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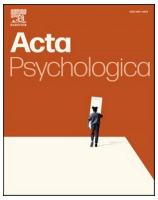

When giving social support is beneficial for well-being?

Zhongyi Xin [a], Yunhong Guo [b], Jiaying Zheng [c], Pengcheng Xie [d,e,*]

[a] Faculty of Education Science, Shaanxi XueQian Normal University, No.101Shenhe 2nd Road, Changan District, Xi'an 710100, China
[b] Faculty of Pre-School Education, Shaanxi XueQian Normal University, No.101Shenhe 2nd Road, Changan District, Xi'an 710100, China
[c] Mental Health Counseling Center, Shaanxi College of Communication Technology, Xi'an 710016, China
[d] Faculty of Economic and Management, Huaibei Institute of Technology, No.8 Qingnian Road, Duji District, Huaibei 235000, China
[e] School of Management and Marketing, Taylor's University, No. 1, Jalan Taylor's, 47500 Subang Jaya, Selangor, Malaysia

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ABSTRACT

This study investigates the conditions under which the provision of social support enhances subjective well-being, focusing specifically on the autonomy and effectiveness of social support among a sample of 206 university students. Utilizing a 2 × 2 between-subjects experimental design, the findings reveal that the autonomy of social support provision significantly influences subjective well-being, with participants in the voluntary group reporting markedly higher levels of subjective well-being than those in the non-voluntary. Additionally, the perceived effectiveness of social support is shown to significantly affect subjective well-being; individuals who regarded the support as effective exhibited substantially higher levels of subjective well-being compared to those who deemed it ineffective. The interaction between autonomy and effectiveness is also significant; participants who provided support autonomously and perceived it as effective experienced elevated positive affect and life satisfaction while diminished negative emotions. These results substantiate the hypothesis that the provision of social support can enhance subjective well-being, indicating that the autonomy and effectiveness serve as critical moderators in facilitating positive outcomes. The findings further support the theoretical frameworks posited by Inagaki and Orehek, as well as the theory of basic psychological needs.

1. Introduction

Social support includes both giving and receiving (Eisenberger, 2013), While researchers have extensively studied the positive effects of perceived social support, the impact of providing social support remains less thoroughly examined. Most existing studies have used cross-sectional designs to explore the effects of giving social support on individual physiological health (Brown & Brown, 2015; Inagaki, 2018; Inagaki et al., 2023; Whillans, Dunn, Sandstrom, Dickerson, & Madden, 2016), mortality (Chen et al., 2021), and subjective well-being (Xin, 2023), confirming a significant correlation between giving social support and various positive outcomes. However, some research indicates that providing support may not always yield positive effects and can even lead to burnout for the giver (Linos, Ruffini, & Wilcoxen, 2022), adversely affecting mental health.

These inconsistent and conflicting findings have led researchers to speculate that the positive impacts of giving social support may depend on certain limiting conditions. Some researchers argue that giving social support can be as beneficial for individual health and development as receiving it (Inagaki & Eisenberger, 2016) and propose two hypothesized conditions for its positive effects: the autonomy of social support given and its perceived effectiveness (Inagaki & Orehek, 2017). Specifically, social support is more likely to enhance the giver's subjective well-being when it is autonomous and perceived as effectively improving the receiver's situation. Conversely, if these conditions are not met, giving social support may become a source of stress or burden, resulting in negative effects.

However, this hypothesis has not been sufficiently validated, and experimental research examining the conditions under which giving social support yields positive impacts is scarce. Therefore, this study employs a field experimental design to compare the effects of different levels of autonomy and the perceived effectiveness in giving social support, aiming to identify the conditions that influence the psychological benefits of giving social support.

* Corresponding author.
E-mail address: pengchengx988@163.com (P. Xie).

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1.1. The controversy between social support given and subjective well-being

Social support encompasses both the giving and receiving of support, yet existing research generally assumes that social support refers only to its receipt. While extensive studies focus on the effects of received social support, the impact of giving social support on the giver's well-being remains underexplored. Some studies grounded in resource conservation theory contend that excessive giving may impede positive outcomes, whereas others propose that, despite the resource expenditures involved, giving can yield beneficial long-term results.

