

Psychological Science

<http://pss.sagepub.com/>

When Giving Feels Good: The Intrinsic Benefits of Sacrifice in Romantic Relationships for the Communally Motivated

Aleksandr Kogan, Emily A. Impett, Christopher Oveis, Bryant Hui, Amie M. Gordon and Dacher Keltner
Psychological Science 2010 21: 1918 originally published online 15 November 2010
DOI: 10.1177/0956797610388815

The online version of this article can be found at:
<http://pss.sagepub.com/content/21/12/1918>

Published by:



<http://www.sagepublications.com>

On behalf of:



[Association for Psychological Science](http://www.sagepublications.com)

Additional services and information for *Psychological Science* can be found at:

Email Alerts: <http://pss.sagepub.com/cgi/alerts>

Subscriptions: <http://pss.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

>> [Version of Record](#) - Dec 14, 2010

[OnlineFirst Version of Record](#) - Nov 15, 2010

[What is This?](#)

When Giving Feels Good: The Intrinsic Benefits of Sacrifice in Romantic Relationships for the Communally Motivated

Aleksandr Kogan¹, Emily A. Impett², Christopher Oveis³,
Bryant Hui¹, Amie M. Gordon⁴, and Dacher Keltner⁴

¹The University of Hong Kong, ²University of Toronto, ³Harvard University, and
⁴University of California, Berkeley

Psychological Science
21(12) 1918–1924
© The Author(s) 2010
Reprints and permission:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/0956797610388815
http://pss.sagepub.com


Abstract

Who benefits most from making sacrifices for others? The current study provides one answer to this question by demonstrating the intrinsic benefits of sacrifice for people who are highly motivated to respond to a specific romantic partner's needs noncontingently, a phenomenon termed *communal strength*. In a 14-day daily-experience study of 69 romantic couples, communal strength was positively associated with positive emotions during the sacrifice itself, with feeling appreciated by the partner for the sacrifice, and with feelings of relationship satisfaction on the day of the sacrifice. Furthermore, feelings of authenticity for the sacrifice mediated these associations. Several alternative hypotheses were ruled out: The effects were not due to individuals higher in communal strength making qualitatively different kinds of sacrifices, being more positive in general, or being involved in happier relationships. Implications for research and theory on communal relationships and positive emotions are discussed.

Keywords

sacrifice, communal strength, communal relationships, romantic relationships, positive emotions

Received 2/26/10; Revision accepted 7/19/10

Close relationships require sacrifices—actions in which an individual forgoes his or her immediate self-interest to promote the well-being of a partner or a relationship (see Impett & Gordon, 2008, for a review). Several short-term longitudinal studies of dating and married couples have shown that the more willing people are to make sacrifices (e.g., give up a cherished pet), the more likely they are to stay with their partner over time (Van Lange, Agnew, Harinck, & Steemers, 1997; Van Lange, Rusbult, et al., 1997). Studies of the motives guiding sacrifice have found that the emotional and relational benefits of sacrifice are highest when people sacrifice for approach motives, such as pleasing their partner or creating more intimacy in their relationship (Impett, Gable, & Peplau, 2005). This emergent literature on sacrifice has focused on the long-term relational benefits of sacrifice and how motives can shape daily experience. No study to date, however, has documented who is most likely to reap the benefits of sacrifice and why some individuals find greater joy in giving than others do.

The current study answers both of these questions. We investigated individual differences in the motivation to respond

to the needs of a partner with whom one has a communal relationship—a relationship that is predicated on responding to one another's needs noncontingently (Clark & Mills, 1979). Romantic couples were selected for this study because romantic relationships are a prototypical example of communal relationships (Clark & Mills, 1979) and because they require great sacrifices to flourish (Impett & Gordon, 2008). First, to address the question of who reaps the most benefits from sacrifice, we tested the hypothesis that individuals who are more motivated to respond to their romantic partner's needs in a communal manner enjoy more emotional and relational benefits of sacrifice (Mills, Clark, Ford, & Johnson, 2004). The level of such motivation in a relationship is termed *communal strength* (Mills et al., 2004). Second, to answer the question of why individuals high in communal strength may reap more benefits

Corresponding Author:

Aleksandr Kogan, The University of Hong Kong, Department of Psychology,
724 Knowles Building, Pokfulam Road, Hong Kong, Hong Kong
E-mail: alexbkogan@gmail.com

of sacrifice, we tested the hypothesis that feeling authentic during the sacrifice mediates this relationship.

