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Social Norm Perception in Economic Laboratory Experiments: Inexperienced versus Experienced Participants

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Abstract

We study whether social norm perception in economic laboratory experiments differs between subjects that participate for the first time and subjects that already participated many times. Consistent with previous studies, inexperienced subjects pronounce egalitarianism, while experienced subjects pronounce efficiency and the maximization of their own earnings. Moreover, experienced subjects evaluate exploitation and deception of other individuals in the lab as more appropriate than inexperienced subjects. Field norms also slightly differ between the two groups, but to a lower extent than lab norms. We therefore conclude that learning effects are more important than selection effects for explaining differences between inexperienced and experienced participants. We also conduct exploratory analyses on the relation between lab and field norms and find that behaving unsocial in the lab is considered substantially more appropriate than in the field. This appears inconsistent with the hypothesis that social preferences measured in economic experiments are inflated and indicates a distinction between revealed social preferences and the elicitation of normatively appropriate behavior.

Keywords: Laboratory experiments, selection effects, learning, generalizability, methodology

JEL: B40, C90, C91

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1. Introduction

Economic research makes extensive use of laboratory experiments for studying individual behavior in a controlled environment. Since the 1980´s, the share of experimental studies published in general interest journals has risen continuously (Falk and Heckman 2009). By now, lab experiments are an important source to inform economic theory and public policy (Nikiforakis and Slonim 2015). However, methodological limitations of lab experiments, such as the generalizability from the lab to the field, are regularly discussed (e.g. Dana et al. 2007, Levitt and List 2007, 2008; Zizzo 2010; Galizzi and Navarro-Martínez 2018).

Recently, more specific methodological aspects have come to discussion, for example the representativeness of registered students for the underlying student population (Eckel and Grossman 2000, Cleave et al. 2013, Slonim et al. 2013; Falk et al. 2013; Abeler and Nosenzo 2015). Another strand of literature examines whether participants behave differently depending on the number of participations (Matthey and Regner 2013, Benndorf et al. 2017). In this study, we contribute to these literatures by examining two questions. First, using coordination games (Krupka and Weber 2013), we test whether social norm perception differs between inexperienced and experienced participants in lab experiments. Second, comparing differences between the two groups both for the lab and the field context, we investigate whether potential differences in "lab norms" are more likely to result from learning or from selection effects (or both).

We find that social norm perception regarding behavior in the lab strongly differs between inexperienced and experienced participants. In allocation decisions, inexperienced subjects pronounce egalitarianism, while experienced subjects pronounce efficiency and the maximization of their own earnings. Moreover, experienced subjects consider exploitation and deception as more appropriate than inexperienced participants in the lab context. Field norms also slightly differ, as selfishness in daily life is considered to be more appropriate by experienced subjects. This finding is consistent with studies suggesting that selection effects through drop-out lead to an over proportionally large share of selfish individuals in the subject pool (Casari et al. 2007, Guillén and Veszteg 2012). Finally, we find slight differences on how subjects perceive the relation between the lab context and the context of daily life which are consistent with the previously mentioned differences. However, the subjects´ choices also imply that both inexperienced and experienced subjects perceive only a rather loose link between behavior in the lab and the field.

Although it is not the focus of the study, we also contribute to the discussion about the generalizability of lab experiments by conducting exploratory analyses on whether norm

perception in the lab corresponds to norm perception in the field. We find that, independent from the degree of experience, norm perception between the lab and the field is correlated. However, using the same items to evaluate unsocial behaviors, once framed to the lab context and once framed to the context of daily life, shows that these contexts differ substantially. Specifically, behaving unsocial is considered significantly more appropriate in the lab than in the field. This appears inconsistent with the hypothesis that social preferences measured in economic experiments are inflated (e.g. Levitt and List 2007) and indicates a distinction between revealed social preferences and the elicitation of normatively appropriate behavior using coordination games.

