

Tip policy, visibility and quality of service in cafés

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This research studied the effect of tip policy and visibility on service quality in cafés. Applying social dilemma research to cafés suggests that service quality may be deteriorated by two types of free-riding behaviour. These free-riding behaviours include reduced-effort activities and the overuse of limited common resources. The theoretical framework implies that it is difficult to solve both problems simultaneously. For example, an individual tip policy can solve the problem of reduced effort as it motivates each server to work for his or her own tip. However, this policy intensifies the competition between the servers over limited common resources. Shared tip policy operates in the opposite way, solving the latter problem yet intensifying the former. Similarly, visibility conditions (moderating monitoring and social comparison) affect the two free-riding behaviours in opposite ways. Two field studies indicated that tip policy and visibility were interacting and that quality service could be attained with two combinations. Individual tip policy leads to quality service when combined with low visibility. Shared tip policy leads to quality service when combined with high visibility. The findings demonstrate the difficulty, but also the potential of generalizing social dilemma research to natural settings.

Keywords: tips; social dilemma; allocation rules; visibility

Recent studies have demonstrated that in certain environments, such as restaurants and cafés, the practice of tipping can facilitate a high quality of service. Tipping appears to be successful because customers are in a better position than managers to evaluate the performance of servers (Lynn and McCall, 2000). Tipping allows customers to provide the servers with a reward contingent on their performance (Bodvarsson and Gibson, 1994; Jacob and Page, 1980). In addition, the exchange of service and tips maintains equity between servers and customers (Lynn and McCall, 2000; Lynn and Graves, 1996; Lynn and Grassman, 1990).

While tips are usually viewed as individual bonuses, in many restaurants and cafés they are pooled as a collective bonus which is then divided equally among all the servers. The effectiveness of the individual versus the collective bonus has been studied extensively under the theoretical framework of social dilemma.

This accumulated knowledge is used here to study the value and limitations of the two tip allocation policies and their effect on service quality.

The following sections may be summarized as follows. Service quality is defined as public good that is vulnerable to free-riding behaviour. Assuming that free-riding is manifested by servers reducing their service effort, a preliminary hypothesis was that individual tip policy would be more effective than collective (or shared) tip policy. A pilot study provided only partial support for this hypothesis and led to the identification of a second free-riding behaviour – the overuse of limited common resources. The paper proceeds with a report of two field studies that tested this re-conceptualization, and a discussion of two solutions to the twofold service dilemma.

Public good, social dilemma and service quality

Public goods (such as clean air or a firm's reputation) can be consumed by everyone and no one can be denied their beneficial outcomes, regardless of whether he or she has contributed to their provision or maintenance (Yamagishi, 1988). A 'social dilemma' is defined as the conflict between the collective interest to contribute to the attainment of the public good and the self-interest to hold on to the contribution and free-ride¹ on the efforts of others (Dawes, 1980). As individuals follow their narrow self-interest and free-ride on others, the public good deteriorates and the individuals end up worse off than if they had acted in the collective interest (Strobe and Frei, 1982).

This line of conceptualization is relevant to the study of service, since high-quality service has characteristics of a public good. Consider the case of cafés. Aside from food quality, customers' differential attendance at cafés will also be influenced by factors such as the atmosphere and the quality of service. As a café gains in reputation for good service, it will attract more customers and thus improve its financial performance. The derived benefits may include higher profits for the owner and an increase in the amount of tips for servers. Thus it is reasonable to assume that good service is an interest shared by all servers. In other words, the servers should be willing to invest the necessary effort and provide the best possible service.

However, the reputation of a café for high-quality service entails a problematic characteristic of public goods: once a high reputation has been achieved, all the servers enjoy its beneficial outcomes. A server could therefore come to the rational (and selfish) conclusion that he or she can minimize his or her service effort, and still benefit from the reputation achieved through the efforts of the other servers. As more servers reach the same selfish conclusion, their tendency to free-ride on each other could result in a general decrease in the quality of service, with a consequent failure to live up to the attained reputation and to derive its benefits (Erev, Bornstein and Galili, 1993).

