



# The Effect of Help from Parents and Friends on Upstream Reciprocity: Sampling University Students

**Shueh-Chin Ting<sup>1\*</sup>**

<sup>1</sup>*Department of Education, National University of Tainan, Taiwan.*

## **Author's contribution**

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

Mutual help between people is worth advocating. Previous studies have shown that beneficiaries return the favor due to gratitude after the benefactor gives help to the beneficiary, but the scope of the discussion is limited to the beneficiary's reciprocity to the benefactor, which is what academic studies call direct reciprocity. The present study extends the object of this reciprocity to a third party, i.e., upstream reciprocity. In addition, studies on reciprocity lack comparison of the effect of different benefactors. Therefore, the present study explores the effect of parents and friends' help on university students' upstream reciprocity. We designed separate texts for the experiment with either parents or friends who provided help to the university students. Participants filled out the upstream reciprocity questionnaires after reading the experiment's text. The present study found that friends' help is able to elicit more upstream reciprocity than their parents' help in university students.

*Keywords: Friend; gratitude; help; parent; upstream reciprocity.*

## **1. INTRODUCTION**

Gratitude is a research topic that has only gained attention in the past ten years. We believe that

clarifying doubts on gratitude will help formulate education policies, be the basis for teachers' instructions, and correctly explain students' behavior.

\*Corresponding author: E-mail: [tingsc@ms49.hinet.net](mailto:tingsc@ms49.hinet.net);

Although previous research have shown that gratitude elicits returns [1], most studies have shown that the return is reciprocated to the benefactor. Nowak and Roch [2] indicated that gratitude may evolve into upstream reciprocity, which occurs when the beneficiary helps another after receiving help from someone. This concept is different from the original study and expands the scope of the object of reciprocity. If upstream reciprocity can be widely promoted, it will be conducive to society's harmony and teamwork. We believe that the concept and action of helping others should be promoted starting with school education. However, one question must be clarified first: since someone's help is necessary to jump start upstream reciprocity, who will be a better candidate to jump start to get the optimal results? For university students, is the effective candidate a parent or a friend? This is a question that the present study wishes to elucidate. The present study wishes to use gratitude as the explanatory variable to illustrate the effects of parents' and friends' help on university students' upstream reciprocity.

## 2. LITERATURE REVIEW

The general view of past studies is that the grateful beneficiary finds opportunities to help the benefactor based on reciprocity, triggering direct reciprocity behaviors. Nowak and Roch [2] indicated that if direct reciprocity in humans has evolved, gratitude will evoke people to help a third party; the beneficiary confers the benefits to a third party, rather than returning them to the original benefactor, especially during a time when the benefactor does not need help. This is conducive to improving the good of society.

Bartlett and DeSteno [3] found that grateful participants are more likely to help strangers than ungrateful participants, a finding which breaks away from the concept of direct reciprocity and is an example of upstream reciprocity. Dunn and Schweitzer [4] discovered that grateful people are more trusting of third parties than those who are angry, guilty, and prideful. Jackson, Lewandowski, Fleury, and Chin [5] indicated that grateful people are more likely to compliment others' accomplishments. Trust and readiness to compliment others' accomplishments are important lubricants for society's positive interactions. These mental effects may explain why gratitude promotes prosocial behavior [6]. Therefore, gratitude may promote prosocial behavior through its effects on mental state, and upstream reciprocity is a type of prosocial

behavior. Overall, gratitude has a positive effect on upstream reciprocity.

According to the viewpoints of Trivers [7] and Nowak and Roch [2], parents and children are a community of interest, so when parents help their children, they are helping themselves. Based on this, we believe that parents' help elicits less gratitude while friends' help elicits more gratitude. Bar-Tal, Bar-Zohar, Greenberg, and Hermon [8] also indicated that when different people confer the same benefits, people are more grateful to strangers, acquaintances, and friends than to their relatives, illustrating that different sources of favors may elicit different levels of gratitude. Lending another perspective on the discussion, parents helping their children conforms to social norms—if they do not help, they will be condemned by society for violating social norms. Therefore, children view their parents' help as a matter of course and feel less grateful. This is because help that conforms to social norms is less likely to elicit gratitude [9]. Similarly, children have high expectations for their parents' help, so the threshold for gratitude is high and the favor conferred does not exceed the threshold easily. Thus, gratitude is not easily elicited; Forster, Pedersen, Smith, McCullough, and Lieberman [10] had a similar discussion. In addition, one study indicated that the higher the level of trust in the relationship, the more the help is taken for granted, so that gratitude is less likely to be elicited [11]. This is the case for the relationship between children and their parents. Generally, university students are more grateful to their friends than their parents.