A Communal Approach to Relationships

One type of close relationship is the *exchange relationship* (Clark & Mills, 1979), sometimes called the *equality-matching relational model* (Fiske, 1992). Exchange relationships are driven by expectations of direct reciprocation: Individuals grant benefits to one another with an implicit anticipation of receiving similar benefits in return. In contrast, the *communal relationship* (Clark & Mills, 1979), or the *communal sharing relational model* (Fiske, 1992), is predicated on the noncontingent giving of benefits when a partner is in need; immediate reciprocation is not expected and, in fact, can be detrimental. Experimental studies have demonstrated that when individuals desire a communal relationship (rather than an exchange relationship) with an interaction partner, they are more likely to keep track of their partner's needs (Clark, Mills, & Powell, 1986) and to experience increases in mood and self-evaluations as a result of helping their partner (Williamson & Clark, 1989, 1992). Individuals who desire a communal relationship (rather than an exchange relationship) with an interaction partner do not keep track of input into joint tasks (Clark, 1984) and tend to like their partner less when the partner repays them for a benefit received than when the partner does not repay them (Clark & Mills, 1979). Thus, when individuals have been experimentally manipulated to desire a communal relationship, they act in a more prosocial manner and express little concern about whether their own prosocial acts are reciprocated.

Although this research has documented broad differences between communal and exchange relationships, specific relationships can vary in the extent to which they are communally or exchange oriented (Clark & Mills, 1993). For example, one person might be willing to move to another city so that his or her romantic partner can take a new job (high communal strength), whereas another may consider the move too high a price to pay (low communal strength). To capture the variability in the extent to which relationships are communal, Mills et al. (2004) developed a measure of communal strength that captures the motivation to respond noncontingently to a specific partner's needs. Studies using this measure have shown that communal strength is associated with providing more help to friends, being more satisfied (and having partners who are more satisfied) with one's romantic relationships (Mills et al., 2004), and being more emotionally expressive (Clark & Finkel, 2005).

Research on communal strength has focused almost exclusively on broad relationship outcomes, such as relationship satisfaction, rather than on the experience of specific prosocial acts—such as sacrifice—which are theoretically central to the nature of communal relationships. Previous research has shown that people who are higher in communal strength toward their friends are more likely to help their friends (Mills et al., 2004); we extended this research by testing the hypothesis that

individuals higher in communal strength toward their romantic partner are more likely to experience emotional and relationship benefits when making costly sacrifices for their partner. Guided by research linking sacrifices to positive emotions and relationship satisfaction (Impett et al., 2005), research on emotion (Keltner & Lerner, 2010), and research on communal strength (Mills et al., 2004), we focused on three benefits of sacrifice: positive emotions experienced during the sacrifice, the feeling of being appreciated by the partner for the sacrifice, and feelings of relationship satisfaction on the day one makes the sacrifice.

Feeling Authentic When Making Sacrifices

According to self-verification theory (Swann, 1983, in press), people have a fundamental need to affirm their perceptions of themselves. Because the self is a central element in people's knowledge systems, self-verifying actions reinforce people's sense of the world. On the basis of this perspective, we reasoned that for individuals high in communal strength, sacrifice should provide one method for self-verification. Specifically, because individuals high in communal strength see themselves as highly motivated to care for their partners (Mills et al., 2004), the act of sacrifice—an important way to express concern and care for one's partner—should feel authentic, a reflection of the self-verifying nature of the act. Although making sacrifices for a romantic partner is not the only way in which individuals high in communal strength can self-verify, it is likely to be one of the most important methods of self-verification because sacrifice is such a powerful indicator of responsive concern for one's partner. Subjective authenticity, or congruence between inner beliefs and outer behavior (Rogers, 1961), can shape both personal well-being and the quality of relationships (e.g., Kernis & Goldman, 2006; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997). On the basis of these previous findings, we predicted that people who are higher in communal strength (compared with those lower in communal strength) will feel more authentic when they make sacrifices, which in turn will contribute to an increase in positive emotions, feelings of being appreciated, and relationship satisfaction.