Tip policy, visibility and service quality

'Tip policy' refers to the way tips are distributed among the servers. An individual tip policy, according to which each server keeps his or her own tips,

provides an individual bonus. This policy emphasizes equity, assuming that increased investment in service results in larger tips. Shared tip policy provides a team or collective bonus: all the earned tips are pooled and divided equally among the servers. The shared policy emphasizes equality and collegiality, as it compensates for tip variations due to factors other than service quality (such order size and a customer's generosity).

Numerous studies have shown that performance falls short of optimal under the collective bonus (for example, Kerr and Brunn, 1983; Latane, Williams and Harkins, 1979; Petty, Harkins and Williams, 1980; Dashiell, 1935). In a direct comparison between the two bonus procedures, Erev, Bornstein and Galili (1993) found a drop of 40% in productivity with a move from individual to team bonus in an orange-picking task. Applied to the current setting, one should expect the individual tip policy to be more effective (and thus more frequently used) than the shared tip policy.

'Visibility' refers to the level at which a person's choice to free-ride (or to cooperate) can be noticed and identified by others² (Kerr, 1999; Dawes, McTavish and Shaklee, 1977). In the current setting, 'visibility' refers to the ability of servers to see other servers, to estimate their service effort and to observe their earned tips. The number of service spaces in a café determines the level of visibility. A café designed as one open service space allows for high visibility. As the number of service spaces of a café increases (indoor and outdoor sections, smoking and non-smoking sections, etc) the visibility decreases.

High visibility facilitates monitoring and social comparison. In line with the idea of the reciprocation norm (Axelrod, 1984), experimental research shows that free-riding can be eliminated when team members can observe and identify each other's behaviour (see, for example, Kerr, 1995; Komorita and Parks, 1994; Messick and Brewer, 1983; Orbell and Dawes, 1981). Kerr (1999) notes that the effect of visibility reflects the potential for social monitoring and sanctioning.³ According to Hayashi *et al* (1999), the effect of visibility is a sense of control, which is accomplished through social monitoring. Applied to the current context one should expect that the general preference of individual tip policy over shared tip policy (explained above) will be particularly strong when visibility in the café is low.

Pilot study and re-conceptualization

Conversations with three managers and seven servers in Israeli restaurants, cafés and pubs served as a pilot study of the above assertions. These conversations provided only partial support to the hypotheses. As expected, the preference for an individual tip policy was higher in pubs (generally characterized by low visibility) and lower in restaurants (generally characterized with higher visibility). However, in violation of the hypothesis, servers in Israeli cafés expressed a general preference for the shared tip policy over the individual tip policy.

An attempt to understand the popularity of shared tips revealed that the original conceptualization of the social dilemma in cafés lacked an important factor. It had been assumed that there was only one public good involved (reputation for high-quality service) and that free-riding was manifested by

reduced work effort. Conversations with managers and servers in Israeli cafés revealed a second type of social dilemma in cafés, involving competition and the overuse of limited common resources.

To elaborate, one example of a common pool resource is the customers. Suppose servers define customers as 'good' or 'bad' according to the tips they leave. Since order size is the best predictor of tip size (Lynn and Graves, 1996; Lynn and Grassman, 1990), it is easy to categorize any customer as either good or bad. Collegiality would require each server to wait on some good and some bad customers. A server might free-ride his fellow workers by attending mainly good customers while ignoring the bad ones.⁴ As more servers compete over good customers and ignore bad ones, the distribution of workload becomes unequal and the efficiency and quality of the service are damaged.

Other examples of common pool resources are the kitchen and the shift manager who support the immediate service activities. A server may become friends with the chef and use this friendship to bias the chef toward preparing his or her orders first at the expense of the other servers, who have to wait. Likewise, a server may use friendship with the shift manager to promote his or her personal interests (such as getting better shifts, leaving before closing) at the expense of other servers.

To summarize, the café service dilemma is re-conceptualized with two sub-dilemmas, as presented schematically in Table 1. Section (a) of the table presents the dilemma regarding service effort: the two rows represent one server and the columns a second server. Each server has to choose between investing low service effort or high service effort. Free-riding in this dilemma implies a choice to invest low effort. The numbers inside the cells represent the ranking order of each outcome (the left-hand number represents the outcome for server 1 and the right-hand number represents the outcome for server 2). Whereas the choice to invest low effort may be rational (it is the dominant strategy in the schematic example), it impairs the joint outcome.

