this study represents one of the first attempts to assess the unique importance of disability-specific friendships. Consistent with our hypotheses, we found that having friends who share a disability diagnosis was associated with higher life satisfaction, quality of life, and social role satisfaction. This was true for individuals with sensory (Study 1) or physical (Study 2) impairments, and the beneficial effects of having friends with disability remained even after adjusting for overall network size (Study 1). We also found, based on a large sample of people with physical disabilities, that these effects were maintained for cross-disability friendships. That is, the benefits of friendship may relate more to a shared sense of the disability experience than to sharing a specific diagnosis, a question that begs further study.

One of the positive effects of within-disability friendships was that these relationships appeared to buffer the negative impact of functional impairment (Study 2). Impairment in this case was measured by a scale that assessed physical limitations—for example, getting in and out of bed, pushing open a heavy door, and standing briefly without support. Generally, higher levels of functional impairment are associated with poorer quality of life in people with progressive physical conditions (Erosa et al., 2014). However, this correlation was attenuated in people with larger disability friendship networks, highlighting the protective function of these friendships.

Taken together, these findings qualify the popular notion that well-being comes from assimilation into the broader nondisabled community. While it is undoubtedly true that individuals with disability benefit from relationships with nondisabled friends, they appear to derive an additional and unique benefit from friends who also have a disability. The most optimal scenario, based on our data and the extant literature, appears to be a broad friendship base, incorporating both nondisabled and disabled friends. These findings may also explain, at least in part, why people who identify more strongly with their disability have higher subjective well-being (Bogart, 2015; Nario-Redmond, Noel, & Fern, 2013). Identification may be beneficial to the extent that it encourages affiliation with other disabled people.

There are several reasonable mechanisms by which within-disability friendships could enhance well-being. First, friends who also have a disability could provide instrumental support and information on how to cope with impairment related stressors. Second, friends with disabilities could offer invaluable emotional support. In the case of progressive disabilities, the voice of those who have gone through the progression toward more severe impairments could help individuals view their experience from a more realistic and reassuring viewpoint (i.e., reduce the chances of catastrophizing). In a broader social context, antidisability prejudice and discrimination are common worldwide (Alvarez-Galvez & Salvador-Carulla, 2013; Silvers & Francis, 2013) and friends with disabilities may serve as an emotional buffer that protects people from the effects of stigma. These kinds of benefits may require the lived experience of disability, and go above and beyond what nondisabled friends might provide. Indeed, when we followed up with participants in Study 1 to ask them for narrative comments regarding why their friendships with other blind people were beneficial, their feedback suggested strong emotional benefits. One participant wrote, "I feel that I have friends who believe in me and give me strength rather than misplaced compassion." Another wrote, "We all immediately share a common bond, and have an understanding and a camaraderie with each other right away." These comments suggest that our participants viewed their friendships with others sharing their impairment as unique from their other friendships

The findings from this study have direct implications for clinical practice. One concerning finding was that, in Study 2, less than half of participants had a close friend who shared their diagnosis, and nearly half (43%) had no close friends with any physical disability. Interventions should prioritize networking and friendship building between people who share a diagnosis. This is also an important area for telehealth interventions. However, "social support" is not always beneficial, and has also been shown to have deleterious effects under certain conditions (e.g., Starr, 2015). For example, befriending someone who shares the diagnosis but who is coping poorly, or is very distressed, could threaten one's well-being. Poorly managed support groups could also promote corumination or maladaptive coping. More research is needed to identify moderating conditions for the efficacy of peer support and peer affiliation for people with disabilities.

Our study also found a greater number of cross-disability friends associated with increasing age. Social support networks are quantitatively and qualitatively different for older adults than younger adults (Fung, Carstensen, & Lang, 2001), and the unique benefit of friends with disability may be especially salient for older people, where the experience of disability is more common. Connecting with others who experience impairment may help to normalize declines in function, confirming them as "on time" or expected life span events that can be managed (Romo et al., 2013). In fact, given the protective nature of within-disability friendships described in this study, it may be that the greater proportion of disabled friends in later life could explain the lessened psychological impact of disability for older people (DiLorenzo, Becker-Feigeles, Halpher, & Picone, 2008).

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

These findings are preliminary and have some significant limitations. First, these were cross-sectional studies, and reverse causation (happier people having larger networks) and the effects of unmeasured third variables cannot be ruled out. It may be the case that individuals who are more accepting of their disabilities, or of themselves more generally, are more likely to choose friends sharing their disability. Future longitudinal and experimental research is needed to test the direction of causality.

Second, our measure asked participants to list their "close friends" with disabilities. We acknowledge that participants may differ greatly in the criteria they use to differentiate "close friends" from more distant friends and acquaintances, and these systematic differences could influence results. Future research on this topic may benefit from measuring perceived friendship quality in addition to friendship quantity.

