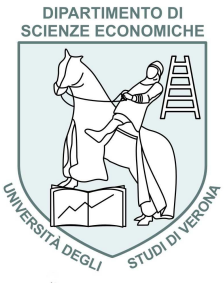

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Unethical Minds:

Individual Characteristics that Predict Unethical Behavior*

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Abstract

What are the individual characteristics that predict unethical behavior? To answer this question we randomly interviewed 541 passengers who used the bus in Reggio Emilia (Italy). Exploiting the high level of fare evasion (43% without a valid ticket) we find that young, male and non-Caucasian individuals in our sample are more likely to travel without a ticket. Interestingly, traveling with others affects the probability of holding a valid ticket but its effect depends on who the passenger and the others are. Finally, we find that all passengers' beliefs on fine costs, ticket inspection frequency, and number of passengers without ticket are surprisingly close with actual figures. However, cheaters perceive inspections as more frequent than those traveling with a valid ticket.

Keywords: cheating, fare evasion, individual characteristics, unethical behavior

JEL codes: D63, K42, D81

1. Introduction

Large scale corporate frauds such as Enron, Parmalat, Tyco and WorldCom have recently captured the headlines of the newspapers as well as the attention of the public opinion[1]. However, it is the small scale cheating of ordinary people that has the largest social and economic consequences[2]: the "ordinary Joes" cheat on taxes, over-charge clients, steal from the workplace, download music and videos illegally from the Internet, or use public transportation without paying the fare. The empirical evidence in social psychology confirms that this widespread dishonesty is the result of the actions of many people who cheat a little, rather than from the actions of few people who cheat a lot (Gino et al., 2009; Mazar and Ariely, 2006; Mazar et al., 2008). Ariely (2012) proposes his interpretation to this small scale – but mass – cheating: people want to benefit from cheating and get as much money (and glory) as possible, but at the same time they want to view themselves as honest and honorable people.

Research on (un)ethical behavior has attracted scholars across various disciplines – psychologists, philosophers, economists and even neuroscientists – and their findings are often counterintuitive and always fascinating (Gneezy, 2005; Greene and Paxton, 2009; Houser et al., 2011; Mazar et al., 2008; Shu et al., 2012)[3]. However, there has been scarce attention to identify what are the personal characteristics (age, gender, ethnicity, etc.) that affect people propensity to unethical behavior. Implicitly, researchers have assumed that these variables are not relevant or their effects can be neutralized by proper randomization.

[1] See for instance: http://www.forbes.com/2002/07/25/accountingtracker.html.

[2] Graham (2002) estimated that corporate frauds in one year accounted for an estimated $37–$42 billion loss to the U.S. gross domestic product. Even if this amount is huge is just a small share of the economic consequences caused by ordinary people. For instance, The report to the Nation on Occupational Fraud and Abuse (ACFE, 2008) inform that ordinary people are responsible for an estimated $994 billion of annual losses due to occupational fraud.

[3] For instance, it has been shown that moral reminders, asking to place a signature and using honor pledges increase honesty; on the contrary, ex post rationalization, having committed previous immoral acts, or the presence of other cheaters increase dishonesty. For a survey of recent findings, see Ariely (2012) and Gino & Galimsky (2011).

We believe instead that sketching the *profile* of a cheater – i.e., detecting the characteristics of who is more likely to cheat – is crucial for at least three reasons. First, measuring the marginal effects of these variables can help understand if variables that are statistically significant are also economically significant. Second, controlling for relevant variables allows researchers to estimate the net effect of the variation without biases. Third, identifying what variables affect the probability to cheat will allow future research to design more controlled experiments and check if the randomization in the groups works properly. For all these reasons we believe that more data should be collected in the field with real and more heterogeneous subjects and without affecting their (honest or dishonest) behavior with researchers' intervention. This data collection should be complementary (and not a substitute) of the evidence collected in the laboratory and should bring new light on whom the cheaters and non-cheaters are.

