

A TYPOLOGY OF FREE RIDERS: A PILOT STUDY

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ABSTRACT

Research on the frequency of free riding behavior shows extremely disparate results, with some research showing very low levels of free riding and others showing very high levels of free riding. This paper hypothesizes that one of the reasons for this disparity is that past research has failed to distinguish between different kinds of free riding behavior. This paper seeks to amend that failure. It proposes and tests a typology of four different free riding behaviors along two axes. Preliminary results find strong support for the typology presented. Implications, limitations, and directions for further study are discussed.

KEYWORDS: Free Riders; Collective Action Problem; Self-interest; Typology of Free Riders

INTRODUCTION

Free riders—also known as social cheaters or social loafers—are individuals in a group who benefit in some way from the collective action of the group, but who fail to contribute to the collective wellbeing. Free riders are considered ubiquitous in society, and appear in nearly every social situation in which a collective benefit manifests. Social sciences has addressed free riders as a problem of collective action, and has focused considerable research on the degree to which free riding occurs and how to reduce the prevalence of free riding behavior in collective action settings. In other words, free riders form a cornerstone of the problem of collective action. This paper examines whether or not different types of free riders exist, and offers insight into how each type of free rider is understood in collective action scenarios.

The defining characteristic of a collective action problem is that rational egoists are unlikely to succeed in cooperating to promote common interests (Taylor 1987). Hechter (1987) defines the problem similarly, noting that it is unclear how competition can originate and be maintained given the assumption of egoism in the human species. However, the clearest articulation of the problem comes from Hardin (1968) as the tragedy of the commons.

Hardin imagined a pasture that is opened to everyone. The herdsmen in the vicinity keep their flocks in the common pasture. Since the herdsmen are in constant competition with one another to have the best flock, they each seek to maximize their own gain. As long as the total number of animals from all herds is lower than the carrying capacity of the pasture, a herdsman can add an animal to his herd without affecting the amount of grazing for the remaining animals. However, should the herdsman decide to add to his herd such that the pasture is overgrazed, the tragedy of the commons ensues. The herdsman will doubtless gain somewhat from adding another animal to the flock. However, he will also entail some cost.

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He may gain from the addition of meat or milk, but will lose because the yield of the entire herd is reduced marginally due to overgrazing. Moreover, while the gain rests solely on the herdsman, the cost is borne by his competitors as well. Therefore, argues Hardin, the gain of an individual herdsman adding to his flock is greater than the loss entailed. It is in the herdsman's best individual interest, then, to add to his herd. He will find, however, that other herdsmen have concluded similarly, and have added to their flocks as well. The inevitable result is a spiraling decline of utility of the pasture for all individuals.

More broadly, the implications of the tragedy of the commons is that it is in every individual's best interest not to restrain himself from acting in a selfish manner; but the result of everyone acting selfishly results in a state of affairs in which every individual is less well off than they would have been had everyone restrained their selfishness and operated for the good of all (Kormorita and Parks 1995). As a collective action problem, the tragedy of the commons seeks to discover under what conditions the herdsmen will cooperate to ensure that overgrazing does not occur. More broadly, under what conditions will self-interested egoists cooperate for the good of all? The problem can also be expressed in terms of the free rider problem.

The collective action problem is in reality not expressly about inducing or maintaining cooperation. There are, in fact, many plausible ways to explain cooperation in the human species. The problem lies in the predictions that those theories make about the degree and nature of free riding. A proper theory of cooperation must account for how groups curtail free-riding to provide maximum collective benefit. Free riding is the self-interested choice when the group produces a common good (Kim and Walker 1984). Indeed, Hardin's Tragedy of the Commons has been analyzed across multiple disciplines, and has formed the cornerstone for many beneficial social policies, such as fishing limits, to maintain stable populations over time, and to ensure long-term collective benefit. The solution to the problem of free riders in such scenarios has rested on attempts to punish free riders into complying with the demands of collective action (Fehr, Fischbacher, and Gächter 2002). Punishment as a means of inducing cooperation poses its own collective action problem, as Ozono, Jin, Watabe, and Shimizu (2016) have shown. Second-order free riding occurs when a cost is incurred by members of a group to punish free riding behavior. An individual who makes a rational decision not to bear the cost of punishment gains from the contribution of the rest of the group as they punish the free rider, yet sacrifices nothing. It is therefore in the best interest of the individual to refrain from punishing if an individual cost is incurred.