Third, Due to concerns about participant burden, we did not count nondisabled friends in Study 2, so we were unable to control for total network size in Study 2 as we did in Study 1. Fourth, our samples were relatively well-resourced, and included individuals who had experienced their diagnosis for a long time. Future experimental and longitudinal studies could examine how gaining friends with disabilities affects outcomes over time, especially for those who are newly diagnosed or from less well-resourced populations. Finally, our results suggest equivalent benefits of within-diagnosis and cross-diagnosis friendships, but these two measures overlapped substantially (56% of friends with disabilities nominated also shared the participant's diagnosis). Future studies could examine whether the friend's disability or health condition must be similar (e.g., different types of cancer or mobility impairment) or if friendships spanning wider disability boundaries (e.g., a blind and a deaf person becoming friends) are still psychologically beneficial.

Despite the study's limitations, this work lends preliminary scientific support to the idea that affiliation with others who share long-term health conditions and disabilities is adaptive for well-being, and should be supported in community programs. Future studies may examine potential mechanisms longitudinally, or with experimental designs to improve access to others with disability, and thereby enhance quality of life.

References

Alschuler, K. N., Jensen, M. P., Sullivan-Singh, S. J., Borson, S., Smith, A. E., & Molton, I. R. (2013). The association of age, pain, and fatigue with physical functioning and depressive symptoms in persons with spinal cord injury. *The Journal of Spinal Cord Medicine, 36,* 483–491. http://dx.doi.org/10.1179/2045772312Y.0000000072

Alvarez-Galvez, J., & Salvador-Carulla, L. (2013). Perceived discrimination and self-rated health in Europe: Evidence from the European Social Survey (2010). *PLoS ONE, 8,* e74252. http://dx.doi.org/10.1371/journal.pone.0074252

Amtmann, D., Cook, K. F., Johnson, K. L., & Cella, D. (2011). The PROMIS initiative: Involvement of rehabilitation stakeholders in development and examples of applications in rehabilitation research. *Archives of Physical Medicine and Rehabilitation, 92*(Suppl.), S12–S19. http://dx.doi.org/10.1016/j.apmr.2011.04.025

Bambara, J. K., Turner, A. P., Williams, R. M., & Haselkorn, J. K. (2011). Perceived social support and depression among veterans with multiple sclerosis. *Disability and Rehabilitation: An International, Multidisciplinary Journal, 33,* 1–8. http://dx.doi.org/10.3109/09638288.2010.481026

Bell, E. C., & Mino, N. M. (2013). Blind and Visually Impaired Adult Rehabilitation and Employment Survey: Final results. *Journal of Blindness Innovation and Research, 3,* 1. http://dx.doi.org/10.5241/2F1-35

Bogart, K. R. (2015). Disability identity predicts lower anxiety and depression in multiple sclerosis. *Rehabilitation Psychology, 60,* 105–109. http://dx.doi.org/10.1037/rep0000029

Bower, J. E., Moskowitz, J. T., & Epel, E. (2009). Is benefit finding good for your health? *Current Directions in Psychological Science, 18,* 337–341. http://dx.doi.org/10.1111/j.1467-8721.2009.01663.x

Bowling, A., Hankins, M., Windle, G., Bilotta, C., & Grant, R. (2013). A short measure of quality of life in older age: The performance of the brief Older People's Quality of Life Questionnaire (OPQOL-brief). *Archives of Gerontology and Geriatrics, 56,* 181–187. http://dx.doi.org/10.1016/j.archger.2012.08.012

Cella, D., Riley, W., Stone, A., Rothrock, N., Reeve, B., Yount, S., . . . the PROMIS Cooperative Group. (2010). The Patient-Reported Outcomes Measurement Information System (PROMIS) developed and tested its first wave of adult self-reported health outcome item banks: 2005–2008. *Journal of Clinical Epidemiology, 63,* 1179–1194. http://dx.doi.org/10.1016/j.jclinepi.2010.04.011

Cohen, S. (2004). Social relationships and health. *American Psychologist, 59,* 676–684. http://dx.doi.org/10.1037/0003-066X.59.8.676

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98,* 310–357. http://dx.doi.org/10.1037/0033-2909.98.2.310

Cook, K. F., Bamer, A. M., Amtmann, D., Molton, I. R., & Jensen, M. P. (2012). Six patient-reported outcome measurement information system short form measures have negligible age- or diagnosis-related differential item functioning in individuals with disabilities. *Archives of Physical Medicine and Rehabilitation, 93,* 1289–1291. http://dx.doi.org/10.1016/j.apmr.2011.11.022