Section (b) in Table 1 presents the dilemma regarding the usage of the common and limited resources. As in 'take-some' dilemmas, in which free-riding is reflected by over-consumption of a common pool resource (see, for example, Au and Budescu, 1999),⁵ servers can free-ride by overusing the limited resources. Trying to obtain, for example, more than their equal share of the 'good' customers may be a dominant strategy, but it is likely to impair the joint outcome.

Revising the hypotheses

It is easy to see that the two tip policies are expected to have different effects in the two dilemmas. The procedure of individual tips could solve the effort dilemma since the tip, which is related directly to service effort, motivates each server to invest as much effort as he or she can. However, the individual tip policy intensifies the limited resource dilemma. Note that a server, trying to maximize his or her own tips, is in competition with the other servers for the best tipping customers (and other limited resources). The shared tip policy operates in the opposite way. It relaxes competition among servers for limited

Table 1. Schematic examples of the two types of social dilemma suggested by the pilot study.

(a) The effort dilemma

		Server 2	
		Low effort	High effort
Server 1	Low effort	1,1	3,0
	High effort	0,3	2,2

(b) The limited resource dilemma^a

		Server 2	
		Overuse	Cooperate
Server 1	Overuse	1,1	3,0
	Cooperate	0,3	2,2

Notes: The left-hand number shows the pay-off rank for Server 1 and the right-hand entry shows the payoff rank for Server 2. Both matrices are prisoner dilemma games. The dominant choices impair the joint pay-off.

^a Resources involving 'good' customers and kitchen service.

resources, since whatever tips are earned (small or large) go into the collective pool of tips. However, this tip policy intensifies the problem of reduced effort. Note that tips become a public good by themselves: a server may reduce his or her service effort (and earn small tips) but still benefit from the service effort (and large tips) of other servers. Thus, the motivation to reduce service effort is even stronger than before.

Similarly, different visibility conditions may affect the two types of free-riding problems in different ways. High visibility should enable good estimates of the effort invested by co-workers. It can be assumed that open spaces in the café, facilitating social monitoring and sanctioning, should decrease the problem of free-riding related to reduced effort. Open spaces are less likely to help in avoiding limited resource dilemmas. First, observing others may not enable good estimates of free-riding in this dilemma. For example, servers can free-ride by using personal charm outside the workplace to bias the chef in their favour. Second, open spaces may intensify the competition among servers (for example, spotting a fellow worker trying to bias the chef may provoke other servers to try the same tactic).

To explain the preference for shared tip policy (found in the pilot study), one has to assume that managers and servers in cafés are more concerned with the dilemma of overuse of limited resources and less concerned with the dilemma of reduced effort. The first field study tested this hypothesis.

Study 1

In the first study one surveyor attended 17 cafes and asked servers to complete a short questionnaire in which they were asked how bothered they were about several problems of free-riding. The problems presented examples of effort-related free-riding and of overuse of common resources.

Method

Sample and procedure. Seventeen cafés were sampled at random from those listed in the *Yellow Pages* for one main city in Israel (Tel Aviv). One surveyor visited all the cafés over a three-week period. Each café was visited two or three times, depending on the number of shifts it employed. Each was visited only once a day. The surveyor approached the servers before they began their shifts and asked them to complete a short questionnaire concerning the magnitude of several problems that they might be facing at work. After servers had completed the questionnaire, the surveyor revealed the objectives of the study and promised that anonymity would be kept and that data would not be identified with the café or specific individuals.

Questionnaire. The questionnaire comprised seven questions. Each question presented the respondent with a possible service problem. The servers were asked how troubled they were by the specific problem at their workplace. The answer was marked on a 5-point scale, ranging from 1 (not bothered at all) to 5 (bothered a great deal). The left-hand column in Table 2 presents the seven questions. Questions 1–3 referred to the problem of reduced effort and questions 4–7 referred to limited resource dilemmas. The servers were also asked to specify whether the tip policy was individual or shared. Finally, they were asked to specify the number of service spaces in their workplace.