The solution to the second-order free riding problem is beyond the scope of this paper. Rather, the scope of this paper is limited to explaining a more basic identified problem in free rider research. Free riding behavior has been studied by biologists, anthropologists, mathematicians, political scientists, and sociologists. Empirical research across these several disciplines concerned with the problem of free riding shows a large disparity in the degree of free-riding (Hechter 1987; Andreoni 1988). Generally, theoretical models of free riding predict that between 20–30 percent of individuals in a naturally occurring group will engage in free riding behavior (Fehr, Fischbacher, and Gächter, 2001). Empirical testing of these predictions have been conspicuously mixed.

In five different collective action scenarios, Bohm (1972) found almost non-existent free riding behavior. Marwell and Ames (1979), Johansen (1979), and Schneider and Pommerehne (1981) found considerably less free-riding than predicted. On the other hand, Brunner (1998), Isaac and Walker (1988), and Gaube (2001) found free-riding behavior above predicted levels. In short, each study found different rates of free riding behavior. Some studies found free riding behavior above predicted levels, while other studies found free riding behavior below predicted levels. Additionally, these studies vary widely in their reported tolerance for free riding behavior. Even though predictions made by the various disciplines about

the degree of free riding have not been well supported empirically, there has been little contemporary work on the issues involved in predicting free riding behavior; or in explaining the disparities in the existing work, especially in sociology. In fact, of late the problem of disparate findings has been largely ignored, even though it represents a fundamental shortcoming in the collective action literature.

It is not easy to account for these widely disparate results. Hechter (1987) suggests that differences in methodology may account for the differences in the frequency of free riding. For example, he states that “the best explanation for this diversity of results is that the experiments were far from identical” (pg. 27). Hechter also mentions that some of the varied findings may be due to issues of validity. Unfortunately, Hechter mentions both of these only in a footnote, and does not elaborate on these problems. What issues of validity he believes might exist, he does not say.

While Hechter’s explanation likely explains part of the reason for the disparate degree of free riding found in the experimental evidence, Hechter’s explanation begs the question of why different methodologies identify such radically different frequencies of free riders, especially given the fact that many of these studies were conducted by the same authors. A related, and perhaps more sophisticated answer to the question is that the varying methodologies identified and tested different kinds of free-riders. Indeed, there seems little reason to assume that free-riding is a unidimensional behavior. Rather, free-riding is a complex, context-specific behavior that manifests in many forms. Some studies may have failed to identify free riding behavior because they were not approaching the behavior as varied. Some studies may have identified only one kind of free-riding, while failing to identify other kinds, thus misrepresenting the degree of free-riding and contributing to confusion in the field. Other studies may have lumped all free riding behavior together, thus over-estimating the degree of free riding in the sample.

In this paper, I propose a solution different from Hechter—that much of the disparity in free riding behavior can be attributed to the fact that experiments conducted in past studies unknowingly tested and identified different kinds of free-riders. This paper proposes that at least four different kinds of free riders exist, and that they will be understood differently in collective action settings. These differences may account for the very different amounts of free riding behavior that have been identified in these various studies. This study offers a pilot test of this theoretical explanation.

A Typology of Free Riders

In 1971, biologist Robert Trivers articulated a theory of reciprocal altruism as a possible explanation for the emergence and maintenance of cooperation. Building from Hamilton’s (1964) classic paper on cooperation via genetic relatedness, Trivers expanded the theoretical scope of the arguments about cooperation by suggesting that non-kin cooperation is possible in a scenario where altruism is reciprocated between group members. Trivers suggested that each individual possesses some degree of cooperative and free riding behavior, and chooses between them as environmental or social circumstances warrant. Selection of the social strategy will discriminate against free riding if the cost of free riding outweighs the benefits. Conversely, if the cost of free riding is lower than the benefits accrued, free riding behavior will be selected.