The Current Study

The current study employed a 14-day dyadic daily-experience paradigm to measure daily sacrifices in romantic relationships. We predicted that individuals higher in communal strength toward their romantic partners would experience more positive emotions when making daily sacrifices, would feel more appreciated by their partners for the sacrifices, and would experience greater relationship satisfaction. Furthermore, we predicted that the reason why individuals higher in communal strength experience more delight when sacrificing for their partner is because they feel that their sacrifices are an authentic reflection of their true selves.

Method

Participants and procedure

Participants were recruited from the San Francisco Bay Area through the use of both paper flyers and online flyers (the latter posted on craigslist.org). Eighty couples were recruited for the study, but 11 couples were removed from the analyses because one member of the couple did not complete the initial survey or because we could not properly match a participant's initial survey to his or her daily-experience records. Participants had a diverse range of ethnic backgrounds: The sample was 52% European or European American, 20% Chinese or Chinese American, 8% African or African American, 5% Mexican or Mexican American, and 15% other ethnicities. Participants ranged in age from 18 to 60 years ($M = 24.0$, $SD = 6.7$). The couples had been dating from 6 months to 30 years ($Mdn = 16$ months, $SD = 46.6$ months); 48% of the couples were cohabiting.

After both partners agreed to take part in the study, the participants were e-mailed a Web link to the initial online survey, which was to be completed before the couple arrived at our laboratory. Each couple came to the lab at a different time and received training in completing the daily-experience portion of the study. After the lab portion of the study, both partners were asked to complete a 10-min online survey for 14 consecutive nights, beginning the day of the laboratory session. We emphasized that each diary should be completed in private, that the partners should not discuss their answers with one another, and that we would never reveal one partner's responses to the other. Participants completed 1,686 diary entries on time, as determined by an automatic time stamp generated by the Web site, for an average of 12.2 (out of 14) entries per person. Each partner was paid \$20 for his or her participation.

Background measures

Communal strength. Participants completed a 10-item measure of their motivation to respond noncontingently to their romantic partner's needs (e.g., "How large a cost would you incur to meet a need of your partner?"; Mills et al., 2004; $\alpha = .80$). Participants responded to these questions using 5-point scales ranging from 0 (*not at all*) to 4 (*extremely*).

Relationship satisfaction. Relationship satisfaction was assessed using a standard five-item measure (e.g., "Our relationship makes me happy"; Rusbult, Martz, & Agnew, 1998; $\alpha = .90$). The 5-point rating scales ranged from 0 (*strongly disagree*) to 4 (*strongly agree*).

Inclusion of other in the self. Participants completed the Inclusion of Other in the Self (IOS) scale (Aron, Aron, & Smollan, 1992), in which they were presented with a series of seven pairs of circles, one circle in each pair representing the participant and the other circle representing the partner. The

circles overlapped to varying degrees (from not at all overlapping to almost completely overlapping), and participants were asked to choose the picture that best represented their relationship with their romantic partner ($M = 5.2$, $SD = 1.3$).

Daily measures

Sacrifice. Each day, participants answered the following question (used in previous research), which was designed to assess whether or not they had made a sacrifice (Impett et al., 2005): "Today, did you do anything that you did not particularly want to do for your partner? Or, did you give up something that you did want to do for the sake of your partner?" To control for variation in the nature of the sacrifices, we assessed several qualities of the sacrifice: (a) effort ("I put a lot of time and effort into making this sacrifice"), (b) reluctance or hesitancy ("I felt reluctant or hesitant to make this sacrifice"), (c) the partner's expressed needs for the sacrifice ("My partner really wanted or needed me to make this sacrifice"), and (d) whether the sacrifice was motivated by a desire to have the partner return the favor ("To get my partner to return the favor later"). Participants responded to items assessing these qualities on 5-point scales ranging from 0 (*strongly disagree*) to 4 (*strongly agree*).