Crabtree, J. W., Haslam, S. A., Postmes, T., & Haslam, C. (2010). Mental health support groups, stigma, and self-esteem: Positive and negative implications of group identification. *Journal of Social Issues, 66,* 553–569. http://dx.doi.org/10.1111/j.1540-4560.2010.01662.x

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49,* 71–75. http://dx.doi.org/10.1207/s15327752jpa4901_13

Dilorenzo, T. A., Becker-Feigeles, J., Halper, J., & Picone, M. A. (2008). A qualitative investigation of adaptation in older individuals with multiple sclerosis. *Disability and Rehabilitation: An International, Multidisciplinary Journal, 30,* 1088–1097. http://dx.doi.org/10.1080/09638280701464256

Doyle, M. (2015). Peer support and mentorship in a U.S. rare disease community: Findings from the Cystinosis in Emerging Adulthood Study. *The Patient: Patient-Centered Outcomes Research, 8,* 65–73. http://dx.doi.org/10.1007/s40271-014-0085-9

Duck, S. (1991). *Understanding Relationships*. New York: Guilford Press.

Erosa, N. A., Berry, J. W., Elliott, T. R., Underhill, A. T., & Fine, P. R. (2014). Predicting quality of life 5 years after medical discharge for traumatic spinal cord injury. *British Journal of Health Psychology, 19,* 688–700. http://dx.doi.org/10.1111/bjhp.12063

Fung, H. H., Carstensen, L. L., & Lang, F. R. (2001). Age-related patterns in social networks among European Americans and African Americans: Implications for socioemotional selectivity across the life span. *The International Journal of Aging & Human Development, 52,* 185–206. http://dx.doi.org/10.2190/1ABL-9BE5-M0X2-LR9V

Hahn, E. A., Devellis, R. F., Bode, R. K., Garcia, S. F., Castel, L. D., Eisen, S. V., . . . the PROMIS Cooperative Group. (2010). Measuring social health in the patient-reported outcomes measurement information system (PROMIS): Item bank development and testing. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation, 19,* 1035–1044. http://dx.doi.org/10.1007/s11136-010-9654-0

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Heisler, M., Vijan, S., Makki, F., & Piette, J. D. (2010). Diabetes control with reciprocal peer support versus nurse care management: A randomized trial. *Annals of Internal Medicine, 153,* 507–515. http://dx.doi.org/10.7326/0003-4819-153-8-201010190-00007

Hogan, B. E., Linden, W., & Najarian, B. (2002). Social support interventions. *Clinical Psychology Review, 22,* 381–442. http://dx.doi.org/10.1016/S0272-7358(01)00102-7

Jensen, M. P., Smith, A. E., Bombardier, C. H., Yorkston, K. M., Miró, J., & Molton, I. R. (2014). Social support, depression, and physical disability: Age and diagnostic group effects. *Disability and Health Journal, 7,* 164–172. http://dx.doi.org/10.1016/j.dhjo.2013.11.001

Jones, J. M., Haslam, S. A., Jetten, J., Williams, W. H., Morris, R., & Saroyan, S. (2011). That which doesn't kill us can make us stronger (and more satisfied with life): The contribution of personal and social changes to well-being after acquired brain injury. *Psychology & Health, 26,* 353–369. http://dx.doi.org/10.1080/08870440903440699

Kaplan, K., Salzer, M. S., Solomon, P., Brusilovskiy, E., & Cousounis, P. (2011). Internet peer support for individuals with psychiatric disabilities: A randomized controlled trial. *Social Science & Medicine, 72,* 54–62. http://dx.doi.org/10.1016/j.socscimed.2010.09.037

Lucas-Carrasco, R., Den Oudsten, B. L., Eser, E., & Power, M. J. (2014). Using the Satisfaction with Life Scale in people with Parkinson's disease: A validation study in different European countries. *Scientific World Journal, 2014,* 680659. http://dx.doi.org/10.1155/2014/680659

Major, B., & O'Brien, L. T. (2005). The social psychology of stigma. *Annual Review of Psychology, 56,* 393–421. http://dx.doi.org/10.1146/annurev.psych.56.091103.070137

Mejias, N. J., Gill, C. J., & Shpigelman, C. N. (2014). Influence of a support group for young women with disabilities on sense of belonging. *Journal of Counseling Psychology, 61,* 208–220. http://dx.doi.org/10.1037/a0035462

Mens, M. G., Helgeson, V. S., Lembersky, B. C., Baum, A., & Scheier, M. F. (2016). Randomized psychosocial interventions for breast cancer: Impact on life purpose. *Psycho-Oncology, 25,* 618–625. http://dx.doi.org/10.1002/pon.3891

Müller, R., Peter, C., Cieza, A., & Geyh, S. (2012). The role of social support and social skills in people with spinal cord injury—A systematic review of the literature. *Spinal Cord, 50,* 94–106. http://dx.doi.org/10.1038/sc.2011.116