1.1.1. Giving as a burden for the provider

Giving social support refers to individuals providing instrumental and emotional support to others, expressing care and respect for others. Resource conservation theory posits that psychological resources are limited, prompting individuals to conserve them. Some researchers even suggest that individuals manage their prosocial resources similarly to how they manage their financial accounts. (Peetz & Howard, 2021). Thus, giving entails a depletion of time, emotional, and other psychological resources (Hobfoll, 1989), which may threaten mental health and well-being (Harris, Byrne, Liu, & Anaraky, 2023). Consequently, research framed within this perspective often correlates giving with increased negative emotions and decreased positive emotions and life satisfaction. For instance, a study on adolescents found that providing social support may deplete individual resources, potentially jeopardizing their health. (Gallagher, Haugh, Castro Solano, de la Iglesia, & McMahon, 2022). Research during the COVID-19 pandemic also revealed a significant positive correlation between giving social support and depression and anxiety (Peng et al., 2024). Additionally, studies on family caregivers indicated that as the time spent providing support increases, caregivers are more likely to perceive caregiving as a burden (Conroy, Kennedy, Heverin, Hardiman, & Galvin, 2023). Thus, from a resource conservation perspective, giving social support may lead to resource depletion, making it a stress-inducing event with negative psychological effects.

1.1.2. Giving as beneficial for the provider

In contrast to resource conservation theory, more evidence supports the notion that giving social support is beneficial for mental health and well-being. Evolutionary theory posits that giving is an instinctual behavior among social animals and serves adaptive functions that enhance individual well-being. Social exchange theory suggests that relationships should adhere to principles of equality and reciprocity; hence, giving social support can yield long-term benefits and is intrinsically rewarding (Walumbwa, Christensen-Salem, Perrmann-Graham, & Kasimu, 2020).

Subjective well-being, an important outcome of such benefits, refers to individuals' self-assessments of their life situations, encompassing positive affect, negative affect, and life satisfaction (Krys et al., 2024). It is generally assumed that giving social support positively impacts subjective well-being. Various theoretical models assert that giving can enhance individual resources (Finch, Farrell, & Waters, 2020). The longitudinal well-being theory emphasizes that engaging in prosocial activities leads to happiness, positioning individuals as positive contributors rather than passive recipients (Sheldon & Lyubomirsky, 2006).

Existing surveys have found that giving behaviors effectively reduce burnout risk (Gerber & Anaki, 2021). Research involving caregivers and volunteers has confirmed that helping behaviors promote physical health (Abolfathi Momtaz, Ibrahim, & Hamid, 2014), mental health (Ballard et al., 2021), positive emotions (Armstrong-Carter, Guassi Moreira, Ivory, & Telzer, 2020), and overall well-being (Chancellor, Margolis, Jacobs Bao, & Lyubomirsky, 2018). Studies on older adults have also shown that providing social support correlates more significantly with well-being than receiving support (Zanjari, Momtaz, Kamal, Basakha, & Ahmadi, 2022). Previous research indicates that actual helping behaviors can significantly predict life satisfaction and positive emotions while negatively predicting negative emotions (Armstrong-Carter et al., 2020; Inagaki & Eisenberger, 2016; Inagaki & Eisenberger, 2016). Therefore, it can be inferred that providing social support can enhance individuals' subjective well-being.

1.2. Conditions for beneficial effects of giving on subjective well-being

Research supports both resource conservation theory and the longitudinal well-being model; however, there is no consensus on whether giving social support yields benefits or detriments (Maguire, Hanly, & Maguire, 2019). Some studies suggest that giving social support may only benefit in specific situation (Lestari, De Luna, Eriksson, Malmberg, & Ng, 2021), indicating that the positive effects of giving depend on certain conditions.

When reviewing the relationship between helping behaviors and well-being, scholars note that for helping behaviors to positively influence happiness, they must satisfy the giver's needs (Fritz & Lyubomirsky, 2018). Building on this, Inagaki and Orehek propose two conditions for the positive effects of giving social support: first, the giver must have the freedom to choose whether to give; second, the giver must believe that their support is effective. They assert that if individuals can freely choose to provide social support and believe that their giving effectively aids the recipient, they are likely to experience enhanced positive emotions and life satisfaction while reducing negative emotions. Conversely, if these conditions are not met, giving social support may not improve subjective well-being.

1.2.1. The freedom to give

The freedom to give refers to whether providing social support is voluntary. The more voluntary and aligned with personal values the giving is, the more likely it is to produce positive outcomes for the giver (Weinstein & Ryan, 2010). Self-determination theory recognizes autonomy as a fundamental psychological need; fulfilling this need through voluntary actions inherently carries positive effects. Research supports the notion that autonomy enhances mental health and subjective well-being. When an individual's behavior is inconsistent with their personal value system, and their personality traits, such as low agreeableness, contradict professional requirements, their helping behaviors may not enhance the giver's subjective well-being and could even lead to stress that harms health. Cross-sectional studies have found that family caregivers with higher perceived autonomy report higher well-being (Maguire et al., 2019), When there is a lack of autonomy in giving, the positive relationship between giving and subjective well-being disappears. (Rinner, Haller, Meyer, & Gloster, 2022).Research on spending for others shows that when spending is coerced rather than voluntary, it negatively impacts subjective well-being (Caprariello & Reis, 2021). Research on participants' recollections of prosocial spending has found a significant positive correlation between the autonomy of prosocial spending and subjective well-being (Cash, Aknin, & Proulx, 2022). When individuals have the freedom to decide whether or not to engage in prosocial spending, they experience higher positive emotions and lower negative emotions (Lok & Dunn, 2020). Thus, the autonomy of giving may be one of the limiting conditions affecting its positive impact.