Participants in our study are citizens of Reggio Emilia (Italy) who used the bus with or without paying the bus fare. We chose this setting because a bus ticket costs 1.2 Euros and therefore subjects that cheat have just a small benefit, in line with most of the experimental evidence reported above. We chose Italy because in this country bus tickets have to be bought before getting on the bus, and enforcement is carried out at random by *ad-hoc* personnel (ticket inspectors). This opens the possibility for passengers to take a ride without actually buying the ticket, and thus to cheat. Finally, we chose the town of Reggio Emilia because it is well known to have a high social capital (Sabatini, 2007) and high norm compliance compared to other regions of Italy. The country is steadily among the top European countries in terms of shadow economy, non-compliance with fiscal rules and corruption (Slemrod, 2007; Del Monte and Papagni, 2007). Fare evasion is not an exception, as documented for instance by the various blogs and forums on

the Internet that provide suggestions on the best way to erase the stamp from a ticket, as well as tricks to follow when traveling without a ticket.[4]

In our study we randomly approached passengers when they were getting off the bus and we rewarded with a free ticket all those that handled a valid document for the ride (stamped ticket or subscription). For each passengers (with or without ticket) we recorded a set of basic information (age class, gender, ethnicity, whether they were traveling alone and eventually with whom). Interviewers were not perceived as policemen or tickets inspectors, and passengers had no incentive (or fear) hide their fare evasion or to run away from them. This gives us the possibility to estimate the *real* rate of fare evasion and depict the profile of a cheater, controlling (jointly) for all the variables that the previous literature ignored. We are also able to measure the marginal effect of each variable and shed new light of what makes people more prone to cheat.

Our paper is a first step into the direction of capturing some of the heterogeneity present in the real world but that is often absent in the lab. One can claim that bus passengers are not representative of the whole population: buses are used primarily by some categories of passengers (e.g., commuting students from the suburbs, or immigrants that cannot afford a car). We agree. Notice, however, that the composition of our dataset is rather heterogeneous, and to be emphasized in the sample are those characteristics (age, ethnicity) that commonplace would suggest to correlate with cheating. This variability in terms of demographic characteristics, together with the size of our sample (541 individual observations) and the neutrality of data collection (after the decision to have or not a valid ticket was made) allows us to estimate and measure jointly the effect of individual characteristics on the probability to hold a valid bus ticket.

[4] For instance see the Italian section of Yahoo! Answers on this topic: http://it.answers.yahoo.com/question/index;_ylt=AgA1tofWiW7oUHx5ye8rFt1ZEAx.;_ylv=3?qid=20080730101815AAeiWya.

Our results show that even in Reggio Emilia there is a high rate of fare evasion (43% of the passengers we interviewed did not have a valid ticket). More interestingly, we are able to sketch a "profile" of the typical cheater: young, male and non-Caucasian individuals in our sample are more likely to travel without a ticket. Moreover, we find evidence that cheating has a *social* component: while traveling with relatives increases the probability to hold a valid ticket, traveling with friends has no bearings on unethical behavior, unless it concerns males at around noon time (mostly students). We also find that those without ticket are more frequently unemployed, little concerned with risk, take short trips and are occasional passengers, and they interact with people that have already been fined for the lack of a valid ticket. Finally, we find that all passengers' beliefs on fine costs, ticket inspection frequency, and number of passengers without ticket are surprisingly close with actual figures. However, cheaters have biased perceptions on the probability of monitoring: those who travel without ticket indeed perceive ticket controls as more frequent than those traveling with a valid ticket.

2. Method

We interviewed a total of 541 subjects during the period September-December 2011 in Reggio Emilia (Italy), in collaboration with the volunteers of a NGO called "MoVimento 5 Stelle" (that has recently become also a political movement). Reggio Emilia is a medium-sized city in northern Italy, in the Emilia-Romagna region that is well known in Italy as well as in Europe for its high social capital and rate of norm compliance. We randomly approached about 50% of all passengers who were getting off the bus and we rewarded passengers holding a valid travel document (either stamped ticket or subscription) with a new free ticket. For all passengers – with or without a valid bus ticket – each interviewer observed and recorded a set of basic and clearly

visible information, such as gender, age class, ethnicity, etc. Moreover, we offered the possibility to answer a short questionnaire to a subsample of our subjects randomly selected. Those who accepted were rewarded with an additional free ticket. This questionnaire concerns more detailed passenger's characteristics, as well as opinions on the bus service, and the expected fines and inspections.