Trivers went on to suggest two kinds of free riding behavior. Gross free riding is behavior in which no contribution is made to the collective good. Subtle free riders contribute to the collective good, but their contribution is less than the benefits derived from group membership. This distinction is important to a complete understanding of free riders. Economic theories of free riding behavior seem to have embraced this distinction. Smith, Kehoe, and Cremer (1995), and Brunner (1998) noted a difference

between individuals who contribute nothing at all to the public good, and those that contribute less than they benefit from the public good. Brunner termed them free riders and easy riders, respectively. Though the nomenclature differs somewhat, the definitions are the same.

The distinction that Trivers, Brunner, and others made is strictly behavioral in nature. It is the action of partially reciprocating or not reciprocating at all that forms the basis for the distinction. Yet, we may also make a distinction based upon the motivation of the actor. For example, some individuals may be able, though unwilling, to contribute to the collective good. Other individuals may be willing, though unable, to contribute to the collective good. From a sociological perspective, this distinction is crucial. As we shall show, this distinction is not in competition with Trivers’ typology. Rather, it is complimentary and adds to an understanding both of free-riding behavior and of social responses to the behavior. A useful typology of free-riding is vital to a complete theoretical and empirical understanding of free-riders. Using this typology, future research will be able to distinguish between different types of free-riding in future research.

The second axis of a free rider typology may be divided into active and passive free-riding. Active free riding may be defined as free-riding motivated by an unwillingness to contribute to the collective good, regardless of the individual’s ability to contribute. Passive free-riding is characterized by a motivation to contribute. However, the individual is unable to contribute, due perhaps to infirmity, age, or other limitation.

Based on these two axes, we may develop the following typology of free-riders:

	PASSIVE	ACTIVE
GROSS	FREE-RIDERS WHO ARE UNABLE TO CONTRIBUTE, AND OFFER NO CONTRIBUTION TO THE COLLECTIVE GOOD.	FREE-RIDERS WHO ARE UNWILLING TO CONTRIBUTE TO THE COLLECTIVE GOOD, AND OFFER NO CONTRIBUTION.
SUBTLE	FREE-RIDERS WHO ARE UNABLE TO CONTRIBUTE TO THE COLLECTIVE GOOD AT A LEVEL EQUAL TO OR GREATER THAN THE BENEFITS RECEIVED.	FREE-RIDERS WHO ARE UNWILLING TO CONTRIBUTE TO THE COLLECTIVE GOOD AT A LEVEL EQUAL TO OR GREATER THAN BENEFITS RECEIVED.

Figure 1: A Typology of Free Riders.

As the figure suggests, at least four kinds of free riders can be hypothesized. Passive-Gross free riders are defined as individuals who are unable to contribute any fundamental resources to the collective good, but who use resources produced from the collective good. An example of a passive-gross free rider would be an individual with a severe disability or other infirmity that prevents them from working or otherwise contributing to the collective good. Some passive-gross free riders may have contributed to the collective good in the past. However, they are no longer contributing. Since passive free riders are unable to contribute to the public goods, it is predicted that social tolerance of passive free-riders will be high. Individuals in society will be less willing to punish individuals who are unable to contribute to a collective good.

Passive-subtle free-riders contribute to the collective good, but are generally unable to contribute to a level equal to or greater than the resources they consume. It is predicted that this kind of free rider will be the most tolerated in society. The perception of a willingness to contribute to society is considered important, even in the absence of an individual's ability to contribute.

Active subtle free-riders are those individuals who are capable of contributing substantially to the collective good, but choose to contribute only partially. While the motives for a lack of adequate contribution may vary significantly from individual to individual, the outcome is that the individual consumes more resources in society than they contribute. It is predicted that societal attitudes toward active subtle free-riders will be more negative than either passive gross or passive subtle free-riders, but more positive than active gross free-riders.

Active gross free-riders are predicted to be the least tolerated among the four kinds of free-riders identified in the typology. Active free-riders are capable of contributing to the public good, but choose not to do so. At the same time, active gross free-riders consume collective goods. It is predicted that their unwillingness to contribute even when they are able to do so will be a source of considerable social undesirability and perhaps even scorn. Active subtle free riders will also likely be tolerated at relatively low levels, particularly relative to passive free riders.