Based on the discussion of the two units above, university students are more grateful to their friends than to their parents when given the same help. Additionally, gratitude is conducive to evoking upstream reciprocity behaviors. Therefore, help from friends is more likely to produce upstream reciprocity behaviors in university students than help from parents. Based on this, we propose Hypothesis 1.

H1: Help from friends is more likely to stimulate upstream reciprocity behaviors in university students than help from parents.

## 3. METHODS

The operational definition of upstream reciprocity behavior in the present study is the behavior of university students helping a third party (a person who has not helped the student in the past) after receiving help from someone else.

The questionnaires were distributed in a random manner to university students in Tainan, Kaohsiung, and Pingtung. A total of 500 questionnaires were distributed and 472 questionnaires were returned. After questionnaires with incomplete answers were discarded, 460 valid questionnaires were received. The makeup of the 460 participants in the sample is as follows. In terms of grades, freshmen accounted for 16.1%, sophomores 18.7%, juniors 21.3%, seniors 15.9%, master's program 23.5%, and PhD program 4.6%. In terms of gender, 50.4% were male while 49.6% were female. For age distribution, 20.0% were under 20, 52.4% were between 20 and under 25, 3.7% were between 25 and under 30, 7.8% were between 30 and under 40, and 16.1% were over 40. For the number of siblings in the household (including myself), 28.9% had 1, 36.5% had 2, 24.3% had 3, and 10.2% had over 4. Regarding the institution attended, 10.2% studied literature, 8.9% studied law, 18.0% studied business, 7.4% studied medicine, 8.3% studied agriculture, 15.4% studied engineering, 9.3% studied science, 13.0% studied education, and 9.3% studied others. In terms of economic resources, 20.4% of the participants' funds were supplied completely by their family, 23.9% of the participants' funds were mostly supplied by their family, 12.6% of the participants' funds were supplied evenly between themselves and family, 18.7% of the participants' funds were mostly supplied by themselves, 23.5% of the participants' funds were supplied completely by themselves, and 0.9% accounted for others.

We designed two version for the experiment's text (Version A and Version B) that differs in the benefactor; Version A's benefactor is parents while Version B's benefactor is friends. Two hundred and thirty (50%) participants read the Version A of the experiment's text with parents

The content of Version A:

My health has always been great. I rarely get colds. It might be because of this that I am negligent about taking care of myself. A few days ago I went to a scenic area to enjoy myself. I ate and drank to my heart's content at noon. I felt refreshed, but at three o'clock in the afternoon, my abdomen started to feel upset. I quickly went back to my rental house. When I got there, I started vomiting and having diarrhea. My muscles started cramping. I called my parents, who immediately put down their work to drive me to the hospital's emergency room. The emergency doctor ordered some tests for me and the results showed that I needed to be hospitalized for treatment. The doctor explained that I needed to be careful to avoid falling when going to the restroom because my body was weak. Because there were no available hospital beds, I had to stay in the emergency room for a night. My parents sat in chairs and stayed by my side for the night. I was transferred to the general ward the following afternoon and was hospitalized there for three days. I was discharged when I had almost recovered. During those four days, my parents took care of me and helped me in and out of bed without any complaints.

taking care of the participants in the hospital. Two hundred and thirty (50%) participants read the Version B of the experiment's text with friends taking care of the participant in the hospital. Before the experiment's text appeared, the following instructions were given with the purpose of immersing the university students in the plot: please read the text three times and then answer the question. After participants finished reading the experiment's text, they were asked to answer the upstream reciprocity behavior questionnaire. In other words, after accepting their parents' or friends' help, how is their present willingness to help others? We assessed upstream reciprocity behavior by using a 10-point scale paired with a semantic differential scale, measured as follows.

Very low 1—2—3—4—5—6—7—8—9—10 Very high

In the present study, help is limited to behavior that can elicit gratitude. Based on literature on gratitude, the conditions for gratitude is that the benefactor's favor must be important and necessary to the beneficiary, the benefactor's motives for conferring the favor must be selfless, and the benefactor must expend a relative amount of effort to confer the favor. We have taken these conditions into account while designing the experiment's texts.