Emotions. Each day, participants indicated the extent to which they experienced each of 15 emotions, specifically indicating (a) how much they felt each emotion on average over the course of the day and (b) how much they felt each emotion specifically when they made a sacrifice for their partner. Ratings were made on 5-point scales ranging from 0 (*not at all*) to 4 (*a lot*). This measure has been used in previous research with romantic couples (Impett et al., 2010). The scale includes eight positive emotions captured in synonym clusters: *amused/having fun*, *happy/pleased/joyful*, *proud/good about myself*, *uplifted/inspired/elevated*, *affectionate/loving/caring*, *cared about/loved/connected*, *compassionate/sympathetic*, and *grateful/appreciative/thankful*. The scale also includes seven negative emotions: *angry/irritable/frustrated*, *anxious/nervous*, *guilty/embarrassed/ashamed*, *sad/depressed/down*, *criticized/blamed*, *lonely/isolated*, and *resentful toward my partner*. Reliability was satisfactory for all positive-emotion composites (daily emotions: $\alpha = .96$; sacrifice-specific emotions: $\alpha = .94$) and negative-emotion composites (daily emotions: $\alpha = .93$; sacrifice-specific emotions: $\alpha = .81$).

Authenticity. Each day that participants reported a sacrifice, they answered a single face-valid item assessing authenticity: "I felt authentic (true to myself) while making this sacrifice."¹ Ratings were made on a 5-point scale ranging from 0 (*strongly disagree*) to 4 (*strongly agree*).

Perceptions of appreciation for daily sacrifices. Each day that participants reported a sacrifice, they indicated their agreement with the following statement: "My partner really

appreciated my making this sacrifice.” Ratings were made on a 5-point scale ranging from 0 (*strongly disagree*) to 4 (*strongly agree*).

Relationship satisfaction. Each day, individuals rated the extent to which they felt satisfaction, closeness, and love in their romantic relationship. These ratings were made on 5-point scales ranging from 0 (*not at all*) to 4 (*a lot*). Because these three variables were so highly intercorrelated ($\alpha = .97$), we combined them into a composite variable, relationship satisfaction.

Results

Participants reported sacrificing on an average of 3 (out of 14 possible) days, for a total of 408 days across participants. We analyzed the data using hierarchical linear modeling (HLM, Version 6.08; Raudenbush, Bryk, Cheong, & Congdon, 2004). We used a three-level model, in which days were nested within persons and persons were nested within couples (Gable & Poore, 2008). This analysis simultaneously controls for dependencies in the same person’s reports across days and dependencies between partners.²

The benefits of sacrifice

Our first set of predictions concerned the association between communal strength and the daily benefits of sacrifice, including the experience of positive emotions, perceptions of appreciation for each sacrifice, and overall relationship satisfaction. One benefit of sacrifice is the emotions people experience when sacrificing for a partner. As we hypothesized, the higher individuals were in communal strength toward their romantic partner, the more likely they were to experience positive emotions (e.g., joy, love, affection) when they made a sacrifice for their partner, $b = 0.56$, $t(110) = 4.08$, $p < .001$. Communal strength was not significantly associated with negative emotions during the sacrifice, $b = -0.12$, $t(110) = 1.18$, $p = .24$.³

A second benefit of sacrifice concerns feeling that one’s partner appreciated one’s efforts in making the sacrifice. Again, as we hypothesized, the higher people were in communal strength, the more likely they were to feel that their partner appreciated their sacrifice, $b = 0.65$, $t(110) = 4.57$, $p < .001$.

A third benefit of sacrifice concerns overall feelings of relationship satisfaction. We found that communal strength was positively associated with relationship satisfaction on days when people made a sacrifice for their partner, $b = 0.53$, $t(110) = 4.20$, $p < .001$. That is, people who were high in the dispositional motivation to respond to their partner’s needs in a communal manner felt on average more satisfaction, closeness, and love on days when they sacrificed for their partner than did people who felt less communal strength.

To ensure that each of the three outcomes (i.e., positive emotions, appreciation, and relationship satisfaction) was uniquely predicted by communal strength, we conducted

additional analyses in which we controlled for the other two outcomes. For instance, in the model predicting positive emotions during the sacrifice, we controlled for relationship satisfaction and feeling appreciated. Communal strength remained significantly associated with each outcome of interest when controlling for the other two outcomes.

Much of the existing research on communal relationships has employed an experimental approach in which participants are led to desire either a communal or an exchange relationship with a stranger. The present study extends this work to the context of established relationships; in addition, we explored whether relationship duration had an impact on our results by controlling for relationship duration in all of our analyses. In all cases, the results remained significant.