2. Related Literature and Hypotheses

2.1. Related Literature

Our paper relates to studies which examine selection effects associated with recruitment to lab experiments. Two types of selection effects need to be distinguished in that regard: selection *into* the subject pool and selection *out of* the subject pool. Selection into the subject pool results if subjects with specific characteristics have a higher probability to enter the subject pool through registration.[1] Selection out of the subject pool results if registered subjects with specific characteristics vary with the probability to drop-out after having participated once. In our study, we contribute to the topic of selection *out of* the subject pool.

For example, Casari et al. (2007) find that subjects are more likely to participate in a follow-up study the more successful they were in monetary terms in a previous experiment. Similarly, Guillén and Veszteg (2012) find that earnings in previous experiments positively correlate with the probability to participate in future experiments. Thus, it has been hypothesized that more selfish subjects, who consequently earn more money in experiments, are more likely regularly participate. As a result, common subject pools might contain overproportionally large shares of selfish individuals.

Another literature related to our study examines differences between inexperienced and experienced participants. Matthey and Regner (2013) use data about participants´ behavior in previously conducted dictator games, ultimatum games and trust games and find that the number of participations is negatively correlated with sharing behavior in all three games. Based on post-

[1] The evidence regarding selection into the subject pool is mixed. While Eckel and Grossman (2000), Cleave et al. (2013) and Slonim et al. (2013) identify differences in social preferences between registred and non-registred subjects, Falk et al. (2013) and Abeler and Nosenzo (2015) do not identify differences.

experimental questionnaires, they conclude that repeated participation in experiments involving allocation decisions leads to learning effects through negative experiences. Benndorf et al. (2017) directly test for behavioral differences between participants with extensive lab experience and first-time participants across four one-shot, two-player games (trust game, beauty contest, ultimatum game and traveler's dilemma) and two individual decisions (lying task and risk preferences). In the trust game, experienced subjects trust less often and they also behave significantly more selfish as second movers. In the risk elicitation tasks, experienced participants submit fewer non-monotonic strategies. The authors also document a recruitment bias as the share of inexperienced subjects was lower in early recruitment waves.

2.2. Hypotheses

In this experiment we elicit social norm perception both for the context of participation in a lab experiment and for the context of daily life. Based on the results from Matthey and Regner (2013) and Benndorf et al. (2017), which identify that behavior in the lab is related to experience, we hypothesize that this relationship is also reflected in social norm perception.

***Hypothesis 1*:** The perception of social norms for the context of lab experiments differs between inexperienced and experienced participants.

Regarding real world norms, we again test the hypothesis that inexperienced and experienced participants differ. This hypothesis follows the idea that selection effects lead to an overproportionally large share of selfish participants in the subject pool, as suggested by the literature on selection effects that result from drop-out. Differences in field norms would thus indicate that selection explains potential differences in lab norms between inexperienced and experienced participants. By contrast, little or no differences in field norms would support the hypothesis that potential differences mainly result from learning. Of course, it is also possible that both effects appear simultaneously.

***Hypothesis 2*:** The perception of social norms for the context of daily life differs between inexperienced and experienced participants.

3. Experimental Design and Procedures

3.1. Experimental Design

Conceptually, the experiment was divided into three parts: Social norm perception in allocation decisions in the lab (module 1 and 2), the evaluation of unsocial behaviors in the lab and in daily

life (module 3 and 4) and perceptions about the representativeness of behavior in the lab for behavior in the field (module 5). Each module contained five items and we used coordination games to measure social norm perception throughout the whole experiment (Krupka and Weber 2013). That is, in each item subjects were asked a question and had to coordinate on one of four answer possibilities. At the end of the experiment, one of the 25 items was selected at random. If a subject´s answer in that item matched the modal choice in the current session, the subject received an additional payment of €10. Otherwise, the participant received no additional payment.[2]

Allocation decisions in the laboratory. We elicited *injunctive* social norms (module 1) and *descriptive* social norms (module 2) in a series of hypothetical allocation decisions. Injunctive norms indicate what is perceived as socially appropriate behavior in a specific situation, while descriptive norms refer to what is perceived as the prevalent behavior in a specific situation (Cialdini et al., 1990).[3] We used five mini-dictator games and instructed subjects to imagine that these allocation decisions would be used in an actual lab experiment. To this end, subjects learned the ordinary rules of the classical dictator game paradigm used in economic lab experiments.[4] We calibrated the mini-dictator games such that they allow differentiating between competing distributional motives: efficiency, egalitarianism and profit maximization. Table 1 shows the five hypothetical mini-dictator games and how the choices correspond to the distributional motives.

