Prosociality as a Means to Buffer Loneliness and Strengthen Well-Being

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Abstract

Loneliness is an escalating and deleterious issue, even being heralded as an epidemic in some countries. Given its serious consequences to health and well-being, we examined how communal orientation, or having a prosocial orientation, may be associated with less loneliness, and in turn, greater personal and relationship well-being. Study 1 (N=247) and 2 (N=310) were 14-day daily experience studies with longitudinal follow-ups. Across both studies, we found that helping dispositions were associated with less loneliness, and in turn, predicted greater daily and sustained well-being across a variety of measures, including satisfaction with life, positive affect, negative affect, meaning in life, psychological richness, romantic relationship quality, and friendship quality. We found that these results could not be fully explained by participants' extraversion, agreeableness, and neuroticism. We conducted additional exploratory analyses testing alternative models. Overall, we found that people who tend to help others more experience a myriad of rewards, including less loneliness and strengthened well-being.

Keywords: loneliness, prosociality, well-being, close relationships

Exploring Prosociality as a Means to Buffer Loneliness and Strengthen Well-Being

Loneliness is a pervasive and prevalent issue to the point of being raised as a national epidemic in the US (Murthy, 2021). Loneliness is felt when one perceives a lack in quantity and especially quality of social relationships (Hawkley & Cacioppo, 2010). Approximately half of young adults and adults over 60 report high intensities of loneliness, with a substantial portion experiencing severe, chronic levels (Ernst et al., 2022; Horigian et al., 2021; Surkalim et al., 2022). Meta-analytic work has found that loneliness has steadily risen in the past forty years (Buecker et al., 2021) and has risen to an even greater extent most recently from the COVID-19 pandemic (Ernst et al., 2022) and the advent of social media and increased use of technology (Haidt, 2024; O'Day & Heimberg, 2021).

Intertwined with its prevalence, loneliness involves costs personally and relationally. For example, loneliness is associated with a bevy of personal health costs, including greater mortality (Holt-Lunstad et al., 2015) and lower mental health, physical health, and subjective well-being (Park et al., 2020). In addition, lonely people hold more negative perceptions of others, including more mistrust and lower care and regard for close relationship partners (Baumeister et al., 2005; Lemay et al., 2024; Twenge et al., 2007; Wittenberg & Reis, 1986). Thus, work has tied loneliness to lower quality relationships broadly (Hawkley et al., 2008; Lemay et al., 2024). Taken together, loneliness is highly prevalent and detrimental, and it is crucial to examine how to reduce loneliness in our ever-growing lonely society. In the current work, we posit that prosociality, or helping and caring for others, may be associated with less loneliness and greater well-being.

The Rewards of Prosociality

Decades of work have already been devoted to uncovering the myriad benefits of helping others, most prominently in enhancing well-being (Aknin et al., 2013, 2020; Hui et al., 2020). For example, prosociality in the forms of spending money on others, daily kind acts, and volunteering has been found to lead to greater happiness and well-being (Aknin et al., 2020; Dunn et al., 2008; Jenkinson et al., 2013; Weinstein & Ryan, 2010) broadly due to the warm glow of giving (Andreoni, 1990). Similarly, other-oriented motivations such as a communal orientation—one's tendency to help and desire to be helped by others—were linked to greater personal well-being and satisfaction within close relationships (Crocker & Canevello, 2008; Le et al., 2013, 2018). Therefore, prosociality across many forms is highly beneficial for people. In the current work, we predict that prosociality may additionally be associated with diminished feelings of loneliness.

Indeed, past work has already tied prosociality to greater social connection and lower loneliness. For example, volunteering was associated with greater social integration and lower loneliness, especially for older adults (Carr et al., 2018; Musick & Wilson, 2003; Sundström et al., 2021). Adolescents who exhibited more prosocial behaviors in school report greater peer acceptance and less loneliness (Griese & Buhs, 2014; Layous et al., 2012; Woodhouse et al., 2012). In addition, some experimental work has found that kindness interventions and other prosocial paradigms led to immediate reductions in loneliness (Archer Lee et al., 2024; Lanser & Eisenberger, 2023). Finally, this is tied together by a recent meta-analysis that finds that loneliness and prosociality are significantly, albeit weakly, correlated overall (Malon et al., 2024).