1.2.2. The perceived effectiveness of giving

The effectiveness of giving refers to whether the provided social support significantly alleviates the recipient's difficulties. The higher the perceived effectiveness of social support, the more likely it is to have a positive impact on the giver. Conversely, if giving does not improve the recipient's situation, it may fail to benefit the giver (Inagaki & Eisenberger, 2012). Self-determination theory posits that competence is one of the basic psychological needs; behaviors that fulfill these needs carry positive effect. Research on spending on others has found that when individuals realize their spending can positively impact others, givers

experience higher levels of happiness (Aknin, Dunn, Whillans, Grant, & Norton, 2013; Cash et al., 2022; Lok & Dunn, 2020). Additionally, Chen (2023) in reviewing existing studies, also argued that prosocial behavior can only have a positive effect on well-being when it aligns with self-transcendence values and fulfills competence needs. When giving changes the recipient's circumstances, it demonstrates the giver's competence, thereby fulfilling their competence needs and improving their subjective well-being.

In summary, this study posits that the freedom to give and the perceived effectiveness of giving are limiting conditions that influence the positive impact of giving on subjective well-being. Based on Inagaki & Orehek's hypotheses and Basic Psychological Needs Theory, when giving is non-autonomous and perceived as ineffective, it becomes a burden, much like caregiving. In such situations, where there is no choice and no visible improvement in the recipient, giving is often associated with higher stress levels (Adelman, Tmanova, Delgado, Dion, & Lachs, 2014).

However, when individuals have the freedom to give or perceive their giving as positively impacting the recipient, they experience a sense of efficacy and competence, fulfilling one of their basic psychological needs. This reduces the stress associated with giving, which is why subjective well-being in these two scenarios will be significantly higher than when both freedom and effectiveness are absent.

Furthermore, when the giver has the freedom to choose and perceives that their giving can significantly improve the recipient's situation, both autonomy and competence needs are satisfied, thereby producing the largest positive effect. Therefore, this study concludes that there is an interaction between the freedom to give and its perceived effectiveness. In scenarios where giving is both free and effective, subjective well-being is significantly higher than in situations where giving is free but ineffective, or where giving is effective but lacks freedom. There are no significant differences between the latter two groups, but both of these groups report higher subjective well-being compared to those in the non-autonomous, ineffective giving condition.

1.3. The present study

Students are often seen as recipients of social support, leading most research to focus on the effects of received support. However, university students can also provide social support, yet little research has examined the positive effects of providing emotional support on the givers themselves. Additionally, few studies have directly tested the conditions under which giving social support affects well-being through experimental methods. Thus, this study targets university students and employs a filed experimental design to explore the impact of varying levels of autonomy and effectiveness in giving social support on subjective well-being. The research hypotheses are as follows: (1) Individuals with high freedom in giving social support will report significantly higher subjective well-being than those with low freedom; (2) Individuals with high perceived effectiveness in giving social support will report significantly higher subjective well-being than those with low effectiveness; (3) There will be an interaction effect between the freedom and effectiveness of giving social support. This study proposes that there is an interaction between the freedom to give and its perceived effectiveness. The subjective well-being of the group with both freedom to give and effective impact is significantly higher than that of the group with freedom to give but no impact, or the group with effective giving but no freedom. There are no significant differences in subjective well-being between the latter two groups, but both report significantly higher subjective well-being than the group with non-autonomous giving and no effective impact.

2. Methods and materials

2.1. Participants and procedure

This study was conducted from September to December 2023 at two universities in Xi'an, Shaanxi Province, involving enrolled university students. Participants were divided into two groups: the voluntary group and the non-voluntary group. Participants in the voluntary group were recruited by the Student Management Office, which posted information about mental health assistance volunteer opportunities to classes. Students who expressed interest contacted the university's mental health center, resulting in a total of 102 participants. They were informed that participation in the mental health assistance activity was voluntary and that they could withdraw at any time during the activity (four participants opted out midway). Ultimately, 98 participants from the voluntary group completed the experiment, comprising 35 males and 63 females, with an average age of 19.88 $\pm$ 1.31 years.