Results and discussion

Of the 17 cafés, 10 used a system of shared tips. This finding is consistent with the preference for shared tip policy that was revealed by the pilot study. These 10 cafés hired 5.8 servers on average. The remaining seven cafés operated a system of individual tips. These cafés hired 8.29 servers on average. One hundred servers filled out the questionnaire (50 earned collective tips and 50 earned individual tips). Table 2 provides the averages and standard deviations for the seven dependent measures crossed by tip policy and by the number of service spaces (that is, visibility).

Figure 1 presents a main effect for tip policy as well as an interaction between tip policy and visibility. The main effect of tip policy shows that, in line with our hypothesis, most of the problems related to free-riding were more troublesome with individual tips than with shared tips. For example, servers who earned individual tips were more bothered than servers who shared their tips about having to cover for a free-riding server ('Cover') and experiencing unequal workload ('Load'). This can be easily understood, as the shared tips compensate a server for the extra service effort involved in covering for a co-worker. When tips are earned individually, the extra effort of covering for another server is not rewarded. Interestingly, servers were very bothered about reduced effort related to free-riding ('Effort') regardless of the tip policy. This suggests that a reputation for high-quality service is a public good with which any café has to deal (regardless of tip policy).

Consistent with our hypothesis, overusing limited resources was more troublesome with individual tips than with shared tips. Servers earning individual tips were very bothered about co-workers trying to get faster service

Table 2. Study 1: questionnaire (left) and aggregated answers (right) by tip policy and visibility (service spaces).

Question code	Issue	Shared tips			Individual tips		
		1 space, 8 cafés (n=39)	2 spaces, 2 cafés (n=11)	Total 10 cafés (n=50)	1 space, 4 cafés (n=39)	2 spaces, 3 cafés (n=11)	Total 7 cafés (n=50)
1. Low effort	Some servers do not invest in service.	4.39 (0.78)	4.27 (0.90)	4.36 (0.80)	3.94 (0.77)	4.00 (1.00)	3.96 (0.86)
2. Cover	Some servers tend to take a lot of breaks and you have to cover for them.	3.13 (0.47)	3.55 (0.52)	3.22 (0.51)	3.87 (1.20)	3.26 (1.05)	3.64 (1.17)
3. Load	The workload is unequally distributed between the servers.	2.15 (0.67)	2.72 (0.91)	2.28 (0.76)	4.45 (0.72)	4.05 (0.85)	4.30 (0.79)
4. Kitchen	Some servers get fast service from the kitchen or bar while you have to wait for a long time.	2.15 (0.71)	2.36 (0.67)	2.20 (0.70)	3.39 (0.62)	2.79 (0.63)	3.16 (0.68)
5. Attend good	Some servers try to be the first to attend potentially good tippers.	1.49 (0.72)	1.64 (0.81)	1.52 (0.74)	4.65 (0.49)	4.26 (0.45)	4.50 (0.51)
6. Manager	Some servers have good relations with the shift manager and thus get better customers (good tippers).	1.18 (0.39)	1.27 (0.47)	1.20 (0.40)	4.10 (0.70)	4.00 (1.00)	4.06 (0.82)
7. Ignore bad	Some servers tend to ignore potentially bad tippers and you are forced to serve them.	1.56 (0.91)	1.82 (1.25)	1.62 (0.99)	3.81 (1.19)	3.21 (0.86)	3.58 (1.11)

n = number of respondents in condition

from the kitchen ('Kitchen'). They were also bothered about co-workers' exploitative relationships with the shift manager in order to get better customers ('Manager'). Finally, they were bothered about co-workers trying to be the first to attend 'good' customers but being the last to attend 'bad' customers ('Attend-good' and 'Ignore-bad', respectively).