We predict that passive free riders will be tolerated at higher levels than their active counterparts. Passive gross free riders should be tolerated at a lower level than passive subtle free riders. Subtle free riding is predicted to be more tolerated than active free riding.

METHODS

A pilot study was designed to test the typology proposed above. The test assesses how people perceive the various kinds of proposed free-riders. Specifically, the test is designed to measure three aspects of social support: support of government social services, private financial support, and a personal letter of support. Specifically, the study measures how likely a person is to support continuing public government assistance for each type of free-rider; how likely a person is to offer private financial help for each type of free-rider; and how likely a person would be to offer a letter of personal support to each type of free-rider. The last assessment—a letter of support—offers a control to the other two, since while the other two involve supporting the distribution of limited resources, a letter of support does not deplete the collective good. As noted, we predict that passive subtle free-riders will be the most likely to be supported in all three domains. Passive gross free-riders will be less likely to be supported than their passive counterparts, but will still enjoy a considerable amount of social support. Active subtle free-riders are predicted to have less support than either kind of passive free-rider. Active gross free-riders are predicted to have the lowest amount of support.

To test this, we created short vignettes for four different females. Each vignette is approximately the same length, and gives details about the individual's situation describing conditions explaining their free-riding as well as the degree of free-riding. The vignettes about the free riders were deliberately kept brief and simplistic, focusing very specifically on the two stated axes of the typology—the reason for the free riding and the degree of free riding relative to the collective benefit. Superfluous information was omitted. The vignettes and measurement instrument are reproduced in full in Appendix A.

Respondents were asked how likely they were to support continuation of social services for each person; how likely they were to provide private financial help to each person; and how likely they were to write a letter of personal support for each person. Responses were provided on a five-point Likert scale, with responses ranging from very likely to not at all likely. Every other scale was inverted to avoid having respondents speed through the survey without reading the possible responses carefully. Limited demographic data was also collected.

The survey was given to a convenience sample of students in introductory social science courses. Fifty eight valid surveys were collected. A few surveys contained one or more missing data points, which were subsequently excluded from analysis.

An analysis of the demographic data showed that the sample was demographically somewhat different than the national distribution for both race and sex. Approximately twelve percent of the sample identified as black, two percent as Hispanic, and five percent as Asian. While the percentage of black and Asian respondents are comparable to the national distribution, the percentage of Hispanic respondents was far below the national percentage. Sex was also skewed, with nearly 64 percent of respondents in the survey identifying as female, compared to a national average of 51 percent. It is possible that these demographic differences—artifacts of the limited data collection procedure in a non-random environment—influenced the results of the survey.

Three questions on the survey assessed the likelihood of the respondent to support each identified type of free rider. One question asked respondents their likelihood of supporting continuing social services for each of the four free riders defined in the vignettes. The second question asked about the likelihood of offering private financial help to each of the four identified free riders. The final question asked about the likelihood of the respondent providing a letter of support to each of the free riders. These likelihoods were assessed with a five-point Likert scale ranging from very likely to not at all likely.

The responses for each of these types of support were summed for each kind of free rider, creating a scale from 3, indicating very little support, to 15, indicating very high support. The mean level of support for free riding behavior in the collected sample was 9.7982 ($n=57$). The standard deviation of the sample was 2.20816. The range for this sample was a low of 3 and a high of 14.

As a comparison device, a variable was created that averaged the support of all kinds of free riders. The support for the different kinds of free riders were compared to this standard in using an ANOVA. The null hypothesis is that the means of the four samples are equal. Alternatively, we hypothesize that the mean differences in support for the four kinds of free riders will be statistically different. While an ANOVA is sufficient to determine if the mean levels of support for each group differ from one another, it is not sufficient to determine which means differs from which. There are two ways to resolve this shortcoming in an ANOVA test. The first is to conduct a post hoc test, such as the Tukey HSD test. However, these tests are not appropriate in this case because at least one of the assumptions—that the observations within and between groups are independent—is violated by the nature of the data collection method. Therefore, six individual t-tests were conducted to compare the means of each kind of free rider to every other kind. The tests compare active gross (AG) with active subtle (AS) free riders; active gross with passive gross (PG); active gross with passive subtle (PS); active subtle with passive gross; active subtle with passive subtle; and passive subtle with passive gross. In this way, we can determine the relative support for each kind of free rider identified in the typology. Although multiple t-tests to compare groups against one another are problematic because the p-value may become an underestimation, because the

p-values are highly significant, it is unlikely that this effect will underestimate to the point of making the differences non-significant.