Despite evidence of this link, past work has yet to examine the rewards of helping others in a few nuanced ways that we build upon. First, the current work focuses primarily on the rewards of prosocial dispositions (e.g., communal orientation), rather than prosocial behaviors. Indeed, some forms of helping behaviors can have underlying selfish motivations that render them unrewarding, and even well-intentioned prosocial behaviors can be detrimental, such as when care is unmitigated, overbearing, or ineffective (Clark & Mills, 2012; Le et al., 2018; Zee & Bolger, 2019). Despite this, communally oriented people tend to help and receive care from others without any expectation of repayment, and this non-transactional nature of helping may then buffer apparent costs of prosocial behaviors such as in burnout (Van Yperen, 1996). Thus, it may be having a *selfless* motivation to help, or having a high communal orientation, that may reap the most robust and holistic benefits, (Clark & Mills, 2012; Crocker & Canevello, 2008; Le et al., 2013).

Beyond this, we test how prosociality may be associated with less loneliness, which may then be associated with a suite of personal and relational rewards. Indeed, reduced loneliness may go on to further enhance well-being because of its associated health (Holt-Lunstad et al., 2015; Park et al., 2020) and interpersonal (Baumeister et al., 2005; Lemay et al., 2024; Twenge et al., 2007) costs. We examine well-being across a myriad of indicators. We examine hedonic well-being (i.e., maximizing positive and minimizing negative feelings; Diener, 1984), eudaimonic well-being (i.e., meaning and fulfillment; Steger, 2009), psychological richness (i.e., diverse, novel, and perspective-changing lives; Oishi et al., 2020), and relationship well-being (i.e., high quality relationships with close others). Past work has uncovered unique aspects of these varying types of well-being, suggesting that each fulfill a separate and important component of overall well-being (Huta & Ryan, 2010; Oishi, Choi, et al., 2024; Oishi, Westgate,

et al., 2024). Thus, we sought to comprehensively test how prosociality may have maximal rewards to well-being across its many components."

Current Work

In the current work, we examined how communal orientation may be associated with less loneliness, and in turn, greater well-being. Across both studies, we examined well-being across indicators of hedonic well-being (e.g., satisfaction with life, positive affect, and negative affect), eudaimonic well-being (e.g., meaning in life), psychological richness, and relationship well-being (e.g., relationship quality with romantic partners and best friends). We first tested our model in an exploratory, cross-sectional pilot study. Then, we conducted two longitudinal daily experience studies to test our effects naturalistically across people's daily lives and temporally over time. Next, we tested the robustness of our effects accounting for core personality traits associated with well-being (e.g., extraversion, agreeableness, and neuroticism). Last, we explored the effects of daily prosocial helping behaviors and tested competing, alternative models of our effects.

Pilot Study: A Cross-Sectional Test of the Rewards of Prosociality

We first conducted a pilot study (*N*=810 volunteers from the recruitment platform Research Match) to establish initial evidence that prosociality is linked with decreased loneliness, and in turn, greater personal and relationship well-being. This study was conducted during the COVID-19 pandemic, a time of growing loneliness amid social distancing and isolation protocols (Ernst et al., 2022; Murthy, 2021). In this pilot, we examined self-reported prosocial tendencies towards one's close relationship partners, as past work has suggested that people most frequently help close, relative to distant others (Clark & Mills, 2012). Results indicated that prosociality was positively associated with all indicators of well-being (i.e.,

satisfaction with life, meaning in life, positive affect, and relationship quality), except for negative affect. Prosociality was negatively associated with loneliness. Next, we found that decreased loneliness significantly mediated the associations of prosociality with all indicators of well-being, except for negative affect. Thus, we broadly found that people who tended to be more, relative to less, prosocial towards their close relationship partners felt less lonely. In turn, they felt greater well-being across most indicators. Full details of this study can be found in the supplement [https://osf.io/xksqc/?view_only=82896c9dbf31430ca3f8ea9b97634cb7].

Study 1: The Daily and Sustained Rewards of Prosociality

We next examined the rewards of prosociality naturalistically and over time. We ran a longitudinal daily experience study to test the hypothesis that people who were more communally oriented would experience decreased daily loneliness, and in turn, greater daily well-being. We again focused on a context and population in which loneliness was highly prevalent, among university students studying virtually during the COVID-19 pandemic (Ernst et al., 2022; Murthy, 2021). To garner more evidence of our effects, we also sought to account for the effects of confounding variables and test a competing, alternative model (Rohrer et al., 2022).

Method

Participants included 247 undergraduate students from a university in the Northeast (181 females, 55 males, and 11 nonbinary or would rather not say; M_{age}=20.23; SD=1.47; Min=18, Max=25). The sample included 122 Asian, 65 White, 16 Black, 15 Hispanic or Latino, and one participant who did not report their race or ethnicity. In terms of social class, 14 participants self-described as lower class, 37 as lower-middle class, 89 as middle class, 91 as upper-middle class, and 16 as upper class. We began recruiting participants at the start of the spring semester of 2020 and stopped data collection once the semester ended. For Studies 1 and 2, the samples collected

exceeded the recommended 30 to 50 level-2 effects for multilevel modeling (Maas & Hox, 2005).