Table 1. Hypothetical mini-dictator games used in module 1 and 2.

	Option 1		Option 2		Distributive motives		
	Dictator	Recipient	Dictator	Recipient	Efficiency	Egalitarianism	Profit
Game 1	€ 15	€ 5	€ 11	€ 11	Option 2	Option 2	Option 1
Game 2	€ 10	€ 10	€ 10	€ 15	Option 2	Option 1	-
Game 3	€ 15	€ 5	€ 9	€ 9	Option 1	Option 2	Option 1
Game 4	€ 10	€ 9	€ 9	€ 11	Option 2	Option 1	Option 1
Game 5	€ 12	€ 8	€ 10	€ 10	-	Option 2	Option 1

[2] We took care to make sure that subjects understood the mechanism by reminding them before each item that their task is not to state their own opinion, but to coordinate with the remaining participants in the room.

[3] Cialdini et al. (1990) refer to injunctive norms as “norms of ought" norms and to descriptive norms as “norms of is”. Bicchieri and Xiao (2009) find that empirical expectations better perform in predicting norm conform behaviour than normative expectations.

[4] We explained each step of the classical dictator game (anonymity, randomization of roles, matching, decision rights and payout function) in detail, in order to make sure that subjects understood the rules. We used the term „Player A“ for the dictator and „Player B“ for the recipient, when explaining the rules of the game.

For the elicitation of injunctive social norms in module 1, we asked subjects for each of the five decisions, *how appropriate it would be, to choose option 1* in the role of the dictator (note that option 1 maximizes the dictator´s payoff). Subjects then had to coordinate on one of the four answer possibilities: "very appropriate", "somewhat appropriate", "somewhat inappropriate" or "very inappropriate". For the elicitation of descriptive social norms in module 2, we used the same dictator games and asked for each decision *which of the two options would be chosen more often* by participants in the role of dictator. Subjects then had to coordinate on the following answer possibilities: "option 1 much more often", "option 1 somewhat more often", "option 2 somewhat more often" or "option 2 much more often".

Evaluation of unsocial behaviors. We studied social norm perception in the lab and in the field by eliciting injunctive social norms regarding a series of unsocial behaviors: selfishness, exploitation, spitefulness, deception and (willful) ignorance. For that sake, we confronted subjects with the statement that a particular behavior would be appropriate and had subjects then coordinate on the degree of consent with the respective statement. Precisely, subjects could choose between: "fully agree", "somewhat agree", "somewhat disagree" or "fully disagree". We used the identical set of items and framed them to the lab context in module 3 and to the field context in module 4. Table 2 shows the statements we used in the two modules.

Table 2. Items used in modules 3 and 4.

As a participant in a laboratory experiment, it is appropriate to … / In daily life, it is appropriate to …
1) … mainly consider the own well-being.
2) … take advantage of other subjects, when this leads to a material advantage for one-self.
3) … harm other subjects, even when this is does not lead to a material advantage for one-self.
4) … deceive other subjects, in order to materially gain from it.
5) … ignore the consequences that the own decisions have on other people.

Notes: The wording "As a participant in an experiment, it is appropriate to…" was used in module 3 and the wording "In daily life, it is appropriate to…" was used in module 4.

Relation between the laboratory and the real world. In module 5, we elicited perceptions about the representativeness of behavior in the lab for behavior in daily life. Again, we confronted subjects with a set of statements and had them coordinate on the degree of consent. Table 3 contains the items we used in module 5.