Figure 1 indicates a consistent pattern of interaction between tip policy and

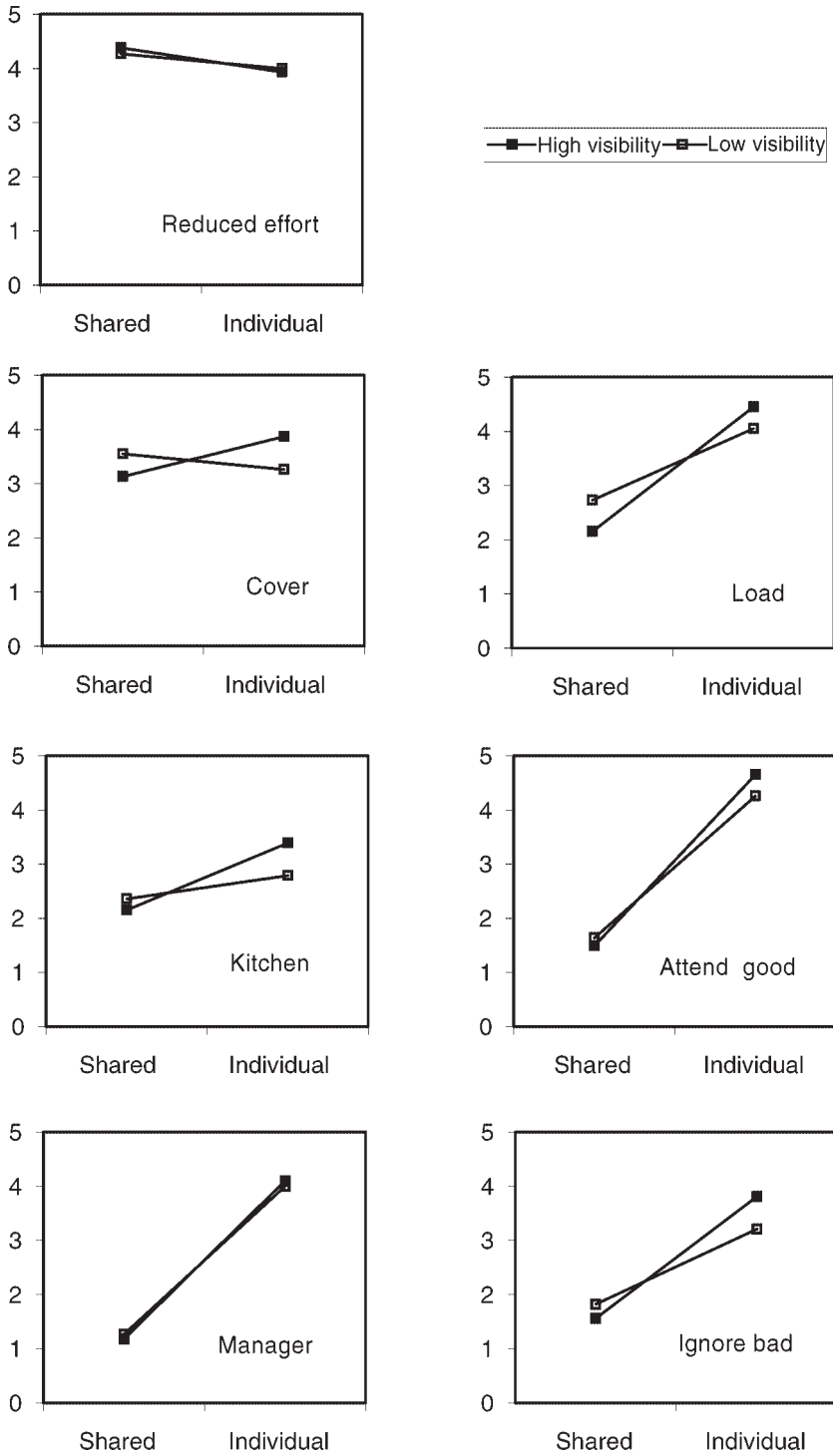


Figure 1. Averages for the seven free-riding problems presented in the questionnaire crossed by tip policy and visibility.

visibility for six of the seven dependent measures. When tips were shared, the free-riding problems were more troublesome as visibility decreased. The opposite pattern was found with individual tips. Under this condition the free-riding problems were more troublesome as visibility increased. Note that visibility decreases as the number of service spaces increases. The findings were analysed using MANOVA with tip policy and visibility as independent variables and the responses to the seven hypothetical problems as the dependent variables. The statistical analysis indicated a main effect for the tip policy (Wilks lambda = 0.05 $F[7,90] = 243.91$ $p < 0.0001$) and an interaction between tip policy and visibility (Wilks lambda = 0.785 $F[7,90] = 3.52$ $p < 0.002$). There were no other significant effects.