Participants completed a three-part study online for course credit. First, participants completed a background survey which included measures assessing their communal orientation, demographics, and other individual differences. Three days after completing the background survey, participants began the diary portion of the study. They completed one diary between 5pm and midnight for 14 consecutive days. We allowed participants to complete diaries within a 7-hour window to ensure participants had enough time to complete responses, while making sure surveys were completed during a relatively consistent timeframe (i.e., evenings).[1] Participants completed on average 9.97 diaries[2] (*SD*=3.66; *Min*=1, *Max*=16[3]). The total number of diaries completed was 2,323. Three months after participants completed the daily experience portion of the study, they completed a follow-up survey including measures of well-being and other measures unrelated to the current project. The study design and analyses were not pre-registered. However, anonymized data and R scripts are available on our OSF.

Measures

All measures were assessed on seven-point Likert scales ranging from 1 (*Strongly disagree)* to 7 (*Strongly agree)* and averaged into composites unless otherwise noted.

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[1] Although we could not test this in Study 1 due to the large range of time zone differences (i.e., this study was conducted when students were studying online from home because universities were closed to in-person housing and classes), we found that response time in Study 2 (e.g., completing dairies late versus early evening) did not moderate any of the associations of communal orientation on loneliness or well-being, suggesting that the rewards of communal orientation were robust against the time at which participants completed the diaries.

[2] To ensure our results were not due to differences in participants who completed more, relative to fewer, diaries, we tested if active versus less active participants fundamentally differed across key individual differences. In both studies, we found that people who completed more, relative to fewer, daily experience surveys did not significantly differ in background levels of communal orientation (*p*s>.098) or loneliness (*p*s>.168), suggesting that our results were not due to trait differences from early versus late respondents.

[3] One participant completed 16 diaries because we inadvertently sent reminders for two extra diaries.

Background measures. *Communal orientation*, or one's tendency to care for the welfare of others, was assessed with 14 items (Clark & Mills, 2012). *Extraversion* (e.g., "I see myself as someone who generates a lot of enthusiasm"; eight items; α=.88; *M*=4.25, *SD*=1.23), *agreeableness* (e.g., "I see myself as someone who is helpful and unselfish with others"; nine items; α=.75; *M*=5.17, *SD*=.86), and *neuroticism* (e.g., "I see myself as someone who worries a lot"; eight items; α=.86; *M*=4.32, *SD*=1.19) were assessed with items from the Big Five Inventory (John et al., 2008).

Daily measures. *Loneliness* was assessed with two items from the Emotional and Social Loneliness Scale (Gierveld & Tilburg, 2006). One item for emotional and one item for social loneliness were each chosen to assess overall loneliness (e.g., "Today, I experienced a general sense of emptiness" and "Today, I feel that there are enough people I feel close to" (reversed); *r*=.34, *p*<.001; *M*=2.25, SD=.90). *Satisfaction with life* was assessed with the item "I was satisfied with my life today" (Diener et al., 1985). *Positive affect* was assessed with one item (e.g., "happy, pleased, joyful"; Le & Impett, 2015). *Negative affect* was assessed with three items (e.g., "sad, depressed, down"; Le & Impett, 2015). *Relationship quality* for romantic partners and best friends was assessed with four items (e.g., "I felt satisfied with my relationship with my partner or best friend"; Impett et al., 2013). In both studies, participants in romantic relationships reported their relationship quality towards their partner (*N*=114), while those not in romantic relationships reported their relationship quality towards their best friend (*N*=133).

Follow-up measures. All items were assessed three months after completing the dairy portion of the study. *Satisfaction with life* was assessed with five items (α=.87; *M*=4.90, *SD*=1.22; Diener et al., 1985). *Meaning in life* was assessed with five items (e.g., "I have discovered a satisfying life purpose"; α=.93; *M*=4.73, *SD*=1.35; Steger et al., 2006).

Relationship quality was assessed with 16 items (e.g., "Our relationship is strong"; α=.97; *M*=3.73, *SD*=1.13; Funk & Rogge, 2007). *Friendship quality* was assessed with 30 items (Mendelson & Aboud, 1999).