We focused our data collection only on the urban lines of the public transportation system of this town. In these lines passengers can enter the bus without paying the ride and without showing a valid ticket. Inspections are delegated to specific personnel that randomly select which bus to control. Data were collected in eight different sessions, differentiated in terms of both time slots and day of the week. We did not run more than one session per day. Each session was on average two hours long and involved three couples of interviewers (one couple for each door of the bus). Six sessions were run at the bus stop "Viale Allegri" (city centre), 2 at the bus stop "Stazione FS" (train station) and 1 at the bus stop "Ospedale" (hospital). On average we interviewed 70 passengers per session. Table 1 reports details on each session.

Table 1. Sessions

Session	Bus Stop	Day	Time	Weather	Obs.
1	Viale Allegri	Wednesday	5pm – 7pm	Warm	135
2	Stazione FS	Wednesday	5pm – 7pm	Warm	83
3	Ospedale	Monday	8am – 10am	Cold	13
4	Stazione FS	Wednesday	5pm – 7pm	Cold	72
5	Viale Allegri	Wednesday	5pm – 7pm	Cold	67
6	Viale Allegri	Friday	12am – 1pm	Warm	60
7	Viale Allegri	Monday	12am – 1pm	Warm	58
8	Viale Allegri	Saturday	11am – 1am	Warm	58

Before each session we debriefed all the interviewers (in fix couples) about the way in which bus passengers should be approached and how data should be collected. One interviewer of the couple collected all the basic information about the passenger, while the other was talking

with her. Passengers were approached randomly as they got off the bus. If a passenger showed a valid ticket (or subscription), then she was registered as a non-cheater and was given a new free ticket. If the passenger (i) did not show a valid ticket (e.g. by stating that she had forgotten it at home), (ii) showed a ticket that had not been validated or (iii) admitted that she did not buy a ticket, then she was registered as a cheater. If a passenger did not react to the interviewer in any particular way, then she was not registered. Once the registration was completed, the interviewer randomly offered to a subsample of passengers an additional ticket if she agreed to answer the questionnaire.

All interviewers were trained to carry the free tickets in plain sight and tell that they were performing a research for the university in order to signal that they were not ticket inspectors.

3. Results

Table 2 shows summary statistics on the variables included in our dataset, separately by ticket holders and non-holders. Overall, in our sample the frequency of non-holders is 43%, considerably above the frequency reported by official statistics[5]. We have two explanations for this high frequency rate: first, our interviewers did not wear uniforms, and could not be clearly identified as ticket inspectors. For this reason passengers were not prepared to approach them;[6] second, our interviewers were waiting for the passengers getting off the bus, whereas official

[5] Official statistics from the International Association of Public Transport report that 5.7% of the local bus travelers in Italy do not hold a valid ticket; this evasion is estimated to cost around 450 million euros per year. Italy is by far the country with the highest official rate of fare evasion in Europe, where the average rate of ticket non-holders is estimated at 4.2% (Bonfanti and Wagenknecht, 2010).

[6] There is evidence of people waiting at a bus stop for getting on a bus that eventually choose not to get on once they notice a ticket inspector inside the bus. See for instance this newspaper article (in Italian): http://www.larena.it/stories/Cronaca/387218_i_portoghesi_ci_costano_2_milioni/.

ticket inspectors get on the bus and check tickets on board during the ride – where passengers can stamp blank tickets on the stamping machine located in the bus.

Table 2. Mean descriptive statistics.