After the voluntary group completed the experiment, the Student Management Office issued a notification to the classes, stating that due to the high demand for psychological assistance, volunteers were unable to meet the current needs. Consequently, all peer support members and student leaders were required to participate in the mental health assistance activity, with their performance in this activity linked to their evaluation as peer support members and students leaders. A total of 130 students were selected as participants for the study, but 22 of the participants did not attend the experiment as scheduled. Ultimately, 108 participants from the involuntary group completed the experiment, consisting of 47 males and 61 females, with an average age of 19.58 $\pm$ 1.193 years. This group of participants is categorized as the involuntary group.

The experiment was conducted by researchers in collaboration with mental health counselors. All participants were informed they were part of a mental health assistance initiative. The voluntary group participated at scheduled times, while the participants in the involuntary group completed the experiment during the regular meetings of the peer support alliance. Both groups were informed that several first-year students, struggling to adapt to university life and exhibiting symptoms of anxiety and depression, were waiting for help in the counseling room. Due to limited counselor availability, students were asked to provide psychological support to them. The researchers suggested that participants use heartfelt tips to provide emotional support to freshmen. The content of the tips primarily focused on expressing empathy and understanding for the challenges faced by freshmen, sharing personal tips on emotional adjustment, making friends, and adapting to life, among other aspects. Participants were informed that they could freely choose to withdraw from the activity at any time if they did not wish to participate. The counseling center would distribute these tips to first-year students seeking help. Afterward, participants completed a survey assessing their psychological state, which included measures of subjective well-being, autonomy, and helping effectiveness. Each participant received a small token of appreciation upon completing the tests (Participants were not informed in advance that there would be a reward for participating in and completing the activity, and the economic value of the small gift provided was minimal.). Four weeks later, participants were informed via email that the first-year students who received their heartfelt tips had successfully adapted to university life and researchers expressed their gratitude.

2.2. Measures

2.2.1. Autonomy in social support scale

We used the Motivation to Help Scale, developed by Weinstein and Ryan (2010), revised to assess participants' autonomy in providing social support. The scale consists of two dimensions: autonomous motivation (e.g., "Because I thought it was important") and controlled motivation (e.g., "Because I'd feel like a bad person if I didn't"). Each

item was rated on a scale from 1 (not at all true) to 7 (very true). To derive an overall index of autonomous motivation for helping, we calculated the difference between autonomous and controlled motivation scores, following established methodologies (Black & Deci, 2000). The scale showed good structural validity in this study, with a Cronbach's alpha of 0.892 for the autonomous motivation dimension. Confirmatory factor analysis indicated a good model fit (χ^2/df = 1.716, CFI = 0.986, TLI = 0.919, RMSEA = 0.047, SRMR = 0.021). For the controlled motivation dimension, the Cronbach's alpha was 0.883, also demonstrating a good model fit (χ^2/df = 3.48, CFI = 0.958, TLI = 0.979, RMSEA = 0.047, SRMR = 0.027).

2.2.2. Subjective well-being scale

We employed the Satisfaction with Life Scale (SWLS), developed by Diener, Emmons, Larsen, and Griffin (1985), to assess participants' life satisfaction. This scale consists of five items, such as "I am satisfied with my life," rated on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree), where higher scores indicate greater satisfaction. The Chinese version of the scale, validated by Xiong and Xu (2019), demonstrated good reliability and validity. In this study, the scale exhibited good structural validity, with a Cronbach's alpha of 0.888 and favorable fit indices (χ^2/df = 2.307, CFI = 0.99, TLI = 0.979, RMSEA = 0.08, SRMR = 0.03).

Additionally, we utilized the Positive and Negative Affect Schedule (PANAS), developed by Watson, Clark, and Tellegen (1998) to measure participants' positive and negative affect. The scale includes 20 items, with 10 related to positive affect (e.g., "I felt inspired today") and 10 to negative affect (e.g., "I felt upset today"). The validity of the scale is good in this study, with a Cronbach's alpha of 0.901 for positive affect and 0.941 for negative affect, and demonstrates good model fit (positive affect: χ^2/df = 1.84, CFI = 0.973, TLI = 0.966, RMSEA = 0.061, SRMR = 0.033; negative affect: χ^2/df = 1.755, CFI = 0.979, TLI = 0.984, RMSEA = 0.053, SRMR = 0.0231).

2.2.3. Effectiveness of helping questionnaire

The effectiveness of helping was assessed with a single-item questionnaire. After submitting their "heartfelt tips," participants were asked, "Do you think the tips were helpful for first-year students adapting to university life?" They could choose between "1 not helpful" and "2 helpful," serving as their subjective evaluation of the effectiveness of the social support provided.