Results

Data were analyzed using the lme4 (Bates et al., 2018) and lmerTest (Kuznetsova et al., 2017) packages in R. Diaries (level-1) were nested within people (level-2). We used random intercept, fixed slope models. Listwise deletion was used to handle missing data.[4] Communal orientation at background (Level-2 predictor) was grand-mean centered. Daily loneliness (Level-1 predictor) was deconstructed into its within- and between-person components, with both being included in all models. Level-1 within-person components were person-mean centered. Level-2 between-person components were grand-mean centered at the sample mean. Then, to estimate total effects, grand-mean centered communal orientation was entered as a predictor of each indicator of daily well-being and relationship quality in separate models. Next, we conducted multilevel "2-1-1" mediations (Zhang et al., 2009). We tested whether level-2 grand-mean centered daily loneliness mediated the associations between grand-mean centered communal orientation and daily well-being and relationship quality. Finally, the Monte Carlo Method for Assessing Mediation (MCMAM) was used to generate 95% confidence intervals using 20,000 bootstrapped resamples to estimate indirect effects for all mediation models.

We additionally tested our hypotheses longitudinally. We included only participants who completed all three parts of the study (*N*=206). Because our measures of relationship quality differed based on if participants reported being in a romantic relationship, we analyzed our data

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[4] In both studies, we tested if how we handled missing data (e.g., listwise deletion versus Full Information Maximum Likelihood) changed our results. We found that our results were substantively identical across both methods, suggesting that how we treated missing data did not alter our results.

separately for those reporting on romantic partners (*N*=82) versus best friends (*N*=123). Ordinary least squares regression was used to examine grand-mean centered communal orientation at background (and grand-mean centered well-being or relationship quality at background as separate covariates) as predictors to well-being or relationship quality at follow-up in all models to determine the total effects. Next, mediation analyses were conducted to examine grand-mean centered daily loneliness as the mediator between grand-mean centered communal orientation at background predicting well-being or relationship quality at follow-up. Finally, the MCMAM was used to generate 95% confidence intervals using 20,000 bootstrapped resamples to estimate indirect effects for all models.

The Effects of Communal Orientation on Daily Loneliness and Well-Being

As shown in Table 1, we found that people with higher, relative to lower, communal orientation experienced greater daily satisfaction with life, positive affect, and relationship quality but no difference in daily negative affect. They also felt less daily loneliness (*b*= -.265, *SE*=.06, *p*<.001). Furthermore, decreased daily loneliness significantly mediated the associations between communal orientation with satisfaction with life, positive affect, and relationship quality.[5] Thus, highly communally oriented people felt less loneliness and in turn, greater well-being on average across their daily lives.

The Effects of Communal Orientation on Loneliness and Long-Term Well-Being

We next tested if communal orientation at background was associated with less loneliness during the 14-day diary period and in turn, greater well-being (satisfaction with life, meaning in

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[5] When taking loneliness into account, the magnitude of the association between communal orientation and negative affect increased, indicating a suppression effect (MacKinnon et al., 2000). We don't discuss this further, since this suppression effect was not replicated in Study 2.

life, relationship quality, and friendship quality) at follow-up three months later, controlling for baseline levels of each well-being measure respectively.

As shown in Table 2, people with higher, relative to lower, communal orientation experienced greater satisfaction with life, meaning in life, and romantic relationship quality three months later but no difference in friendship quality. In addition, communal orientation predicted less daily loneliness for those in the full sample that completed the follow-up (b= -.273, SE=.03, p<.001), those reporting on romantic partners (b= -.316, SE=.03, p<.001), and those reporting on best friends (b= -.245, SE=.05, p<.001). Finally, we found that decreased daily loneliness significantly mediated the associations between communal orientation predicting satisfaction with life, meaning in life, relationship quality, and friendship quality[6] three months later. Thus, we found that highly communally people experienced less loneliness on average in their daily lives, and in turn, experienced sustained increases in personal and relationship well-being three months later.

Accounting for the Influence of Personality

Next, we tested if the effects of communal orientation were robust against key drivers of well-being and loneliness: extraversion, agreeableness, and neuroticism (Abdellaoui et al., 2019; Buecker et al., 2020; Diener et al., 2018; Steel et al., 2008). For example, people who are more extraverted or agreeable may be less lonely as they tend to be in the company of others more frequently. Similarly, those low in neuroticism may be less lonely as they can better establish and maintain high quality social relationships. We found that the daily effects of communal orientation on loneliness held after accounting for extraversion, agreeableness, and neuroticism.

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[6] The total effect of communal orientation predicting friendship quality three months later, controlling for baseline friendship quality was nonsignificant. However, because the indirect effect did not include zero, this still suggests mediation occurred even despite the non-significant total effect (Preacher & Hayes, 2008).

The effects of communal orientation on well-being held after accounting for extraversion and neuroticism but not agreeableness. Thus, we found that the rewards of communal orientation were largely robust against these key personality traits. Full results of these control analyses can be found in the supplement.