Table 3. Items used in module 5.

1. As a participant in an experiment I have **the same** moral standards regarding my own behavior as in daily life.
2. As a participant in an experiment I have **the same** moral standards regarding the behavior of others as in daily life.
3. Selfishness in the lab is **not the same** as selfishness in daily life.
4. Social norms in the laboratory are **not the same** as social norms in daily life.
5. My behavior as a participant in an experiment is **representative** for my behavior in daily life.

Notes: In the experiment, none of the words were printed boldly. The bold print here is to illustrate which of the statements are affirmations (suggesting similarity between the two contexts) and which of the statements are negations (suggesting dissimilarity between the two contexts).

Order of modules. To mitigate order effects, we varied the order of modules as well as the order of items within modules. Moreover, we avoid that those modules which are subject to comparison (module 1 and 2; module 3 and 4) appear consecutively, in order to reduce spillover effects between modules. Also, we elicit norms of daily life always at last in order to avoid priming field context before eliciting perceptions about the lab context. We test for order effects and do not find an interaction between the different order variants and the subjects´ choices.

3.2. Procedures

We conducted sessions either only with inexperienced subjects (no prior participations according to our recruitment data base) or only with experienced subjects (at least 10 participations).[5] In total, we recruited 82 inexperienced subjects and 68 experienced subjects. From the 82 inexperienced participants, 9 were excluded from the analysis because they stated in a post-experimental questionnaire that they already participated in at least one economic or psychological lab experiment before. Thus, 73 inexperienced and 68 experienced subjects remained in the analysis, leaving us with a total *N* of 141 observations and fairly balanced sample sizes for the two groups. The experiment was programmed in z-Tree (Fischbacher 2007), recruitment was done via hroot (Bock et al., 2014) and the sessions were conducted at the experimental lab of a major German university between November 2016 and May 2017. A typical session lasted for about 35 minutes and subjects earned on average about €10.30 including a show-up fee of €3.

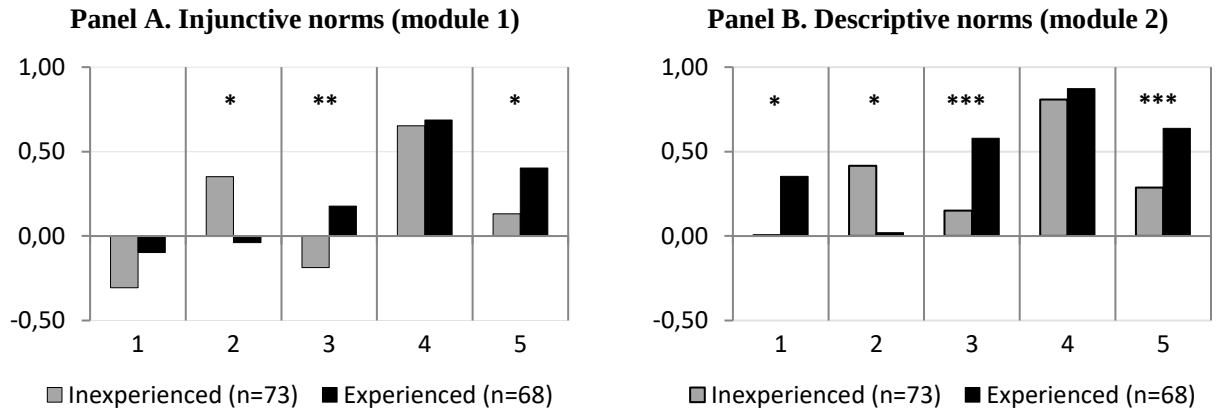
[5] The same classification with regard to distinguishing inexperienced and experienced participants has been applied by Benndorf et al. (2017).