RESULTS

Descriptive statistics are reported in table form to illustrate the differences in levels of support between the different kinds of free riders, as well as to aid in interpreting subsequent comparative testing.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
AGSUPPORT	58	3.00	14.00	6.2586	3.18197
ASSUPPORT	57	3.00	15.00	8.4561	3.80352
PGSUPPORT	58	3.00	15.00	12.2414	2.93981
PSSUPPORT	58	3.00	15.00	12.2414	2.47309

Results of the ANOVA test indicate that support for all types of free riding differs significantly from each other. Results for support active gross free riding and active subtle free riding were significant at the $p < .01$ level. Results for passive gross and passive subtle free riders were significant at the $p < .001$ level.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
AGSUPPORT	Between Groups	424.013	26	16.308	3.308	.001
	Within Groups	147.917	30	4.931		
	Total	571.930	56			
ASSUPPORT	Between Groups	595.974	26	22.922	3.211	.001
	Within Groups	214.167	30	7.139		
	Total	810.140	56			
PGSUPPORT	Between Groups	394.307	26	15.166	4.781	.000
	Within Groups	95.167	30	3.172		
	Total	489.474	56			
PSSUPPORT	Between Groups	264.785	26	10.184	3.670	.000
	Within Groups	83.250	30	2.775		
	Total	348.035	56			

Again, since an ANOVA cannot specify how each group differs from the others, a series of t-tests were conducted to clarify the relationships. The first t-test compared the mean level of support for active gross free riding to active subtle free riding ($n=57$). Results indicate that there is more support for active subtle free riding behavior than active gross free riding behavior. The mean level of support for active gross free riding was 6.2982 ($SD=3.1958$). The mean level of support for active subtle free riders was 8.4561 ($SD=3.8055$). Results were significant at the $p < .001$ level. Support is significantly higher for active subtle free riders than for active gross free riders.

The next test compared the mean level of support for active gross free riding to passive gross free riding behavior ($n=58$). The mean level of support for active gross free riding was 6.2586 ($SD=3.1820$). This is slightly different than reported in the first test because one case was excluded in the first test due to missing data. The mean level of support for passive gross free riders was 12.2414 ($SD=2.9400$). Results were similarly significant at the $p < .001$ level. This indicates that there is significantly higher support for passive gross free riders than for active gross free riders.

The third test compared the mean level of support for active gross free riding and passive subtle free riding ($n=58$). The mean level of support for passive subtle free riders was 12.2414 ($SD=2.4731$).

Again, results were significant at the $p < .001$ level. There is significantly more support for passive subtle free riding behavior than for active gross free riding behavior.

Test four compared the means of level of support for active subtle free riding and the mean level of support for passive gross free riding ($n=57$). The mean level of support for active subtle free riding, as reported above, was 8.4561 ($SD=3.8035$). The mean level of support for passive gross free riders in the test was slightly different than in the descriptive statistics because of an excluded case due to missing data. For the test, the mean level of support for passive gross free riding was 12.2105 ($SD=2.9565$). Results indicate that there is significantly more support for passive gross free riding than for active subtle free riding. Results were significant at the $p < .001$ level.

The next test compared mean support for active subtle free riding and mean support for passive subtle free riding ($n=57$). Results were significant at the $p < .001$ level, indicating significantly greater support for passive subtle free riding than for active subtle free riding. Again, one case was excluded due to missing data, which altered the means slightly. The mean level of support for active subtle free riders in the test was 8.4561 ($SD=3.8035$); while the mean level of support for passive subtle free riding was 12.2281 ($SD=2.4930$). Results show statistically significant ($p < .001$) support for passive subtle free riding over support for active subtle free riding.