Considering Alternative Models

Next, we sought to test a competing, alternative model. As work has found that people who are prosocial are happier (Aknin et al., 2020) and that people affiliate more with happy others (Harker & Keltner, 2001), we tested a model that examines if prosociality is most proximally associated with greater well-being, and increased well-being is then associated with less loneliness. Thus, we conducted reverse mediations of our original models with loneliness now as an outcome and well-being now as a mediator. We compared the percent reduction in total effects between the competing models to see which model explained more variance in the total effects, lending suggestive evidence towards either loneliness or well-being as the more proximal outcome of prosociality. Although the two competing models are statistically identical and the evidence of directionality this can provide by itself is limited (Rohrer et al., 2022), testing this alternative model grants accumulated evidence of directionality alongside our tests ruling out confounds and gathering temporal evidence.

We found initial support for this alternative model, in which all indicators of daily well-being significantly mediated the association between communal orientation and daily loneliness, except for negative affect. However, we found that our original model indicated greater reductions in the total effects (71% to 100%) relative to the alternative model (40% to 58%) for each facet of well-being. Full results of these analyses can be found in the supplement. Thus,

Study 1 indicated some support in favor of our original model, suggesting that prosociality may more proximally predict loneliness rather than well-being.

Study 1 Discussion

Study 1 lent daily and longitudinal evidence of the rewards of communal orientation. Specifically, we found that communally oriented people experienced lower daily loneliness, and in turn, experienced greater satisfaction with life, positive affect, and relationship quality with close others across their daily lives and longitudinally three months later. We found that these effects were largely robust against extraversion, agreeableness, and neuroticism personality traits. In considering an alternative model, we also found suggestive support of loneliness as the more proximal outcome of prosociality rather than well-being.

Study 2: Pre-Registered and Expanded Tests of the Daily and Sustained Rewards of Prosociality

In Study 2, we sought to replicate and build upon the findings of Study 1, conducting another longitudinal 14-day daily experience survey. In this study, we pre-registered all hypotheses and analyses on OSF prior to analyzing the data [https://osf.io/xksqc/?view_only=82896c9dbf31430ca3f8ea9b97634cb7]. We additionally examined a novel indicator of well-being: psychological richness, or how interesting, new, and exciting a person's life feels (Oishi et al., 2019). Last, we explored the effects of daily helping and tested if our effects could be explained by confounding variables and alternative models.

Method

Participants included 310 undergraduate students from a university in the Northeast (237 females, 67 males, and 6 nonbinary or would rather not say; M_{age}=20.1; SD=1.5; Min=18, Max=30). The sample included 136 Asian, 111 White, 15 Hispanic or Latino, 13 Black, and 35

participants who did not report their race or ethnicity. In terms of social class, 21 participants self-described as lower class, 41 as lower-middle class, 114 as middle class, 119 as upper-middle class, and 15 as upper class. We started data collection at the start of the Spring 2024 semester and sought to collect as many participants as possible before the end of the semester.

In Study 2, participants completed a background survey, up to 14 daily experience surveys, and a two-week follow-up survey. Participants completed on average 8.91 diaries (SD=4.25; Min=1, Max=14), with 2,496 diaries completed in total.

Measures

All measures were identical to the ones used in Study 1, except for a few exceptions discussed below. In the background survey, we assessed *communal orientation* (α=.78; M=5.22, SD=.67; Clark & Mills, 2012), *extraversion* (α=.87; M=4.00, SD=1.16; John et al., 2008), *agreeableness* (α=.76; M=4.98, SD=.92; John et al., 2008), and *neuroticism* (α=.84; M=4.31, SD=1.06; John et al., 2008). In the daily experience surveys, we assessed *satisfaction with life* (M=4.97, SD=1.2; Diener et al., 1985), *positive affect* (M=4.77, SD=1.23), *negative affect* (α=.81; M=2.69, SD=1.15; Le & Impett, 2015), and *relationship quality* (α=.77; M=5.51, SD=.98; Impett et al., 2013). We assessed *loneliness* in the diary with three updated items from the UCLA Loneliness Scale (e.g., "I felt isolated from others today"; α=.90; M=2.34, SD=1.13; Russell et al., 1980). We also assessed *meaning in life* (e.g., "My life had a clear sense of purpose today"; r=.82; M=4.72, SD=1.19; Steger et al., 2006) and *psychological richness* (e.g., "My life was psychologically rich today"; α=.78; M=4.45, SD=1.13; Oishi et al., 2019). Finally, we included a binary measure of self-reported daily helping (e.g., "Did you help another person or organization today?"; 1=yes, 0=no; M=.32, SD=.47) to explore the effects of daily helping behaviors.