4. Results

4.1. Allocation Decisions in the Laboratory

To analyze module 1 and 2, we quantify the answers such that the resulting scores are normalized between -1 and 1.[6] The more positive (negative) the score in module 1, the more appropriate (inappropriate) it is considered to choose option 1 in the respective decision. The more positive (negative) the score in module 2, the more common choosing option 1 (option 2) is considered in the respective decision. Figure 1 shows that inexperienced and experienced subjects differ both with respect to injunctive norms and descriptive norms in most of the allocation decisions, with the latter diverging stronger.

Figure 1. Injunctiv and descriptive social norms in the mini-dictator games.



Notes: *, **, *** indicates significance at the 10%, 5%, and 1% level; two-sided MWU-tests. The mini-dictator games are: 1. (€15,€5) vs. (€11,€11), 2. (€10,€10) vs. (€10,€15), 3. (€15,€5) vs. (€9,€9), 4. (€10,€9) vs. (€9,€11), 5. (€12,€8) vs. (€10,€10).

We further analyze the distributive motives reflected in norm perception. To this end, we derive scores that represent the relative importance of efficiency, egalitarianism and profit maximization (cf. experimental design) on the individual level and run regression analyses (table 4). The results show that experience is systematically related to the analyzed motives. Consistent with Matthey and Regner (2013) and Benndorf et al. (2017), inexperienced subjects pronounce egalitarianism, while experienced subjects pronounce efficiency and profit orientation. The idea

[6] For injunctive norms in module 1, we quantify the answers as follows: 1 = ”very socially appropriate”, 1/3 = ”somewhat socially appropriate”, -1/3 = “somewhat socially inappropriate”, -1 = “very socially inappropriate”. For descriptive norms in module 2, we quantify the answers as follows: 1 = “option 1 much more often”, 1/3 = “option 1 somewhat more often”, -1/3 = “option 2 somewhat more often”, -1 = “option 2 much more often”. The same scoring has been used by Krupka and Weber (2013) to quantify the options.

that sharing behavior is less important for experienced participants is especially demonstrated by the differences in item 5 (see figure 1), as efficiency is held constant between the two options in that item. The results from module 1 and 2 thus support hypothesis 1.

Result 1: Inexperienced and experienced participants differ with respect to both injunctive and descriptive social norm perception in allocation decisions. Consistent with previous studies, egalitarianism is more pronounced in inexperienced subjects while experienced subjects pronounce efficiency and profit orientation.

Table 4. Regression analysis on distributive motives.

	Injunctive social norms			Descriptive social norms		
	Efficiency	Egalitarianism	Profit maximization	Efficiency	Egalitarianism	Profit maximization
Experience	0.081**	-0.194***	0.152***	0.075**	-0.272***	0.210***
	(0.039)	(0.063)	(0.057)	(0.034)	(0.062)	(0.064)
Constant	-0.113	0.376**	-0.095	-0.137*	0.038	0.173
	(0.092)	(0.146)	(0.133)	(0.079)	(0.146)	(0.150)
# Obs.	141	141	141	141	141	141

Notes: OLS-regressions. *, **, *** indicates significance at the 10%, 5%, and 1% level; standard errors in parentheses. Experience represents a dummy variable which indicates that a subject participated in a session where only experienced subjects were recruited. Controls are gender, age and field of study. As robustness check, we use Tobit models and find the same results.

4.2. Evaluation of Unsocial Behaviors

To analyze module 3 and 4, we again quantify the answers such that the resulting scores are normalized between -1 and 1.[7] The more positive (negative) the score, the stronger subjects agree (disagree) with the respective statement. Table 5 shows regression analyses on how subjects evaluate unsocial behavior in the lab context. The results show that for experienced subjects it is significantly more appropriate to exploit and deceive other participants within the lab context. These differences further support hypothesis 1.

Result 2: For experienced subjects, it is more appropriate to exploit and to deceive other participants in the laboratory than it is for inexperienced subjects.

[7] We quantify the answers as follows: 1 = ”fully agree”, 1/3 = ”somewhat agree”, -1/3 = “somewhat disagree”, -1 = “fully disagree”.