The findings of the first study support the conceptualization suggesting that servers deal with two public goods (service reputation and limited resources), but that they are more troubled by the competition and overuse of limited resources. Effort-related free-riding ('Effort') was highly disturbing whether tips were allocated individually or shared. This finding suggests that the public good of service reputation is relevant in all the cafés. Servers were also highly concerned about the two other effort-related free-riding problems ('Cover' and 'Load'). Note that unequal workload was more troublesome when tips were allocated individually, suggesting that this problem may have been intensified due to competition between servers. The problems related to limited resources were highly disturbing when tips were allocated individually but not when tips were shared. Given this pattern, it is reasonable that the shared tip policy was preferred by most of the cafés.

The interaction between tip policy and visibility supports the suggestion that these factors operate in opposite and complementary ways regarding the two dilemmas. The free-riding problems related to limited resources are intensified with individual tips and high visibility (when servers share a common space). When tips are shared these problems are less annoying. Shared tip policy seems to be the best choice when visibility is high. It is possible, however, that when visibility is low individual tip policy would not be a bad option. So far, we have focused on the experience of servers and their well-being. To extend the understanding regarding the effects of tip policy and visibility on service quality, we now turn to the second field study.

Study 2

The second study tested the effect of different combinations of tip policy and visibility on two measures of service quality. Two observers attended 50 cafés, recorded a number of measurements regarding the quality of service and interviewed the servers and owners of the cafés.

Method

Sample and procedure. Fifty cafés that had not been surveyed in the first study were sampled at random from those listed in the *Yellow Pages* for two main cities in Israel (Haifa and Tel Aviv) and their surrounding areas. Two observers attended the cafés together during weekdays, and the time of

attendance was set at random. Each café was attended once. The observers' order included one cup of coffee and a glass of water. The small order was used to fix bill size and also allowed a measure of service quality in the extreme case when servers expected a low tip. While remaining blind as to the tip policy used in a given café, the two observers recorded a measure of visibility and two measures of the quality of service (service time and the number of service problems).⁶ Having completed the measurements, the observers identified themselves, revealed the objectives of the study, recorded the tip policy used in the café and promised that anonymity would be preserved and data would not be identified with the café or with specific individuals.

Measurements. Tip policy was defined as either individual or shared. The number of distinct service spaces in each café defined visibility. Regarding service time, three measures were taken with a watch (in seconds): (t1) first attendance was measured as the time from sitting down at a table until a server first approached; (t2) second attendance was measured as the time between the server's acknowledgement of the observers' signalling and attendance; (t3) bill service was measured as the time from requesting the bill until it was brought by the server. The other measure of the quality of service was the number of service problems. Service problems were defined as 'the server forgot the order and came to ask again' and 'the server did not bring the right order'.

Results and discussion

Of the 50 cafés, 17 used an individual tip system and 33 a shared tip system. This finding replicates and supports the preference for shared tips over individual tips. For ease of presentation, the independent variables were re-coded into categories. Visibility was divided into the two categories of high visibility (the café has one or two visible service spaces) and low visibility (three or four service spaces). With regard to the dependent measures, each of the time measures was transformed into a standardized *Z* score against its mean and standard deviation. The correlations between the time measures were positive and low, ($r_{(t1,t2)} = 0.07$, $r_{(t1,t3)} = 0.17$, $r_{(t2,t3)} = 0.09$), suggesting that the three measures were independent. We integrated the three measures to arrive at a stable index of service time. We present a compound measure of service time, which is the average of the three standardized scores. Service problems ranged between 0 and 2 and are presented with the raw scale. Table 3 shows the averages and standard deviations for the two measures of quality of service for the two tip policies by visibility.