Genuine sacrifices: the role of authenticity

Our second set of predictions focused on identifying a mechanism linking communal strength and the daily benefits of sacrifice. We hypothesized that the reason why people who are higher in communal strength experience more positive emotions, feelings of being appreciated, and relationship satisfaction is that they feel more authentic when they make sacrifices for a romantic partner. We tested for multilevel mediation following the guidelines established by Zhang, Zyphur, and Preacher (2009).

The three mediational paths and coefficients for all pathways are depicted in Figure 1. The higher individuals were in communal strength, the more likely they were to feel authentic when they made daily sacrifices for their partner, $b = 0.69$, $t(110) = 5.35$, $p < .001$. Authenticity fully mediated the link between communal strength and positive emotions experienced during the sacrifice (Sobel’s $z = 3.99$, $p < .001$); authenticity partially mediated the link between communal strength and feeling appreciated for the sacrifice (Sobel’s $z = 2.87$, $p = .004$); and, finally, authenticity fully mediated the link between communal strength and relationship satisfaction on days when individuals made a sacrifice (Sobel’s $z = 3.05$, $p = .002$).

Ruling out alternative hypotheses

Inferences from this study’s findings are potentially undermined by confounds. First, individuals who are higher in communal strength may simply experience more positive emotions and relationship satisfaction in general. Indeed, higher communal strength was associated with greater daily positive emotions (i.e., emotions in general, rather than those specific to sacrifice) on days with sacrifices, $b = 0.37$, $t(110) = 2.49$, $p = .014$, as well as with relationship satisfaction assessed at the beginning of the study, $b = 0.77$, $t(125) = 6.09$, $p < .001$. After controlling for daily positive emotions and baseline relationship satisfaction, however, we found that individual differences in communal strength still significantly predicted the benefits of sacrifice. Thus, these analyses rule out the possibility that our findings can be accounted for by individuals higher