After the questionnaires were returned, the independent-samples *t*-test was performed to verify whether there was a significant difference in the upstream reciprocity behavior elicited by parents' help and friends' help in the two groups of university students. If a significant difference is present, the average scores of each group were observed to determine which elicited more upstream reciprocity behavior in university students: parents' help or friends' help.

The content of Version B:

My health has always been great. I rarely get colds. It might be because of this that I am negligent about taking care of myself. A few days ago I went to a scenic area to enjoy myself. I ate and drank to my heart's content at noon. I felt refreshed, but at three o'clock in the afternoon, my stomach started to feel upset. I quickly went back to my rental house. When I got there, I started vomiting and having diarrhea. My muscles started cramping. I called my two friends, who immediately put down their work to drive me to the hospital's emergency room. The emergency doctor ordered some tests for me and the results showed that I needed to be hospitalized for treatment. The doctor explained that I needed to be careful to avoid falling when going to the restroom because my body was weak. Because there were no available hospital beds, I had to stay in the emergency room for a night. My two friends sat in chairs and stayed by my side for the night. I was transferred to the general ward the following afternoon and was hospitalized there for three days. I was discharged when I had almost recovered. During those four days, my two friends took care of me and helped me in and out of bed without any complaints.

**Table 1. Differences in the gratitude levels of the two groups: Hospital care**

	Levene's test for equality of variances		T test for equal means			
	F	Significance	t	Degree of freedom	Significance (two-tailed)	Mean difference
Equal variance assumed	.222	.638	-17.856	458	.000	-1.561
Equal variance not assumed			-17.856	452.170	.000	-1.561

**Table 2. Average levels of gratitude for the experiment's text of the two groups: Hospital care**

	Group	N	Average	Standard deviation	Standard error of the mean
Upstream Reciprocity	Parents	230	5.87	.989	.065
	Friends	230	7.43	.883	.058

**4. RESULTS AND DISCUSSION**

In the present study, the independent-samples *t*-test was performed for upstream reciprocity behavior, the results of which are shown in Table 1. First, the equality of variances was assessed for the two group's upstream reciprocity behavior. Levene's test showed that the *F* value was 0.222, the level of significance was 0.638, which did not reach the significant level of  $p < 0.05$ , consistent with the assumption of homogeneity of variance. Therefore, the *t* values and *p* values in the row in which the variance is equal were observed in Table 1. The *t* value was -17.856, the degree of freedom was 458, and the *p* value was less than 0.05 at 0.000, which reached the significant level of  $p < 0.05$ . Observing Table 2, the average score for upstream reciprocity behavior of the group that accepted parents' help was 5.87 while the average for the group accepting friends' help was 7.43, indicating that there is a significant difference in university students' upstream reciprocity behavior—university students who received help from friends display more upstream reciprocity behavior than those who received help from their parents. *H1*, which

posited that help from friends is more likely to stimulate upstream reciprocity behaviors in university students than help from parents, gains empirical support from the present study.

**5. CONCLUSION AND SUGGESTIONS**

The present study extends direct reciprocity in gratitude in previous studies to upstream reciprocity behavior, taking into consideration factors related to the benefactor to further explore the effect of the source of the favor (benefactor) on the beneficiary's upstream reciprocity behavior. The present study found that different benefactors have different effects on the beneficiary's upstream reciprocity behavior. Moreover, friends' help is more likely to evoke university students' upstream reciprocity behavior than parents' help.

The present study found that friends' help rather than parents' help is more likely to elicit university students' upstream reciprocity behavior. Therefore, to promote upstream reciprocity behavior in university students, it is better to strengthen their assimilation in their interactions with friends than to start with

parents' help to their child, so that they have opportunities to accept friends' help. Help from friends is conducive to university students' helping others, so we recommend that parents encourage their children to venture outside of their family and participate in activities to get closer to the masses, especially to people who like to help others. Immersion is helpful to children's upstream reciprocity behavior.

In addition to upstream reciprocity, indirect reciprocity also includes downstream reciprocity. Only upstream reciprocity was explored in the present study. We suggest future studies investigate downstream reciprocity. Upstream reciprocity occurs when those helped by somebody help others. On the other hand, downstream reciprocity occurs when those who helped others are helped by someone else. Factors influencing downstream reciprocity may be different from those influencing upstream reciprocity. We suggest future studies elucidate these points.

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#### COMPETING INTERESTS

Author has declared that no competing interests exist.

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