3. Results

3.1. Preliminary analysis

Prior to conducting formal analyses, we compared the helping motivations of voluntary and non-voluntary participants within the experimental group. The results indicated that the sense of autonomy in the voluntary group (M ± SD = 3.81 ± 0.84) was significantly greater than that in the non-voluntary group (M ± SD = 3.106 ± 0.972), t = 6.183, $p < 0.001$. Furthermore, the controlled motivation of the voluntary group (M ± SD = 3.157 ± 0.835) was significantly lower than that of the non-voluntary group (M ± SD = 4.061 ± 0.831), $t = -7.778$, $p < 0.001$. Therefore, it can be said that there is a significant difference in helping autonomy between the voluntary group and the non-voluntary group, with participants in the voluntary group having significantly higher helping autonomy than those in the non-voluntary group.

3.2. Conditional analysis of social support's impact on subjective well-being

Initially, we assessed the differences in positive emotions, negative emotions, and life satisfaction across gender and age. The analyses revealed no significant differences in positive affect, negative affect, and life satisfaction between male and female participants, nor among participants of varying ages. To gain a deeper understanding of the influence of demographic variables on subjective well-being, a difference test was conducted within both the voluntary and involuntary groups. The results revealed that there were no significant differences in subjective well-being across gender and age in either the voluntary or involuntary group.

Using positive affect as the dependent variable, we conducted a 2 (Autonomy: Voluntary vs. Non-Voluntary) × 2 (Effectiveness: Ineffective vs. Effective) multivariate analysis of variance (MANOVA). The results revealed a significant main effect of autonomy, $F(1,202)$ = 16.217, $p < 0.001$, η^2 = 0.074, indicating that participants in the voluntary group reported significantly higher positive emotions compared to those in the non-voluntary group. The main effect of effectiveness was also significant, $F(1,202)$ = 7.754, $p < 0.01$, η^2 = 0.036, with the effective group exhibiting notably higher positive emotions than the ineffective group. Furthermore, the interaction between autonomy and effectiveness was significant, $F(1,202) = 11.972$, $p < 0.01$, $\eta^2 = 0.056$. Simple effects analysis (Table 1) revealed that under non-voluntary conditions, no significant difference was observed in positive emotions between the effective (M ± SD = 3.451 ± 0.123) and ineffective (M ± SD = 3.529 ± 0.092) groups. Conversely, under voluntary conditions, the effective group (M ± SD = 4.273 ± 0.12) demonstrated significantly greater positive emotions compared to the ineffective group (M = 3.591 ± 0.102). When ineffective support was provided, there was no significant difference in positive emotions between the voluntary (M ± SD = 3.591 ± 0.102) and non-voluntary (M ± SD = 3.529 ± 0.092) groups. However, under effective support conditions, the voluntary group (M ± SD = 4.273 ± 0.12) exhibited significantly higher positive emotions than the non-voluntary group (M = 3.451 ± 0.123) (Fig. 1).

For negative affect, we performed a 2 (Autonomy: Voluntary vs. Non-Voluntary) × 2 (Effectiveness: Ineffective vs. Effective) MANOVA. The results indicated a significant main effect of autonomy, F (1,202) =71.399, $p < 0.001$, η^2 = 0.261, suggesting that participants in the voluntary group reported significantly lower negative emotions than their non-voluntary counterparts. The main effect of effectiveness was also significant, $F(1,202)$ = 71.481, $p < 0.001$, η^2 = 0.261, with the effective group exhibiting significantly lower negative emotions compared to the ineffective group. The interaction between autonomy and effectiveness was significant, $F(1,202)$ = 6.586, $p < 0.05$, η^2 = 0.032. Simple effects analysis (Table 1) indicated that under non-voluntary conditions, negative emotions in the effective group (M ± SD = 4.321 ± 0.125) were significantly lower than those in the ineffective group (M ± SD = 4.977 ± 0.094). Under voluntary conditions, negative emotions in the effective group (M ± SD = 3.093 ± 0.122) were also significantly lower than those in the ineffective group (M ± SD = 4.321 ± 0.103). In conditions of ineffective support, negative emotions in the voluntary group (M ± SD = 4.321 ± 0.103) were significantly lower than those in the non-voluntary group (M ± SD = 4.977 ± 0.094). Additionally, when effective support was provided, the voluntary group (M ± SD = 3.093 ± 0.122) demonstrated significantly lower negative emotions than the non-voluntary group (M ± SD = 4.321 ± 0.125) (Fig. 2).

Table 1
The impact of autonomy and effectiveness on subjective well-being.