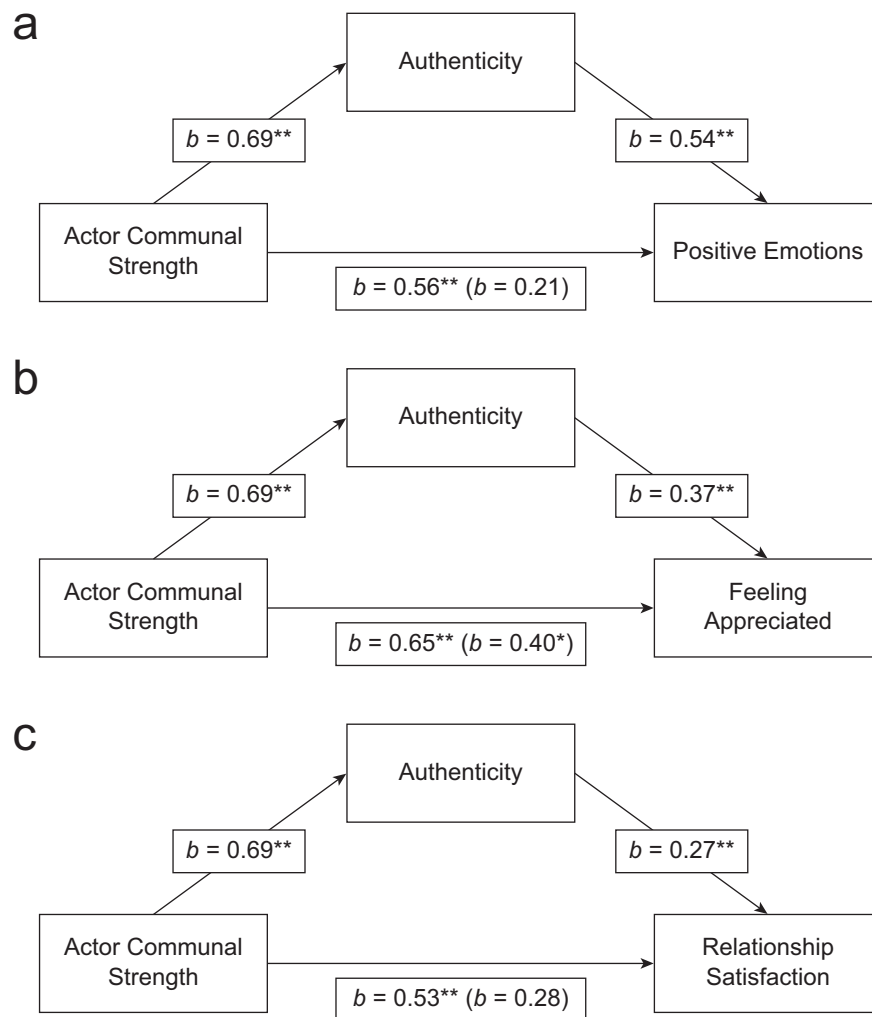


Fig. 1. Authenticity as a mediator of the relationship between communal strength and the intrinsic benefits of sacrifice: (a) positive emotions experienced, (b) feeling appreciated for the sacrifice, and (c) relationship satisfaction on the day of the sacrifice. Effects in parentheses illustrate the direct effect after controlling for the mediator. Asterisks indicate significant paths ($*p < .01$, $**p < .001$).

in communal strength experiencing more positive emotions or having higher relationship satisfaction.

Second, it is also possible that individuals higher in communal strength make qualitatively different kinds of sacrifices than the less communally motivated, and these differences in turn could have driven the reported pattern of results. To test this alternative hypothesis, we controlled for effort put into making the sacrifice, reluctance or hesitancy in making the sacrifice, and perceptions of the partner's expressed needs for the sacrifice. These three aspects of sacrifice, which were measured for each sacrifice, were not significantly associated with communal strength; furthermore, in analyses controlling for these aspects of sacrifice, all of the associations between communal strength and the intrinsic benefits of sacrifice remained significant.

Third, it is possible that the observed effects were (a) due to individuals high in communal strength making sacrifices with the expectation that their partner would return the favor later

or (b) due to individuals high in communal strength seeing themselves and their partners as overlapping entities (so that the act of helping the partner would help the self). To rule out these possibilities, we controlled for the degree to which each sacrifice was motivated by a desire to have the partner return the favor and the degree to which the participants saw themselves and their partner as overlapping (i.e., scores on the IOS measure). In both analyses, the links between communal strength and the benefits of sacrifice remained significant. Thus, our results cannot be explained by individuals high in communal strength viewing sacrifice as a way to attain more self-focused goals.

Discussion

In this study, we found that the higher individuals were in communal strength toward their romantic partner, the more they experienced positive emotions during daily sacrifices, felt

appreciated for their efforts, and reported high relationship satisfaction on days when they made sacrifices. Ancillary analyses revealed that these results could not be attributed to more general characteristics of people high in communal strength (i.e., high positive emotions or relationship satisfaction), to the fact that people high in communal strength made qualitatively different kinds of sacrifices, or to the possibility that people high in communal strength were acting out of more self-focused motives. Furthermore, all of the observed effects remained significant when we controlled for relationship duration. Although this study is correlational and cannot adequately address the question of causality, previous experimental research has shown that individuals who desire a communal relationship with a stranger experience positive affect when they provide help to that person (Williamson & Clark, 1989, 1992). Taken together, the present study and previous experimental research provide converging evidence that individuals who are more highly motivated to act communally toward their partner find more joy in meeting their partner's needs. Future research is needed to replicate and extend the present findings using behavioral indicators of sacrifice and helping behavior.

We also identified a critical mechanism underlying the association between communal strength and the benefits of sacrifice. The higher individuals were in communal strength in their romantic relationships, the more authentic they felt when they made daily sacrifices for their partner and, in turn, the more they experienced positive emotions, feelings of being appreciated, and satisfaction with their romantic relationships. Our results are in line with self-verification theory (Swann, 1983, in press), which posits that people strive to affirm their self-perceptions through their actions. Although we did not explicitly measure self-identity perceptions, our findings suggest that people high in communal strength may have made being a caring, responsive relationship partner part of their identity (Cross, Bacon, & Morris, 2000); thus, sacrificing for their partner means verifying this identity and therefore feeling authentic. These feelings of genuineness or authenticity, in turn, shaped the positive outcomes of sacrifice. Thus, individuals high in communal strength may have internalized being a caring, responsive partner into their sense of self, and future work is needed to test this intriguing possibility.