Figure 2 presents interactions between tip policy and visibility for the dependent measures. It shows a consistent pattern of interaction for the two measures of quality of service. Note that visibility decreases as the number of service spaces increases. When tips were shared, both service time and service problems increased as visibility decreased. The opposite pattern was found with individual tips: service time and service problems decreased as visibility decreased. In other words, when visibility was high shared tips resulted in better service than individual tips. When visibility was low individual tips resulted in better

Table 3. Study 2: averages, standard deviations and number of observations of standardized service time and service problems, by tip policy and visibility (service spaces).

	Visibility	
	High	Low
Z (Service time)		
Individual	M = 0.33 std = (0.83) n = 10	-0.37 (0.49) 7
Shared	-0.18 (0.51) 22	0.22 (0.72) 11
Total	-0.02 (0.62) 32	-0.01 (0.64) 18
Service problems		
Individual	0.90 (0.57) 10	0.29 (0.49) 7
Shared	0.68 (0.57) 22	0.91 (0.54) 11
Total	0.75 (0.53) 32	0.66 (0.59) 18

Note: 'High' = 1–2 service spaces; 'Low' = 3–4 service spaces.

service than shared ones. The findings were analysed using ANOVA with tip policy and visibility as independent variables, and service time and service problems as the dependent variables.⁷ The statistical analysis indicated that both interactions were significant (for service time $F[1,40]=10.42$, $p < 0.0025$, for service problems $F[1,40] = 7.42$ $p < 0.0095$).

Our conceptualization of a café's service dilemma as a situation involving two sub-dilemmas was based on the intuition of café managers and servers. The first study supported this conceptualization. The findings of the second study provide further evidence and extend the implications for the quality of service. The interaction suggests that high-quality service can be attained with two different combinations of tip policy and visibility. One combination is individual tips and low visibility: individual tips decrease the effort-related free-riding and low visibility relaxes the limited resource free-riding. The second effective combination is shared tips and high visibility: shared tips relax the limited resource free-riding and high visibility decreases the effort-related free-riding. Note that in both combinations tip policy and visibility complement each other.

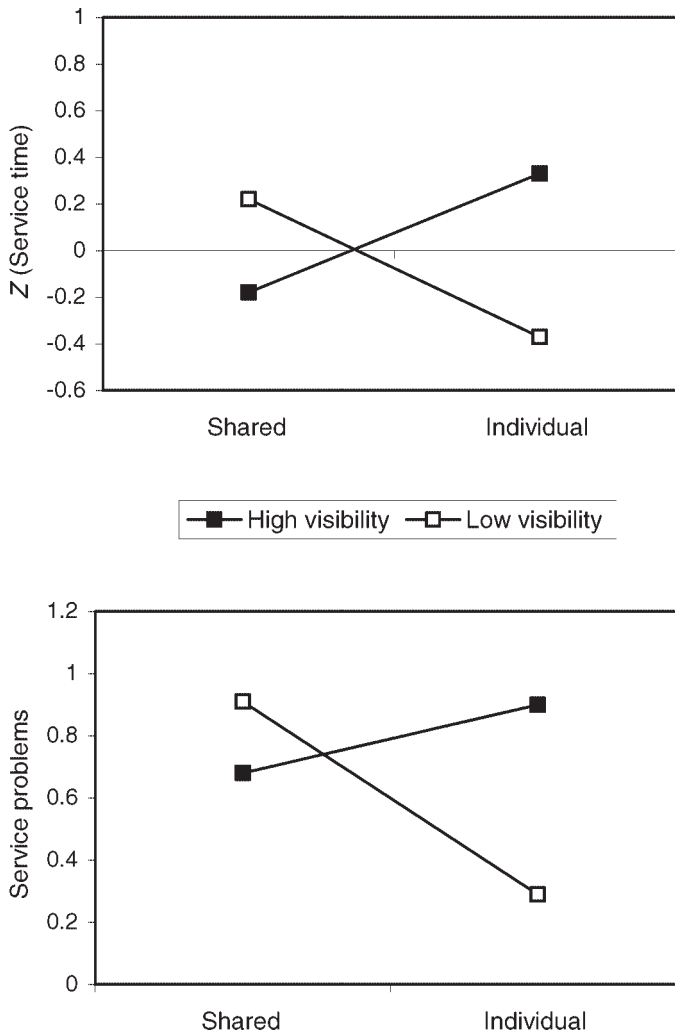


Figure 2. Averages for (a) standardized service time and (b) service problems for the two tip policies by visibility (service spaces).