Groups		Positive affect	Negative affect	Life-satisfaction
Non-voluntary	Ineffective	3.529 ± 0.092	4.977 ± 0.094	3.214 ± 0.108
	Effective	3.451 ± 0.123	4.321 ± 0.125	3.544 ± 0.144
Voluntary	Ineffective	3.591 ± 0.102	4.321 ± 0.103	3.547 ± 0.119
	Effective	4.273 ± 0.12	3.093 ± 0.122	4.571 ± 0.14

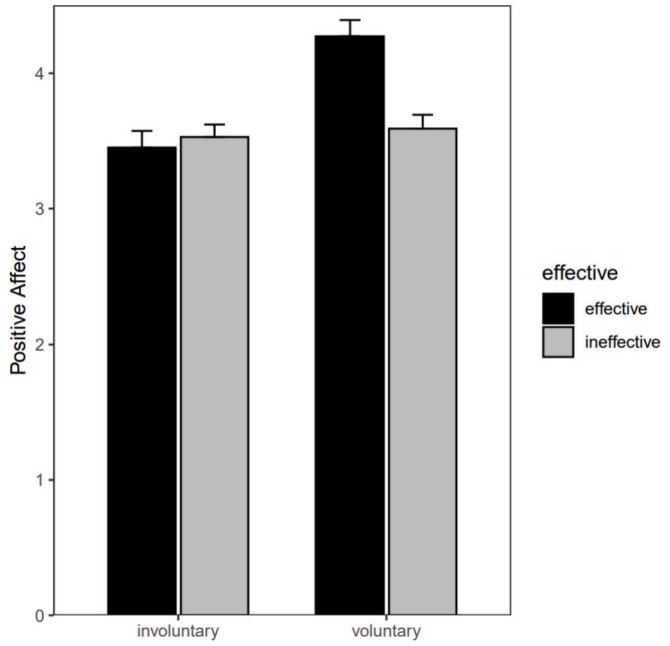

Fig. 1. The impact of autonomy and effectiveness in social support provision on positive affect.

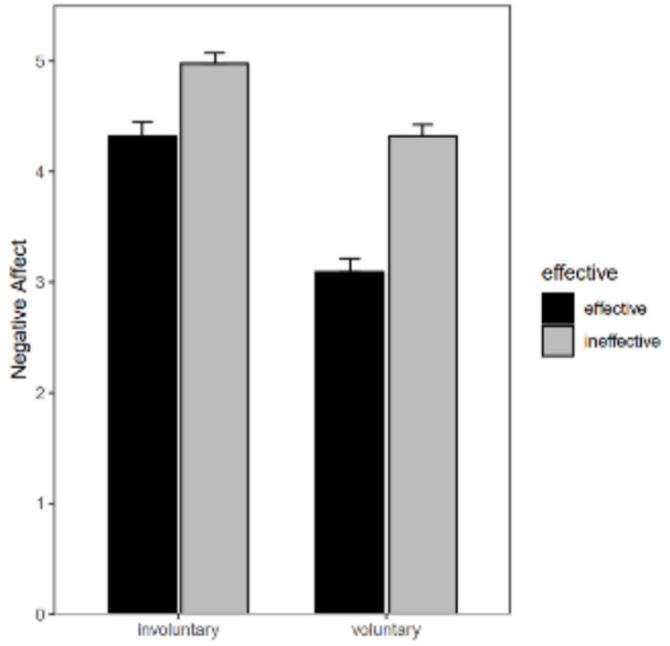

Fig. 2. The impact of autonomy and effectiveness in social support provision on negative affect.

Utilizing life satisfaction as the dependent variable, a 2 (Autonomy: Voluntary vs. Non-Voluntary) × 2 (Effectiveness: Ineffective vs. Effective) multivariate analysis of variance (MANOVA) was conducted. The results indicated a significant main effect of autonomy, $F(1,202) = 28.29$, $p < 0.001$, $\eta^2 = 0.122$, demonstrating that participants in the voluntary group exhibited significantly higher levels of life satisfaction compared to those in the non-voluntary group. Additionally, the main effect of effectiveness was significant, $F(1,202) = 27.718$, $p < 0.001$, $\eta^2 = 0.121$, with the effective group reporting significantly greater life satisfaction than the ineffective group.

Moreover, the interaction between autonomy and effectiveness was significant, $F(1,202) = 5.873$, $p < 0.01$, $\eta^2 = 0.035$. Simple effects analysis (Table 1) revealed that, under non-voluntary conditions, there was no significant difference in life satisfaction between the effective group (M ± *SD* = 3.544 ± 0.144) and the ineffective group (M ± *SD* = 3.214 ± 0.108). Conversely, under voluntary conditions, the effective group (M ± *SD* = 4.571 ± 0.14) reported significantly higher life satisfaction compared to the ineffective group (M ± *SD* = 3.547 ± 0.119).

In scenarios where ineffective support was provided, the life satisfaction of participants in the voluntary group (M ± *SD* = 3.547 ± 0.119) was significantly greater than that of participants in the non-voluntary group (M = 3.214 ± 0.108). Furthermore, when effective support was offered, the life satisfaction of the voluntary group (M ± *SD* = 4.571 ± 0.14) was significantly higher than that of the non-voluntary group (M ± *SD* = 3.544 ± 0.144) (Fig. 3).