This study has several implications for the study of communal relationships. First, it extends previous research linking communal strength with helping behavior (Mills et al., 2004) by providing the first evidence that people who are highly motivated to respond to a specific romantic partner's needs in a communal manner experience sacrifice as intrinsically rewarding. Second, this research suggests that the reason why individuals who are high in communal strength act prosocially is because their sacrifices for a romantic partner authenticate the self. Future research should determine if the mechanism of authenticity generalizes to helping or sacrificing for other people, such as friends, children, or strangers. Third, whereas previous work has focused on understanding links between communal strength and broad relationship and emotional

outcomes, the current study is the first to demonstrate that communal strength is associated with effects unique to specific prosocial acts.

Our findings also complement and extend previous experimental research on the emotional benefits of giving to a potential communal partner (Williamson & Clark, 1989, 1992) by demonstrating similar effects in established romantic relationships, as well as by demonstrating that the effects are found even when controlling for relationship duration. Our study adds to a small group of correlational studies that have begun to show that acting communally in established relationships is beneficial. For instance, acting communally in friendship and dating relationships is linked with higher levels of affection; furthermore, in friendships, acting communally is associated with greater relationship satisfaction (Clark & Grote, 1998). In addition, in romantic couples in older adulthood, giving social support is linked with lower mortality rates (Brown, Nesse, Vinokur, & Smith, 2003). The current study is the first diary investigation of the benefits of acting communally in established romantic relationships. In sum, we have shown that giving to a romantic partner felt good for individuals motivated to respond to their partners in a noncontingent manner. For such individuals, sacrifice may be a form of enlightened self-interest.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Funding

This work was funded by grants from the Metanexus Institute on Religion and Science to Dacher Keltner, by grants from the Hong Kong Research Grants Council's General Research Fund (HKU741807H) and Seed Funding Programme (200811159073) to Cecilia Cheng, and by a National Science Foundation Graduate Research Fellowship to Aleksandr Kogan and Amie M. Gordon.

Notes

1. Detailed information about a validation study of our one-item measure of authenticity is available from the first author.
2. For all analyses, actor and partner communal-strength scores were entered simultaneously as predictors in accordance with actor-partner interdependence modeling (Kenny, Kashy, & Cook, 2006). We had no predictions about partner effects, and none were significant.
3. Given the potential theoretical overlap between communal strength and the approach motivational system (Carver & White, 1994), we predicted that communal strength would be associated with the experience of more positive (but not less negative) emotions.

References

- Aron, A., Aron, E.N., & Smollan, D. (1992). Inclusion of Other in the Self Scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63, 596-612.
- Brown, S.B., Nesse, R.M., Vinokur, A.D., & Smith, D.M. (2003). Providing social support may be more beneficial than receiving