Nario-Redmond, M. R., Noel, J. G., & Fern, E. (2013). Redefining disability, reimagining the self: Disability identification predicts self-esteem and strategic responses to stigma. *Self and Identity, 12,* 468–488. http://dx.doi.org/10.1080/15298868.2012.681118

Parry, M., & Watt-Watson, J. (2010). Peer support intervention trials for individuals with heart disease: A systematic review. *European Journal of Cardiovascular Nursing, 9,* 57–67. http://dx.doi.org/10.1016/j.ejcnurse.2009.10.002

Pascoe, E. A., & Smart Richman, L. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin, 135,* 531–554. http://dx.doi.org/10.1037/a0016059

Pavot, W., Diener, E., Colvin, C. R., & Sandvik, E. (1991). Further validation of the Satisfaction with Life Scale: Evidence for the cross-method convergence of well-being measures. *Journal of Personality Assessment, 57,* 149–161. http://dx.doi.org/10.1207/s15327752jpa5701_17

Pinquart, M. M., & Pfeiffer, J. P. (2011). Yes I can: Self-efficacy beliefs in students with and without visual impairments. *Journal of Blindness Innovation and Research, 1,* 3. http://dx.doi.org/10.5241/2F1-20

Riggle, E. D. B., & Rostosky, S. S. (2012). *A positive view of LGBTQ: Embracing identity and cultivating well-being*. Lanham, MD: Rowman & Littlefield Publishers.

Romo, R. D., Wallhagen, M. I., Yourman, L., Yeung, C. C., Eng, C., Micco, G., . . . Smith, A. K. (2013). Perceptions of successful aging among diverse elders with late-life disability. *The Gerontologist, 53,* 939–949. http://dx.doi.org/10.1093/geront/gns160

Rubin, K. H., Fredstrom, B., & Bowker, J. (2008). Future directions in friendship in childhood and early adolescence. *Social Development, 17,* 1085–1096. http://dx.doi.org/10.1111/j.1467-9507.2007.00445.x

Salmon, N. (2013). 'We just stick together': How disabled teens negotiate stigma to create lasting friendship. *Journal of Intellectual Disability Research, 57,* 347–358. http://dx.doi.org/10.1111/j.1365-2788.2012.01541.x

Sarason, I. G., Sarason, B. R., Shearin, E. N., & Pierce, G. R. (1987). A brief measure of social support: Practical and theoretical implications. *Journal of Social and Personal Relationships, 4,* 497–510. http://dx.doi.org/10.1177/0265407587044007

Schachter, S. (1959). *The psychology of affiliation: Experimental studies of the sources of gregariousness*. Stanford, CA: Stanford University Press.

Silverman, A. M., & Cohen, G. L. (2014). Stereotypes as stumbling-blocks: How coping with stereotype threat affects life outcomes for people with physical disabilities. *Personality and Social Psychology Bulletin, 40,* 1330–1340. http://dx.doi.org/10.1177/0146167214542800

Silvers, A., & Francis, L. (2013). Human rights, civil rights: Prescribing disability discrimination prevention in packaging essential health benefits. *Journal of Law, Medicine 7 Ethics, 41,* 781–791.

Spiegel, D., Kraemer, H. C., Bloom, J. R., & Gottheil, E. (1989). Effect of psychosocial treatment on survival of patients with metastatic breast cancer. *Lancet, 334,* 888–891. http://dx.doi.org/10.1016/S0140-6736(89)91551-1

Starr, L. (2015). When support seeking backfires: Co-rumination, excessive reassurance seeking, and depressed mood in the daily lives of young adults. *Journal of Social and Clinical Psychology, 34,* 436–457. http://dx.doi.org/10.1521/jscp.2015.34.5.436

Tabuteau-Harrison, S. L., Haslam, C., & Mewse, A. J. (2016). Adjusting to living with multiple sclerosis: The role of social groups. *Neuropsychological Rehabilitation, 26,* 36–59. http://dx.doi.org/10.1080/09602011.2014.993403

Valenstein, M., Pfeiffer, P. N., Brandfon, S., Walters, H., Ganoczy, D., Kim, H. M., . . . Heisler, M. (2016). Augmenting ongoing depression care with a mutual peer support intervention versus self-help materials alone: A randomized trial. *Psychiatric Services, 67,* 236–239. http://dx.doi.org/10.1176/appi.ps.201400454

Yin, J., Wong, R., Au, S., Chung, H., Lau, M., Lin, L., . . . Chan, J. C. (2015). Effects of providing peer support on diabetes management in people with Type II diabetes. *Annals of Family Medicine, 13*(Suppl. 1), S42–S49. http://dx.doi.org/10.1370/afm.1853

Received May 4, 2016
Revision received January 18, 2017
Accepted February 10, 2017 ■

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.