	Full sample			Sub-sample		
With ticket?	**YES**	**NO**	**Test**	**YES**	**NO**	**Test**
Age: below 18	0.217	0.280	*	0.300	0.370	
Age: above 65	0.061	0.009	**	0.044	0	
Male	0.359	0.578	***	0.444	0.741	***
Non-Caucasian	0.285	0.517	***	0.244	0.667	***
Traveling with relatives	0.104	0.043	***	0.133	0.056	
Traveling with friends	0.301	0.336		0.267	0.444	**
Poor dressing	0.052	0.151	***	0.033	0.037	
With luggage	0.188	0.121	**	0.101	0	**
Warm day	0.686	0.763	**	0.656	0.852	**
Week day	0.880	0.918		0.844	0.796	
Time: 12pm – 2pm	0.252	0.263		0.444	0.574	
Time: 5pm – 7pm	0.647	0.668		0.444	0.259	
Stop: Hospital	0.039	0.004	***	0.011	0	
Stop: Train station	0.249	0.336	**	0.178	0.111	
High education				0.389	0.296	
Unemployed				0.033	0.148	**
Household income <1,000 EUR				0.433	0.519	
Attitude toward risk: Concerned				0.544	0.352	**
Travels for pleasure				0.289	0.426	*
Occasional traveler				0.167	0.222	
Trip shorter than 30 minutes				0.222	0.519	***
Dissatisfied with bus service				0.644	0.463	**
Without alternatives to bus				0.6111	0.463	*
Already fined				0.356	0.685	***
Aware of others fined				0.667	0.870	***
Expected fine ≥50 EUR				0.375	0.173	**
Ticket inspection frequency ≥50 %				0.211	0.453	***
Non-holder frequency ≥75 %				0.299	0.404	
Beliefs:						
Estimate of maximum fine (EUR)				*46.612*	*41.869*	**
Ticket inspection frequency (%)				*26.211*	*37.302*	***
Non-holder frequency (%)				*57.828*	*63.442*	
Observations	309	232		90	54	

*Note: The "Test" column informs whether there is statistical evidence of inequality in the mean between passengers with ticket and passengers without ticket, according to a Wilcoxon rank-sum test; *** p<0.01, ** p<0.05, * p<0.1.*

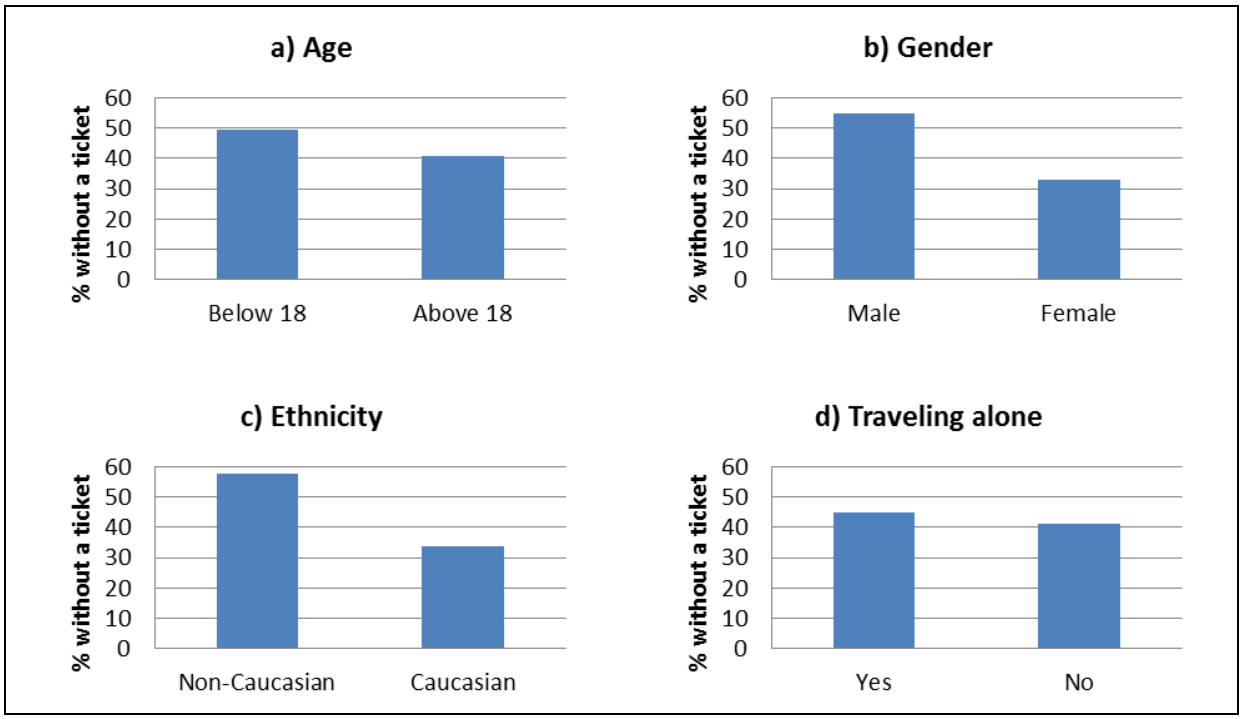
Table 2 is divided in two blocks, concerning respectively the full sample (541 observations) and the subsample of passengers completing the questionnaire (144 observations). Notice that we tried to randomly select the passengers for the questionnaire. However, this

subsample is slightly different from the overall sample. In particular, a Wilcoxon rank-sum test informs that, in the sub-sample of questionnaire respondents, passengers are more frequently in the lowest age range, male, not poorly dressed, and without luggage. These individuals were more likely to accept filling in the questionnaire.