General discussion

The results suggest that two types of free-riding behaviour are at the core of the café applied social dilemma. One of these is obvious and is manifested by reduced service effort. As servers decrease their service effort, the service quality public good decreases, as does the reputation of the café and its ability to attract customers. The other type of free-riding behaviour is less obvious and is manifested by competition and the overuse of limited resources.

An individual tip policy can reduce the first problem, but is associated with an increase in the second type of free-riding. High visibility (open spaces) appears to have a similar effect: it reduces effort-related free-riding, but increases

resource-related free-riding. As a result, the two factors (tip policy and visibility) interact.

These results demonstrate some of the difficulties but also the potential of generalizing basic research into social dilemmas to natural social settings. The difficulties involve the identification of the important free-riding behaviours outside the laboratory. In our initial attempt to generalize the basic research, we underestimated the importance of the second type of free-riding (overuse of limited resources) and therefore derived an incorrect generalization. The potential of applied social dilemma research is demonstrated by the observation that the knowledge of café managers and the insights provided by basic social dilemma research are cumulative. Allowing two types of free-riding behaviour led to the demonstration of a non-trivial interaction. This interaction indicated that in high visibility settings an individual tip policy could impair service quality. In these settings service quality would benefit from a shared tip policy. In low visibility conditions the shared tip policy would not be effective and the individual tip policy could improve service quality. This interaction clarifies the common intuition of the domain experts and the relationship between the basic social dilemma regularities and the social interaction among servers.

We believe that the difficulties and the potential of applied social dilemma research demonstrated here are not unique to interaction among servers in Israeli cafés. Indeed, the social interaction among servers is relatively simple. Thus if two contradicting types of important free-riding behaviour are found in this simple setting, it seems reasonable to assert that contradictory free-riding behaviours can be found in many interesting settings. This possibility implies that predicting the effect of free-riding outside the laboratory may not be easy, but it also implies that better understanding of free-riding behaviours can lead to the discovery of non-trivial interactions.

Endnotes

1. Other terms used interchangeably with free-riding in the literature are 'social loafing' and 'shirking'.
2. Other terms used interchangeably with visibility are 'identifiability', 'public choice' and 'anonymity'.
3. Kerr (1999) notes that visibility facilitates cooperation when three conditions are met. First, norm awareness should be high: 'one has to believe that the rest of the group cares how one behaves' (p 118). Second, sanction certainty should be high: 'one has to believe that others can and will deliver sanctions for violation of that norm' (p 118). Third, sanction salience should be high: the cost for norm violation should be substantial and 'one must actively want to avoid the... sanction' (p 118). We believe that these three conditions are likely to hold in the current setting.
4. Israeli cafés are characterized by a 'sit yourself' procedure. This allows servers to identify and approach 'good' customers as they walk in, but to ignore 'bad' customers and leave them unattended.
5. Free-riding can occur in 'give-some' situations as well as in 'take-some' situations. In the former, a free-rider restricts individual contribution towards the achievement of public good – in our case, a server would decrease work effort. In the latter, a free-rider increases consumption from a common pool resource – in our case, a server would try to obtain the best kitchen service and/or good tippers at the expense of co-workers. Au and Budescu (1999) suggested integrating both paradigms as collective action dilemmas.
6. The data collection included two other variables: the size of the café as measured by the number

- of tables and the base salary of servers. These additional variables were coded into two levels (high and low). The statistical analysis did not show significant main effects or interactions for these two variables.
7. The ANOVA analysis tested a model with four main effects (for tip policy, visibility, size and base salary) and three interactions (tip policy x visibility, tip policy x size, tip policy x base salary). The *df* of the model = 7. Due to three missing values the *df* of the error term = 40.

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