Follow-up measures. S*atisfaction with life* (α=.91; *M*=4.78, *SD*=1.31; Diener et al., 1985), *meaning in life* (α=.92; *M*=4.73, *SD*=1.26; Steger et al., 2006), and r*elationship quality* (α=.98; *M*=3.65, *SD*=.82; Funk & Rogge, 2007) were assessed identically to Study 1. *Friendship quality* was assessed with three items, updated to align with satisfaction with their best friend (e.g., "How satisfied are you with your relationship with this person?"; α=.97; *M*=4.17, *SD*=.78; Furman & Buhrmester, 2009). *Positive affect* was assessed with nine items (e.g., "interested, excited, proud"; α=.91; *M*=4.06, *SD*=1.11; Watson et al., 1988). *Negative affect* was assessed with 11 items (e.g., "upset, irritable, nervous"; α=.90; *M*=2.97, *SD*=1.10; Watson et al., 1988). *Psychological richness* was assessed with 14 items (e.g., "My life is psychologically rich"; α=.96; *M*=5.28, *SD*=1.14; Oishi et al., 2019).

Results

Our primary analyses were identical to Study 1. Specifically, we examined daily loneliness as the mediator of communal orientation at background predicting greater daily well-being and relationship quality. We also tested the longitudinal effects of daily loneliness as the mediator of communal orientation predicting greater well-being and relationship quality two weeks later.

The Effects of Communal Orientation on Daily Loneliness and Well-Being

As shown in Table 3, we first found that people with higher, relative to lower, communal orientation experienced greater daily satisfaction with life, positive affect, meaning in life, psychological richness, and relationship quality but no difference in negative affect. They also experienced less daily loneliness (*b*=-.172, *SE*=.06, *p*=.005). Furthermore, decreased daily loneliness significantly mediated the associations between communal orientation and all facets of personal and relationship well-being, except for negative affect. Thus, highly communally

oriented people experienced less daily loneliness and in turn, experienced greater daily personal and relationship well-being on average across their daily lives.[7]

The Effects of Communal Orientation on Loneliness and Long-Term Well-Being

We next examined the sustained rewards of communal orientation. As done in Study 1, we conducted longitudinal analyses separately when examining personal well-being (entire sample; *N=206)*, romantic relationship quality (those reporting on romantic partners; *N=83*), and friendship quality (those reporting on best friends; *N=123*). First, as shown in Table 4, we found that communal orientation predicted greater psychological richness, positive affect, and friendship quality and lower negative affect two weeks later. Unexpectedly, we found that communal orientation was associated with lower satisfaction with life and relationship quality[8] and no difference in meaning in life two weeks later.

We found that communal orientation was associated with less daily loneliness across the 14-day daily experience period for the sample that completed the follow-up (b= -.160, SE=.03, p<.001), for those reporting on romantic partners (b= -.197, SE=.06, p<.001), and for those reporting on best friends (b= -.126, SE=.04, p=.002). We found that decreased daily loneliness significantly mediated the associations between communal orientation predicting greater psychological richness, positive affect, and friendship quality and lower negative affect three months later. Daily loneliness did not mediate the associations between communal orientation predicting satisfaction with life, meaning in life, or relationship quality three months later. Thus,

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[7] We additionally explored if communally oriented people indeed reported greater daily helping behaviors. We found that this was true (b=.380, SE=.16, p=.021). Specifically, for every one unit greater in communal orientation someone was, they were 46% more likely to help another person on any given day (odds ratio (OR)=1.46, 95% CI=1.05, 2.04). Beyond this, we also explored the effects of daily helping behaviors. We found that on days when people reported helping others, they felt less lonely, and in turn, experienced greater well-being on that same day. See the supplement for details.

[8] We do not interpret these effects further, since their respective total effects, without controlling for baseline well-being, were expectedly positive (b=.311, SE=.04, p<.001 and b=.183, SE=.04, p<.001).

highly communally oriented people felt less lonely in their daily lives, and in turn, felt greater well-being across most indices after two weeks.

Accounting for the Influence of Personality

We found that the daily effects of communal orientation on loneliness held after accounting for agreeableness and neuroticism but became marginal when controlling for extraversion. Furthermore, the effects of communal orientation on well-being largely held after accounting for extraversion, agreeableness and neuroticism. Thus, we again found that the rewards of communal orientation were robust against the influence of personality.

Considering an Alternative Model

As in Study 1, we compared our effects against an alternative, competing model to test the most proximal effects of prosociality.[9] We again tested reverse mediations of well-being (now the mediator) explaining the association between communal orientation (predictor) and loneliness. We found support for the alternative model with all indicators of daily well-being significantly mediating the association between communal orientation and daily loneliness, except for negative affect. In addition, we found that the alternative model had greater reductions in total effects (31% to 92%) relative to our original model (38% to 50%). Full results of this analysis can be found in the supplement. Thus, Study 2 indicated some support in favor of the alternative model, suggesting that prosociality may more proximally predict well-being rather than loneliness.