Within each block, the third column informs on the outcome of a Wilcoxon rank-sum test comparing the equality of the mean value between passengers with and without a ticket. Several statistically significant differences emerge between the two groups: in particular people traveling without a valid ticket are more frequently male and non-Caucasian. Figure 1 shows the percentage of non-holders separately by some key characteristics of the sample. Indeed it seems that the behavior largely differs by gender and ethnicity, while differences are smaller by age class and absent if traveling alone or in group.

This evidence arises in both the full sample and the subsample. In the latter case, from the additional variables included in the questionnaire we learn that passengers without a ticket are more frequently taking a short trip, have been fined already, know other people that have been fined, and expect more frequent ticket inspections. In addition, they are more frequently unemployed, expect the fine to be lower, and declare to be less frequently risk averse.

Figure 1. Percentage of ticket holding by group



The bottom part of Table 2 (in Italics) reports the average beliefs of the subsample on some dimensions related to ticket inspections. Compared to ticket holders, fare evaders perceive the maximum fine to be lower (closer to the reality[7], possibly because they have been fined already), inspections to be more frequent[8] (farther from reality, possibly because they are aware they are not respecting the rules and for this reason they fear to be caught), and roughly the same

[7] According to the "Carta della Mobilità" published by the local public transportantion agency (ACT) the cost of the fine during the period under study was 42 Euro. See http://www.actre.it/main/doc/Carta_della_Mobilita.pdf.

[8] The local public transportation agency (ACT) does not release official estimates on the inspection frequency. The reason is that, according to the agency, such an estimate would provide undue information to the passengers and possibly increase the rate of fare evaders. However, combining some secondary information on the number of ticket inspectors in Reggio, 42 (see http://gazzettadireggio.gelocal.it/cronaca/2011/09/16/news/lotta-ai-portoghesi-piu-controllori-e-multe-triplicate-1.820610), with the total number of rides to be checked (151) we were able to come up with our own rough estimate. Assuming that: i) all inspectors work during the time slots in our study, and (ii) that all bus lines are inspected with equal probability, the frequency of inspections is 42/151 =27.8%. Interestingly, passengers' beliefs seem to be fairly accurate (especially in the case of ticket holders) even in the absence of public information on the frequency of controls!

proportion of passengers without ticket. Interestingly, beliefs are roughly in line with the actual figures, or with our finding that about one passenger out of two does not hold a valid ticket: bus passengers are probably in a privileged position to evaluate "from the inside" how many people are fare evaders.

This first exploratory analysis does not take into account the specific characteristics of passengers with and without a valid ticket. Our analysis in the remainder of the paper will consider all these characteristics jointly.

3.1. Profile of the fare evader

The purpose of this sub-section is to identify the characteristics of a fare evader, using the information that is immediately observable (gender, age class, ethnicity, etc.). We perform a probit regression analysis, where the dependent variable is equal to 1 if the passenger holds no valid ticket and 0 otherwise; we consider three different specifications, whose average marginal effects are reported in Table 3.

The regression in Column (1) includes dummy variables on the age class, gender, ethnicity, dressing (as a proxy for the social status), traveling with luggage (which impedes movements and may make it more difficult to be unnoticed), as well as control variables on the weather (warm, cold), the day (week day, Saturday), the time (rush hour or not) and the bus route. We find statistically significant effects (at least at the 5% level) on the relation between fare evasion and several explanatory variables: according to our estimates, holding no valid ticket is more likely when young, male, non-Caucasian, and poorly dressed. These effects are quantitatively large: if a teenager is 9.6% more likely to hold no ticket than an adult person, a retiree is 32.7% *less* likely to do so. In addition males are 16.2% more likely than females to

have no ticket, non-Caucasians are 16.1% more likely than Caucasians, and passengers with poor dressing are 26.6% more likely to hold no ticket than people with regular dressing.