The final test compared mean levels of support between passive gross and passive subtle free riding ($n=58$). Although their standard deviations differed slightly (for passive gross free riding the $SD=2.9398$; and for passive subtle free riding the $SD=2.4731$), The two types of free riding had the same means, which indicated that there is no difference in the level of support between passive gross and passive subtle free riding.

Since the number of respondents was slightly skewed toward females, we also tested to determine if there was a significant difference in levels of support between male and female respondents. Results show that there was no significant difference in the stated support for free riding behavior between men and women.

In all, the tests suggest that there is significant difference in the levels of support between the proposed types of free riders, with the sole exception of support between the two kinds of passive free riders. In fact, the mean level of support for passive subtle and passive gross free riders was identical in the data collected.

ANALYSIS

We hypothesized that at least four kinds of free riders exist. Active free riders are free riders who are capable of contributing to the public good, but who choose not to contribute. Passive free riders are unable to contribute to the public good. Gross free riders make no contribution to the public good. Subtle free riders contribute to the public good, but contribute less than they benefit they receive from participation in the public. Thus, four separate types of free riders can be deduced. Evidence for the four types of free riders can be seen in the level of support that subjects say they would provide to the various types of free riders. From this, several hypotheses were developed.

Hypothesis one suggested that active gross free riders would have the lowest level of support among all of the types of free riders. This hypothesis was strongly supported by the available data.

Hypothesis two suggested that active subtle free riders would have greater support than active gross free riders, but less support than passive gross free riders. This was also support by the data. Hypothesis three predicted that passive subtle free riders would receive more support than passive gross free riders. This hypothesis was not supported by the available data. There was no difference between the mean level of support for passive gross versus passive subtle free riders. This suggests that one axis may be more important than another in determining letter of support.

To test that emergent hypothesis, levels of support were assessed for all active free riders versus all passive free riders. Levels of support were averaged for active gross and active subtle free riders to create a new variable that assesses support for all active free riders. Similarly, levels of support were averaged for passive gross and passive subtle free riders. A test of means was conducted. Results showed that passive free riders elicited significantly more support than active free riders ($n=57$; $p<.001$). We similarly tested all gross free riders and all passive free riders. A test of means ($n=57$) was significant at the $p<.01$ level, with higher support for passive free riding than for active free riding.

Although the data and testing are only preliminary, results indicate strong support for the idea that there exist different kinds of free riders, and that these free riders are understood differently by subjects. There does seem to be somewhat greater differentiation between active and passive free riding and between gross and subtle cheating than within group comparisons between passive gross and passive subtle free riding. The evidence suggests that people are far more supportive of either kind of passive free riders than of active free riding.

DISCUSSION

This study provides the first empirical evidence for the theoretical statement that different kinds of free riders exist, and that people understand and respond to them differently. Data suggest that people are more likely to support passive free riders than active free riders. More support was reported for subtle free riders than for gross free riders. Interestingly, there was no significant difference in support between passive gross and passive subtle free riders. This suggests that people may use perceived motivation as a more important tool for evaluation of free riding behavior than the degree of contribution. Further investigation of this phenomenon is warranted.

The research presented here provides one possible explanation for the very disparate degree of free riding found in previous research. It appears likely that previous studies reporting low levels of free riding behavior used methodologies that capture only one kind of free riding behavior. Studies that report higher levels of free riding behavior may have used methodologies that capture more than one kind of free riding behavior, without making the proper distinctions. Future studies of free riding behavior would benefit from an understanding of how free riding behavior may differ along the two axes presented here—no contribution versus some contribution; and willingness versus ableness. These distinctions appear to be practical as well as methodological, and will likely influence the results of future studies to provide a more detailed understanding of free riding behavior. In addition to adding to the methodological precision of studying free riders, this study also adds to the theoretical understanding of free riding behavior by reinserting agency as a key determinant of behavior. The practical and policy implications of the distinction of free riding behavior described in this study are also important. By identifying and understanding the various kinds of free riding behavior, group facilitators and policy makers can develop more specific approaches to curbing free riding behavior. For instance, it is unlikely that attempts at punishing a passive free riders toward cooperative behavior would be successful. However, one might be

successful in enticing their gross free riding behavior toward a more subtle free riding. Practitioners and policy makers may also find the typology useful in helping to guide the perceptions of other group members in how they understand and respond to individuals who free ride.