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[9] Beyond this, we tested another alternative model to examine whether happy people are more prosocial. Utilizing lagged analyses, we found no within-person support for our primary hypothesis (e.g., daily helping on one day predicting well-being on the next day) or the alternative model (e.g., well-being on one day predicting daily helping on the next day). See the supplement for full details.

Study 2 Discussion

In Study 2, we found that communal orientation predicted diminished daily loneliness, and in turn, a suite of daily and sustained well-being rewards. We found that the effects of communal orientation largely held beyond the influence of personality traits. We also found that communally oriented people helped others more in daily life and that these self-reported helping behaviors had same-day rewards on loneliness and well-being. Finally, in considering an alternative model, we found suggestive support of well-being as the more proximal outcome of prosociality rather than loneliness, contrary to Study 1.

General Discussion

Across two studies, we found that people higher in communal orientation, or those who tend to help others more often, feel less lonely, and in turn, have strengthened personal (i.e., greater satisfaction with life, positive affect, meaning in life and psychological richness and lower negative affect) and relational (i.e., greater relationship quality with romantic partners and best friendships) well-being. Our findings build upon previous work that indicates helping others can be rewarding to oneself both personally and interpersonally (Aknin et al., 2020; Le et al., 2013; Weinstein & Ryan, 2010). We extend this work to finding daily and sustained rewards of prosocial dispositions on loneliness and well-being. Beyond this, our work suggests that greater communal orientation is linked with more frequent daily helping and in turn, reduced loneliness and greater well-being on the same day.

Importantly, the current work finds enduring rewards of communal orientation two weeks and three months later. This suggests that living by a broader framework of being prosocial (i.e., helping others) frequently and without concern for reciprocity, is what may be most rewarding. In particular, perhaps the rewards of individual prosocial behaviors are circumstantial and can

even be costly in some situations (Aknin & Whillans, 2021; Caldas et al., 2021; Zee & Bolger, 2019). However, the rewards of prosocial dispositions may be more robust. Indeed, work has found that highly communally oriented people are buffered against ordinary helping behavior costs, such as in burnout (Van Yperen, 1996). Thus, the current work suggests that being highly communally oriented, or having a high helping disposition, is associated with greater well-being and less loneliness concurrently and over time.

Although personality is one of the most influential predictors of well-being (Diener et al., 2018) and loneliness (Buecker et al., 2020), we find that the effects of prosociality are robust against extraversion, agreeableness, and neuroticism. For example, these personality traits may affect helping behavior in similar ways. However, communally oriented individuals may additionally have other-oriented motives of helping, such as plainly caring for another's welfare without the expectation of reciprocity (Bryan et al., 2000). In comparison, highly extraverted or agreeable people may help for self-oriented reasons, such as attaining greater social attention (Wilt & Revelle, 2017) or maintaining social harmony (Graziano & Tobin, 2009). Similarly, those low in neuroticism may help to maintain their own self-efficacy and control (Guo et al., 2018). Thus, beyond personality, communal orientation's rewards are unique and robust.

In the current work, we examine a particularly lonely demographic: college students studying amid COVID-19 restrictions, a time of greater social isolation and fewer opportunities for social contact (Diehl et al., 2018; Horigian et al., 2021; Murthy, 2021). We find that college students who are highly communally oriented, or dispositioned to help others, may feel less lonely and even thrive despite this harsh context. In particular, given how loneliness, happiness, prosociality, and trait beliefs can be similarly "contagious" across social networks (Burkley et al., 2017; Cacioppo et al., 2009; Fowler & Christakis, 2008; Tsvetkova & Macy, 2014), the

current findings suggest that cultivating prosociality beyond a behavioral level but rather at a broader trait level may then be especially important in building less lonely and happier communities. Indeed, work has suggested that dispositions can shift and fluctuate (Chopik et al., 2019; Girme et al., 2018), suggesting that cultivating cultures of helping regularly may be especially rewarding for communities and society as a whole.

Limitations and Future Directions

Although there are many strengths of our studies, there are also a few limitations. First, the nature of our study designs does not permit causal interpretations. To help remedy this, we controlled for confounding variables and acquired temporal evidence through longitudinal analyses (Rohrer & Lucas, 2020). Despite these ameliorations, future work should use experimental paradigms to examine the causal associations between prosociality with daily and long-term loneliness. Across both studies, we also tested alternative models. We found mixed evidence regarding if loneliness or well-being was the most proximal outcome of prosociality. Thus, it will be important for future work to follow-up on disentangling which pathways between these variables may be most robust.