Table 3. Ticket holding and observable characteristics (average marginal effects)

Method: probit regression	**(1)**	**(2)**	**(3)**
Age: below 18	0.096**	0.113**	0.110**
	(0.046)	(0.049)	(0.050)
Age: above 65	-0.327**	-0.307**	-0.301**
	(0.138)	(0.140)	(0.137)
Male	0.162***	0.149***	0.192***
	(0.039)	(0.039)	(0.046)
Non-Caucasian	0.161***	0.172***	0.169***
	(0.039)	(0.039)	(0.039)
With relatives		-0.207**	-0.196**
		(0.080)	(0.080)
Traveling with friends		-0.053	0.050
		(0.047)	(0.067)
Male traveling with friends			-0.244***
			(0.092)
Traveling with friends, time: 12pm – 2pm			-0.142
			(0.120)
Male traveling with friends, time: 12pm – 2pm			0.363**
			(0.150)
Poor dressing	0.266***	0.260***	0.243***
	(0.067)	(0.067)	(0.067)
With luggage	-0.091	-0.089	-0.093*
	(0.057)	(0.056)	(0.055)
Warm day	0.164***	0.172***	0.152***
	(0.050)	(0.050)	(0.050)
Week day	0.214**	0.223**	0.215**
	(0.100)	(0.100)	(0.100)
Time: 12pm – 2pm	-0.148	-0.173	-0.165
	(0.121)	(0.122)	(0.122)
Time: 5pm – 7pm	-0.152	-0.183	-0.170
	(0.131)	(0.132)	(0.132)
Stop: Hospital	-0.292	-0.335	-0.334
	(0.224)	(0.223)	(0.219)
Stop: Train station	0.110**	0.118**	0.104**
	(0.049)	(0.049)	(0.049)
Observations	541	541	541
Log-likelihood	-321.455	-317.862	-318.859
McFadden's R^2	0.130	0.140	0.137
Count R^2	0.686	0.677	0.669

Note: the dependent variable is equal to 1 if the individual holds no valid ticket and 0 otherwise. Standard errors in parentheses.
**** p<0.01, ** p<0.05, * p<0.1.*

Since various passengers are on the same bus at the same time, the social dimension of the evasion behavior may be important, at least within groups of people where everybody knows each other. The regression in Column (2) adds to the specification variables informing whether

the person is traveling alone or with other people (relatives or friends). It shows that holding no valid ticket is less likely (by 20.7%) when traveling with relatives, while it remains unchanged when traveling with friends. The other variables keep roughly unchanged compared to Column (1).

According to Column (2), peer effects then seem to be an important determinant for fare evasion. However, it is surprising that significant effect is found only among relatives, and not also among friends. One possible reason is that people feel ashamed to behave unethically in front of their relatives, whereas they exhibit more empathy with friends. In the regression of Column (3) we enrich the specification by considering a more detailed effect of traveling with friends. Specifically, we distinguish the cases where a male is traveling with friends, the group travels between 12pm and 2pm (passengers at that time are mainly students coming out from school), and a male is traveling with friends between 12pm and 2pm. In other words, we exploit a difference-in-difference approach on the persons traveling with friends, where the two differencing dimensions are gender and the time of traveling. A priori we expect higher fare evasion rates among groups of students – that is, those traveling between 12pm and 2pm (consistent with official statistics, see e.g. Bonfanti and Wagenknecht, 2010) and possibly especially among male students (males are more frequently fare evaders according to Columns 1 and 2 of Table 3). We find that holding no valid ticket is less likely if it is a male to travel with friends (-24.4%), and more likely if the male travels with friends between 12pm and 2pm (36.3%). These estimates partly confirm our expectations: there is statistically significant effect of traveling between 12pm and 2pm, but only for males and not also for females. We interpret it as a sort of “herd effect”: individual deviating behavior is strengthened in males by the group of peers. The effect is instead reverted when males travel with friends at different times, when there

may be more heterogeneity in the group composition. In this case, our guess is that males – "naturally" more inclined to travel without ticket – feel the peer pressure more than females. In a sense, females behave ethically by nature, whereas males need to stay in a group in order to behave ethically and this way make a good impression on their peers.