For example, in situations where passive free riders are common, second-order free riding may be more prevalent because people in a collective action scenario are less likely to punish passive free riders than active ones. Conversely, punishment may be higher in situations where active free riding is more common. Similarly, higher rates of punishment might be supported for gross versus subtle free riding behaviors. The typology may also offer insight into levels of support for various public assistance programs, with individuals more likely to support programs aimed at passive free riding than at active free riding. Teachers at various levels might find the typology useful for understanding free riding behavior in the classroom. For example, some students may decline to participate due to an unwillingness to participate, while others may simply be unable to offer levels of participation that are expected. As a result, teaching methods could be adapted to respond differently to the different kinds of free riders. Thus, economists, sociologists, political scientists, teachers and others may benefit from the understanding the typology offered here.

This study was limited in several important ways. First, the data was collected from a convenience sample of college students in social science classes at a mid-sized university. Although the demographics are largely representative of the nation, it is likely that the data collection captures some fundamental differences that might be common among college students, such as a commitment to education and self-sufficiency that may skew results. For example, students in college may be different from individuals who did not finish high school in the way that they understand free riding behavior. Individuals who did not finish high school may be more likely to attribute their low educational attainment to external forces, and thus may be more likely to support certain types of free riding behavior. In contrast, college student may be more likely to attribute their success to their own effort, and therefore may be less likely to support certain free riding behaviors.

It is hoped that the results will fuel a resurgence of research on some of the fundamental problems that remain with the collective action problem. Sociologically, the collective action problem is one of the most fruitful and practical theoretical developments. However, as shown here, several significant issues still exist that need to be adequately addressed. This paper moves in that direction. Future research should improve upon the data collection to present a wider and more representative sample, as well as apply more sophisticated analytical techniques to include the factors that might indicate support or lack of support for the different kinds of free riding behavior. It is likely that social class, religiosity, and educational attainment will exert strong influences on the level of support for different types of free riding behavior. Past experiences with free riding behavior in others; or past free riding behavior by the individual may also influence levels of support. Future research into the various kinds of free riders may also expand, revise, or otherwise improve the typology utilized here.

APPENDIX A: SURVEY

Read each of the following scenarios carefully and completely. Then, answer the following questions.

Gretchen is disabled and confined to a wheelchair. She works 20 hours a week as a phone operator for a travel agency. She receives food assistance benefits to supplement her income.

Gail continues to complete job applications for employment. She has refused several offers to work for minimum wage. Gail receives a variety of social service benefits, including rental and food assistance, plus a small cash stipend.

Gabriella has a mental disability that prevents her from working. She receives social services benefits to pay for rent, food, and other expenses.

Gladys works a part-time job to earn enough money to keep her social services benefits, which provides food and housing assistance.

Using the scale provided, please indicate how likely you are to support government social services for the individuals.

How likely are you to support continuing to provide social service benefits for Gail?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

How likely are you to support continuing to provide social service benefits for Gladys?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

How likely are you to support continuing to provide social service benefits for Gabriella?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

How likely are you to support continuing to provide social service benefits for Gretchen?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

Using the scale below, indicate how likely you would be to offer private financial help to the individuals.

How likely are you to offer private financial help to Gail?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

How likely are you to offer private financial help to Gladys?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

How likely are you to offer private financial help to Gabriella?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

How likely are you to offer private financial help to Gretchen?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

Using the scale below, indicate how likely you would be to write a letter of personal support for each individual.

How likely are you to write a letter of support for Gail?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

How likely are you to write a letter of support for Gladys?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

How likely are you to write a letter of support for Gabriella?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

How likely are you to write a letter of support for Gretchen?

Very Likely Somewhat Likely Neutral Somewhat unlikely Not at all likely

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