- it: Results from a prospective study of mortality. *Psychological Science*, *14*, 320–327.
- Carver, C.S., & White, T.L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology*, *67*, 319–333.
- Clark, M.S. (1984). Record keeping in two types of relationships. *Journal of Personality and Social Psychology*, *47*, 549–557.
- Clark, M.S., & Finkel, E.J. (2005). Willingness to express emotion: The impact of relationship type, communal orientation, and their interaction. *Personal Relationships*, *12*, 169–180.
- Clark, M.S., & Grote, N.K. (1998). Why aren't indices of relationship costs always negatively related to indices of relationship quality? *Personality and Social Psychology Review*, *2*, 2–17.
- Clark, M.S., & Mills, J. (1979). Interpersonal attraction in exchange and communal relationships. *Journal of Personality and Social Psychology*, *37*, 12–24.
- Clark, M.S., & Mills, J. (1993). The difference between communal and exchange relationships: What it is and is not. *Personality and Social Psychology Bulletin*, *19*, 684–691.
- Clark, M.S., Mills, J., & Powell, M.C. (1986). Keeping track of needs in communal and exchange relationships. *Journal of Personality and Social Psychology*, *51*, 333–338.
- Cross, S.E., Bacon, P., & Morris, M. (2000). The relational-interdependent self-construal and relationships. *Journal of Personality and Social Psychology*, *78*, 791–808.
- Fiske, A.P. (1992). The four elementary forms of sociality: Framework for a unified theory of social relations. *Psychological Review*, *99*, 689–723.
- Gable, S.L., & Poore, J. (2008). Which thoughts count? Algorithms for evaluating satisfaction in relationships. *Psychological Science*, *19*, 1030–1036.
- Impett, E.A., Gable, S.L., & Peplau, L.A. (2005). Giving up and giving in: The costs and benefits of daily sacrifice in intimate relationships. *Journal of Personality and Social Psychology*, *89*, 327–344.
- Impett, E.A., & Gordon, A. (2008). For the good of others: Toward a positive psychology of sacrifice. In S.J. Lopez (Ed.), *Positive psychology: Exploring the best in people* (pp. 79–100). Westport, CT: Greenwood.
- Impett, E.A., Gordon, A., Kogan, A., Oveis, C., Gable, S.L., & Keltner, D. (2010). Moving toward more perfect unions: Daily and long-term consequences of approach and avoidance goals in romantic relationships. *Journal of Personality and Social Psychology*. Advance online publication. doi: 10.1037/a0020271
- Keltner, D., & Lerner, J.S. (2010). Emotion. In S.T. Fiske, D.T. Gilbert, & G. Lindzey (Eds.), *The handbook of social psychology* (5th ed., Vol. 1, pp. 317–347). New York, NY: Wiley.
- Kenny, D.A., Kashy, D.A., & Cook, W.L. (2006). *Dyadic data analysis*. New York, NY: Guilford Press.
- Kernis, M.H., & Goldman, B.M. (2006). A multicomponent conceptualization of authenticity: Research and theory. In M.P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 38, pp. 284–357). San Diego, CA: Academic Press.
- Mills, J., Clark, M.S., Ford, T.E., & Johnson, M. (2004). Measurement of communal strength. *Personal Relationships*, *11*, 213–230.
- Raudenbush, S.W., Bryk, A.S., Cheong, Y.F., & Congdon, R.T. (2004). *HLM 6: Hierarchical linear and nonlinear modeling* [Computer software manual]. Chicago, IL: Scientific Software International.
- Rogers, C. (1961). *On becoming a person: A therapist's view of psychotherapy*. Boston, MA: Houghton Mifflin.
- Rusbult, C.E., Martz, J.M., & Agnew, C.R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, *5*, 357–391.
- Sheldon, K.M., Ryan, R.M., Rawsthorne, L.J., & Ilardi, B. (1997). Trait self and true self: Cross-role variation in the Big-Five personality traits and its relations with psychological authenticity and subjective well-being. *Journal of Personality and Social Psychology*, *73*, 1380–1393.
- Swann, W.B., Jr. (1983). Self-verification: Bringing social reality into harmony with the self. In J. Suls & A.G. Greenwald (Eds.), *Psychological perspectives on the self* (Vol. 2, pp. 33–66). Hillsdale, NJ: Erlbaum.
- Swann, W.B., Jr. (in press). Self-verification theory. In P. Van Lang, A. Kruglanski, & E.T. Higgins (Eds.), *Handbook of theories of social psychology*. London, England: Sage.
- Van Lange, P.A.M., Agnew, C.R., Harinck, R., & Steemers, G.E. (1997). From game theory to real life: How social value orientation affects willingness to sacrifice in ongoing close relationships. *Journal of Personality and Social Psychology*, *73*, 1330–1344.
- Van Lange, P.A.M., Rusbult, C.E., Drigotas, S.M., Arriaga, X.M., Witcher, B.S., & Cox, C.L. (1997). Willingness to sacrifice in close relationships. *Journal of Personality and Social Psychology*, *72*, 1373–1395.
- Williamson, G.M., & Clark, M.S. (1989). Providing help and desired relationship type as determinants of changes in mood and self-evaluations. *Journal of Personality and Social Psychology*, *56*, 722–734.
- Williamson, G.M., & Clark, M.S. (1992). Impact of desired relationship type on affective reactions to choosing and being required to help. *Personality and Social Psychology Bulletin*, *18*, 10–18.
- Zhang, Z., Zyphur, M.J., & Preacher, K.J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. *Organizational Research Methods*, *12*, 695–719.