3.2. Beliefs of the fare evader

We conclude our analysis with a discussion of what emerges from the subsample of passengers who filled in the questionnaire. Table 4 reports the average marginal effects from a probit regression analysis of the same dependent variable as in Table 3 (a dummy equal to 1 if the passenger does not hold a valid ticket) on the variables in the questionnaire. Due to the limited size of the subsample, in this analysis we neglect the variables used in the regressions of Table 3. Including them, however, would not alter our conclusions.

The regression in Column (1) treats dummy variables on education, employment status, income level, and attitude toward risk. We find that holding no valid ticket is more likely if the passenger is unemployed (30.5%) and less likely if she is concerned toward risk (-16.2%). Both effects make intuitive sense. In contrast, there is no effect of either income or education.

The regression in Column (2) adds to the specification dummy variables on the type of passenger (for pleasure as opposed to business, occasional rather than frequent traveler, in the bus for less or more than 30 minutes, and without alternative transportation means) as well as her satisfaction with the bus service. The results in Column (1) are preserved, and in addition we find that holding no valid ticket is more likely (by 24%) when the trip in the bus is shorter than 30 minutes. Traveling for a short time seems a relevant predictor of the probability of holding no ticket.

Table 4. Ticket holding, passenger type and beliefs (average marginal effects)

Method: probit regression	**(1)**	**(2)**	**(3)**
High school or higher education	-0.076	-0.109	-0.116
	(0.081)	(0.079)	(0.080)
Unemployed	0.305**	0.313**	0.191
	(0.146)	(0.143)	(0.127)
Household income < 1,000 EUR	0.077	0.020	0.011
	(0.078)	(0.078)	(0.079)
Attitude toward risk: Concerned	-0.162**	-0.160**	-0.064
	(0.076)	(0.072)	(0.074)
Travels for pleasure		-0.011	-0.012
		(0.081)	(0.078)
Occasional traveler		0.020	0.204**
		(0.098)	(0.100)
Trip shorter than 30 minutes		0.240***	0.228***
		(0.068)	(0.067)
Without alternatives to bus		-0.128*	-0.030
		(0.073)	(0.075)
Dissatisfied with bus service		-0.140*	-0.115
		(0.075)	(0.074)
Already fined			0.104
			(0.073)
Aware of others fined			0.326***
			(0.119)
Expected fine ≥50 EUR			-0.137*
			(0.079)
Ticket inspection frequency ≥50 %			0.214***
			(0.073)
Non-holder frequency ≥75 %			0.041
			(0.080)
Observations	144	144	128
Log-likelihood	-89.310	-79.496	-59.064
McFadden's R^2	0.063	0.166	0.310
Count R^2	0.653	0.701	0.767

Note: the dependent variable is equal to 1 if the individual holds no valid ticket and 0 otherwise. Standard errors in parentheses.
**** p<0.01, ** p<0.05, * p<0.1.*

Finally, Column (3) adds to the specification dummy variables on the passenger's history with fines (whether she has already been fined, whether she knows other fined passengers) and her beliefs on the maximum fine amount and inspections: specifically, we consider dummy variables indicating whether the fine is expected to be higher than 50 euros, whether ticket inspections arise in more than 50% of the rides, and whether the percentage of passengers without a ticket is above 75%. The thresholds (50 euros, 50%, 75%) were chosen to roughly isolate the 25% of the subsample passengers reporting high beliefs. With this specification, the effects of unemployment and risk aversion vanish. While it remains strongly significant the

effect of having a short trip in the bus – to confirm that it is an important predictor of fare evasion – we now find an effect significant at 5% also for being an occasional traveler (by 20.4%, which makes sense), and for being aware of other people fined (by 32.6%). This suggests that people tend to spend their time with other people taking similar behavior (evaders tend to stay with other evaders). Importantly, we find no effect of the beliefs regarding either the fine amount, or the percentage of other people fined; in contrast, holding no ticket is more likely when the passenger believes ticket inspections arise in more than 50% of the rides. This is somewhat surprisingly, and our interpretation is the following: fare evaders have an upward-biased belief on the frequency of ticket inspections, because they fear ticket inspectors will come and control their tickets.