4. Discussion

This study employed a field experimental design to confirm that the enhancement of subjective well-being through the provision of social support is conditional. Specifically, the autonomy of social support provision and the effectiveness of that support were identified as necessary conditions for promoting subjective well-being. The findings not only validate the hypotheses proposed by Inagaki and Eisenberger but also partially corroborate the Basic Psychological Needs Theory.

4.1. The impact of social support provision on subjective well-being

Existing research has substantiated the positive effects of prosocial behaviors on well-being, indicating that specific forms of helping behavior, such as spending on others (Aknin, Whillans, Norton, & Dunn, 2019), donating (Nelson, Layous, Cole, & Lyubomirsky, 2016), and engaging in volunteer activities (Tierney et al., 2022), contribute positively to individuals' subjective well-being. This study shifts the focus to the emotional support aspect of social support provision, rather than material or instrumental support, and finds that providing social support enhances subjective well-being. These results align with findings from cross-sectional studies (Berli, Schwaninger, & Scholz, 2021; Xin, 2023)

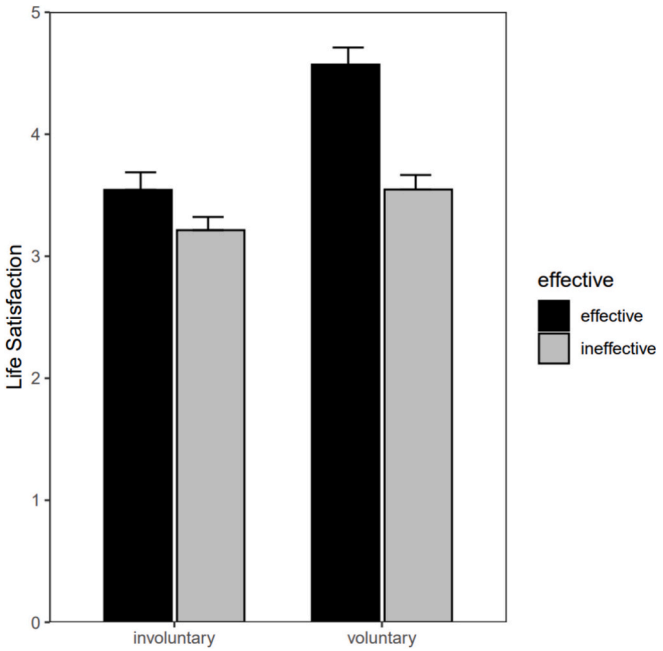

Fig. 3. The impact of autonomy and effectiveness in social support provision on life satisfaction.

as well as longitudinal research (Eller et al., 2023). While previous studies have examined the buffering effects of social support on stress (Inagaki, MacCormack, & Muscatell, 2022), its role in reducing loneliness (Lim et al., 2024), improving relationship satisfaction (Carbonneau, Martos, Sallay, Rochette, & Koestner, 2019), and increasing positive emotions while decreasing negative emotions (Rahal & Singh, 2024), this study contributes a experimental perspective on how social support provision affects subjective well-being. The results affirm that both giving and receiving social support confer benefits to individuals.

4.2. Conditions affecting the impact of social support provision on subjective well-being

This study found that providing social support can promote subjective well-being; however, the positive effects of social support giving are conditional. By manipulating the degree of autonomy in giving social support and its perceived effectiveness, the study observed changes in the positive emotions, negative emotions, and life satisfaction of the social support givers. When social support giving is autonomous and perceived as effective, it enhances positive emotions and life satisfaction, while reducing negative emotions. However, when either autonomy or effectiveness in giving is absent, these positive effects diminish. Moreover, when both autonomy and effectiveness are lacking, the impact of social support on well-being is minimized. Self-determination theory posits that individuals have three basic psychological needs—competence, relatedness, and autonomy—and behaviors that satisfy these needs lead to positive outcomes (Hui, 2022; Martela, Lehmus-Sun, Parker, Pessi, & Ryan, 2023; Vansteenkiste, Ryan, & Soenens, 2020). Building on this theory, a large body of research has explored how prosocial behavior influences well-being, not only by fulfilling basic psychological needs but also by directly affecting subjective well-being (Gherghel, Nastas, Hashimoto, & Takai, 2021; Martela & Ryan, 2016a). Further research has indicated that autonomy and competence play more significant roles in this relationship (Martela & Ryan, 2016b).