Conclusions

Across two daily experience studies with longitudinal follow-up surveys, we found evidence that being highly communally oriented, or motivated and inclined to help others, is associated with reduced loneliness. In turn, highly communally oriented people experience immediate and sustained personal and interpersonal well-being rewards. Thus, we broadly find that being a kind person who regularly helps and cares for others is associated with less loneliness and greater well-being in the moment and over time.

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Appendix

Table 1

Daily Loneliness as the Mediator of the Association between Communal Orientation and Daily

Well-Being in Study 1

	Satisfaction with Life	Positive Emotions	Negative Emotions	Relationship Quality
B Path	-.718 (.05)***	-.709 (.06)***	.682 (.06)***	-.443 (.05)***
Total Effect	.222 (.06)***	.174 (.07)**	-.010 (.07)	.166 (.05)***
Direct Effect	.032 (.05)	-.013 (.05)	.170 (.06)**	.048 (.05)
Indirect Effect	[.114, .276]	[.107, .279]	[-.251, -.109]	[.071, .172]

Note. In all models, the predictor is communal orientation, the mediator is daily loneliness, and the outcomes are daily indices of personal and relationship well-being. Unstandardized MLM coefficients, along with standard errors are reported. 95% confidence intervals of our indirect effects are reported in brackets. *$p<.05$, **$p<.01$, ***$p<.001$.

Table 2

Loneliness as the Mediator of the Association between Communal Orientation and Long-Term Well-Being in Study 1

	Satisfaction with Life	Meaning in Life	Relationship Quality	Friendship Quality
B Path	-.364 (.03)***	-.118 (.03)***	-.229 (.04)***	-.289 (.02)***
Total Effect	.120 (.03)***	.148 (.02)***	.090 (.04)*	-.041 (.03)
Direct Effect	.042 (.03)	.113 (.02)***	.025 (.04)	-.080 (.02)**
Indirect Effect	[.074, .128]	[.017, .050]	[.023, .061]	[.057, .085]

Note. In all models, the predictor is communal orientation, the mediator is loneliness, and the outcomes are indices of personal and relationship well-being after three months. Unstandardized *b*s, along with standard errors are reported. 95% confidence intervals of our indirect effects are reported in brackets. *p<.05, **p<.01, ***p<.001.

Table 3

Daily Loneliness as the Mediator of the Association between Communal Orientation and Well-Being in Study 2

	Satisfaction with Life	Meaning in Life	Positive Emotions	Negative Emotions	Psychological Richness	Relationship Quality
B Path	-.744 (.05)***	-.615 (.06)***	-.695 (.04)***	.659 (.05)***	-.513 (.05)***	-.500 (.04)***
Total Effect	.254 (.07)***	.267 (.07)***	.313 (.06)***	-.087 (.07)	.193 (.06)***	.196 (.06)***
Direct Effect	.126 (.05)*	.160 (.06)*	.194 (.05)***	.027 (.05)	.105 (.05)*	.110 (.05)*
Indirect Effect	[.054, .207]	[.030, .190]	[.055, .189]	[-.180, -.048]	[.037, .146]	[.038, .139]

Note. In all models, the predictor is communal orientation, the mediator is daily loneliness, and the outcomes are indices of daily personal and relationship well-being. Unstandardized MLM coefficients, along with standard errors are reported. 95% confidence intervals of our indirect effects are reported in brackets. *p<.05, **p<.01, ***p<.001.

Table 4

Loneliness as the Mediator of the Association between Communal Orientation and Long-Term Well-Being in Study 2

	Satisfaction with Life	Meaning in Life	Psychological Richness	Positive Affect	Negative Affect	Relationship Quality	Friendship Quality
B Path	-.212 (.02)***	-.177 (.02)***	-.135 (.02)***	-.256 (.02)***	.364 (.02)***	-.065 (.03)*	-.267 (.02)***
Total Effect	-.065 (.02)*	-.005 (.02)	.058 (.02)**	.111 (.02)***	-.112 (.02)***	-.084 (.03)*	.128 (.02)***
Direct Effect	-.070 (.02)**	-.020 (.02)	.054 (.02)**	.091 (.03)***	-.057 (.02)*	-.091 (.03)**	.096 (.02)***
Indirect Effect	[.022, .047]	[.018, .040]	[.014, .031]	[.027, .057]	[-.076, -.041]	[.002, .026]	[.021, .048]

Note. In all models, the predictor is communal orientation, the mediator is loneliness, and the outcomes are indices of personal and relationship well-being after three months. Unstandardized *b*s, along with standard errors are reported. 95% confidence intervals of our indirect effects are reported in brackets. *p<.05, **p<.01, ***p<.001.