4. Discussion

Our analysis sheds new light on the personal characteristics that affect unethical behavior. We find that younger, male and non-Caucasian individuals are more likely to travel without a ticket. Moreover, we find evidence of group effects: while traveling with relatives increases the probability to hold a valid ticket, traveling with friends has no bearings on unethical behavior – except for males and the time when most passengers are students. Other characteristics of the person (having an occupation, being concerned toward risk, interacting with people that have already been fined for the lack of a valid ticket) and the passenger (taking short trips, being an occasional traveler) are also significant in determining the probability to hold a valid ticket. Finally, we find that all passengers' beliefs on fine costs, ticket inspection frequency, and number of passengers without ticket are surprisingly close with actual figures. However, those who travel without ticket perceive inspections as more frequent than those traveling with a valid ticket.

Our analysis contributes to have a clearer picture of unethical behavior and help future research to avoid biased estimates of the treatment effect they measure. Moreover, this study draws a picture of cheating in this context and in a specific town. These findings can be used as a starting point to design policy interventions (moral reminders, peer pressure, fare increases, etc.), to measure the effect of these interventions on fare evasions and to see who is more prone to specific interventions.

This is just a first step in our research agenda. In future research it would be interesting to relate observations on actual evasion behavior with data on hypothetical evasion questions. For instance in 2004 the Italian Survey of Household Income and Wealth (SHIW) asked a question on the extent to which it is considered justifiable (in a scale from 1 to 10) "not paying for your ticket on public transport." From the data it emerged that 54.3% of the individuals considered it never justifiable, while young and poorly educated individuals were more likely to consider morally acceptable to travel without a ticket. This is partly in contrast with our findings on actual evasion behavior that, for instance, suggest a strong gender effect. One could then see if those who declare to be against evasion actually evade once they have the opportunity to do so. In other words … do as I say, not as I do.

References

Ariely, D. (2012). The honest truth about dishonesty: how we lie to everyone - especially ourselves. New York: HarperCollins.

Association of Certified Fraud Examiners (2008). Report to the nation on occupational fraud and abuse. Available at http://www.acfe.com/uploadedFiles/ACFE_Website/Content/documents/2008-rttn.pdf.

Bonfanti, G., Wagenknecht, T. (2010). Human factors reduce aggression and fare evasion. Public Transport International 59, 28-32.

Del Monte, A., Papagni, E. (2007). The determinants of corruption in Italy: regional panel data analysis. European Journal of Political Economy 23, 379-396.

Gino, F., Ayal, S., Ariely, D. (2009). Contagion and differentiation in unethical behavior: the effect of one bad apple on the barrel. Psychological Science 20, 393-398.

Gino, F., Galinsky, A. (2011). Understanding ethical behavior in organizations: insights from social psychology and the PIDER principle. Mimeo.

Gneezy, U. (2005). Deception: the role of consequences. American Economic Review 95, 384-394.

Graham, C., Litan, R.E., Sukhtankar, S. (2002). The bigger they are, the harder they fall: an estimate of the costs of the crisis in corporate governance. The Brookings Institution Working Paper, July 22 2002.

Greene, J. D., Paxton, J.M. (2009). Patterns of neural activity associated with honest and dishonest moral decisions. Proceedings of the National Academy of Sciences 106, 12506-12511.

Houser, D., Vetter, S., Winter, J.K. (2011). Fairness and cheating. GMU Working Paper in Economics 11-02.

Mazar, N., Ariely, D. (2006). Dishonesty in everyday life and its policy implications. Journal of Public Policy and Marketing 25, 117-126.

Mazar, N., Amir, O., Ariely, D. (2008). The dishonesty of honest people: a theory of self-concept maintenance. Journal of Marketing Research 45, 633-644.

Sabatini, F. (2007). Un atlante del capitale sociale italiano. QA, Rivista dell'Associazione Rossi Doria 1/2007, 41-73.

Shu, L., Mazar, N., Gino, F., Ariely, D., Bazerman, M. (2012). Signing at the beginning makes ethics salient and decreases dishonest self-reports in comparison to signing at the end. Proceedings of the National Academy of Sciences, Forthcoming.

Slemrod, J. (2007). Cheating ourselves: the economics of tax evasion. The Journal of Economic Perspectives 21, 25-48.