Previous studies have examined the role of competence in the relationship between prosocial behavior and well-being (Aknin, 2012; Hui & Kogan, 2018) as well as the role of autonomy (Weinstein & Ryan, 2010). However, Inagaki & Orehek argued that autonomy and effectiveness are essential conditions for prosocial behavior to have a positive impact. This study simultaneously manipulated both autonomy and effectiveness in giving, and the findings confirmed the restrictive conditions for prosocial giving. The results showed that social support giving has the greatest effect when it involves both autonomy and perceived effectiveness. Conversely, when giving lacks either autonomy or effectiveness, its impact on well-being is reduced. When both autonomy and effectiveness are absent, the effect is minimized. This suggests that the nature of social support giving, rather than the quantity of support, is the decisive factor limiting its positive impact on well-being.

5. Limitations and implications

Weinstein and Ryan, along with Aknin et al., have conducted extensive research from the perspective of prosocial behavior, focusing on the impact of actual prosocial acts—such as volunteering, acts of kindness, and spending money on others—on well-being. In contrast, this study takes a different approach by examining the other side of social support: the positive impact of giving social support on the giver's well-being.

From the social support perspective, the research by Weinstein and Ryan, as well as Aknin et al., certainly falls under the category of social support giving. However, their studies predominantly focus on instrumental or material support, which typically requires more resource investment from the giver. This contrasts with the focus of the current study, which centers on emotional support as a form of social support giving. The findings of this study confirm that providing emotional support to others—rather than material support—can also positively impact the giver's well-being. Furthermore, this positive effect is moderated by the autonomy and perceived effectiveness of the giving process. This distinction is important because it highlights that emotional support, a form of social support that doesn't require significant resource expenditure, can still produce meaningful benefits for the giver, especially when the giver has autonomy in their actions and perceives their support as effective. The study adds to the understanding of social support by showing that emotional support can have a unique and valuable impact on well-being, independent of material contributions.

This study focused on university students and utilized a filed experimental design to confirm the positive effects of social support provision on subjective well-being and the conditions under which these effects occur. First, the research expands the field of social support studies, which have predominantly centered on the impacts of received support on recipients. This study highlights the benefits of providing social support for the providers, implying that enhancing individuals' psychological health and subjective well-being involves not only providing support but also encouraging proactive engagement in supporting others. Second, the study validated the hypotheses posited by Inagaki and Orehek regarding the benefits of social support provision, identifying autonomy and effectiveness as critical conditions. Therefore, when encouraging individuals to provide social support, it is crucial to allow for autonomy rather than imposing external mandates. Additionally, training for those providing social support may enhance its effectiveness and, subsequently, boost subjective well-being.

However, several limitations must be acknowledged. First, the current study, grounded in the context of subjective well-being and Basic Psychological Needs Theory, identifies three factors influencing individual well-being: the autonomy of giving, the effectiveness of support, and the connectedness to others (Aknin et al., 2019). While the findings confirm that autonomy and effectiveness are significant factors, the role of interpersonal needs remains unexamined. Previous studies have demonstrated that providing support to pets can also yield benefits (Kanat-Maymon, Wolfson, Cohen, & Roth, 2021). Thus, whether the conditions for generating happiness through giving should include interpersonal connections warrants further investigation. Second, the focus on university students limits the generalizability of the findings to other age groups and professional populations. Variations in prosocial tendencies, capabilities, and resources across different demographics may affect perceptions of social support provision, autonomy, and effectiveness, ultimately influencing research outcomes. Future studies should explore diverse age groups and professional contexts through cross-sectional comparisons. Third, the study relied on self-reported measures, which may be subject to social desirability bias, potentially affecting the accuracy of the results. Future research should adopt an experimental group and control group design to strengthen the validity of the findings. The evaluation of the effectiveness of giving should combine self-assessment from the giver's perspective with an assessment from the recipient of the social support. This approach will provide a more comprehensive and accurate measure of the impact of social support giving and enhance the reliability of the study results. By incorporating both subjective and objective evaluations, future studies can better capture the true effects of giving on the well-being of both the giver and the recipient.

6. Conclusion

When social support is provided freely and effectively, it significantly enhances positive emotions and life satisfaction while reducing negative emotions. This research substantiates the notion that providing social support is beneficial for individuals' subjective well-being and validates the hypotheses proposed by Inagaki and Orehek.

CRediT authorship contribution statement

Zhongyi Xin: Writing – review & editing, Writing – original draft, Formal analysis, Conceptualization. **Yunhong Guo:** Investigation. **Jiaying Zheng:** Investigation, Data curation. **Pengcheng Xie:** Supervision, Conceptualization.

Informed consent

Informed consent was obtained from all individual participants included in the study.

Ethics approval

The authors confirm that all the methods comply with current guidelines and regulations that follow the Declaration of Helsinki. Ethical approval was obtained from the academic and moral committee of Shaanxi Xue Qian Normal University (approved no: 202010023).

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Declaration of competing interest

The authors declare that the research was conducted without any commercial or financial relationships that could be construed as potential conflicts of interest.

Data availability

Data will be made available from the corresponding author on reasonable request.

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