Table 5. Regression analysis on behavior in the lab.

	Selfishness	Exploitation	Spitefulness	Deception	Ignorance
Experience	0.067	0.319***	-0.005	0.308***	-0.022
	(0.096)	(0.096)	(0.0780)	(0.094)	(0.095)
Constant	0.294	-0.414*	-0.899***	-0.081	-0.383*
	(0.225)	(0.224)	(0.182)	(0.220)	(0.223)
# Obs.	141	141	141	141	141

Notes: OLS-regressions. *, **, *** indicates significance at the 10%, 5%, and 1% level; standard errors in parentheses. Regressions are ran on the degree of consent that the respective behavior is considered to be an appropriate behavior in the lab context. Experience represents a dummy variable which indicates that a subject participated in a session where only experienced subjects were recruited. Controls are gender, age and field of study. As robustness check, we use Tobit models and find the same results.

Compared to norms in the laboratory, real world norms are more homogenous, as can be seen in Table 6. Inexperienced and experienced subjects marginally differ with respect to selfishness, while the other items do not differ between the two groups. This indicates support for hypothesis 2.

Result 3: For experienced subjects, selfishness is somewhat more appropriate in daily life than for inexperienced subjects. However, field norms differ much less between inexperienced and experienced subjects than lab norms.

Table 6. Regression analysis on behavior in the field.

	Selfishness	Exploitation	Spitefulness	Deception	Ignorance
Experience	0.165*	0.079	0.006	-0.056	0.075
	(0.087)	(0.078)	(0.047)	(0.072)	(0.071)
Constant	-0.473**	-0.525***	-0.937***	-0.520***	-0.642***
	(0.203)	(0.183)	(0.110)	(0.167)	(0.166)
# Obs.	141	141	141	141	141

Notes: OLS-regressions. *, **, *** indicates significance at the 10%, 5%, and 1% level; standard errors in parentheses. Regressions are ran on the degree of consent that the respective behavior is considered to be appropriate in the context of daily life. Controls are gender, age and field of study. As robustness check, we use Tobit models and find the same results.

4.3. Relation between the Laboratory and the Real World

In the last module, we directly ask subjects to evaluate the relation between behavior in the lab and the field. Table 7 shows regression analyses on the degree of consent with the items.[8] Overall, we find only slight differences between the two groups. However, the results indicate that the subjects´

[8] Normalization is done using the same scoring as in modules 3 and 4. That is, the more positive (negative) a score, the stronger subjects agree (disagree) with the respective statement.

degree of experience correlates with the perception that subjects have *not* the same moral standards regarding the *own* behavior in an economic experiment as in daily life, which is consistent with the finding that experienced subjects perceive it as more appropriate to exploit and to deceive other participants in lab experiments.

Table 7. Regression analysis on perception about relation between lab and field.

	Agreement with statements				
	Item 1 (+)	Item 2 (+)	Item 3 (-)	Item 4 (-)	Item 5 (+)
Experience	-0.165**	-0.011	-0.125	0.007	-0.076
	(0.082)	(0.086)	(0.090)	(0.090)	(0.083)
Constant	0.204	-0.040	0.314	0.225	-0.273
	(0.190)	(0.200)	(0.211)	(0.210)	(0.194)
# Obs.	141	141	141	141	141

Notes: OLS-regressions. *, **, *** indicates significance at the 10%, 5%, and 1% level; standard errors in parentheses. Regressions are ran on the degree of consent that the respective behavior is considered to be appropriate in the context of daily life. Experience represents a dummy variable which indicates that a subject participated in a session where only experienced subjects were recruited. Controls are gender, age and field of study. The (+) and (-) indicate whether the statements constitute affirmations (implying similarity between the lab and field) or negations (implying dissimilarity between the lab and field). As robustness check, we use Tobit models and find the same results.

Looking at the absolute values of consent with the statements (table 8) indicates that subjects are rather neutral regarding those statements that suggest *similarity* between the two contexts (items 1, 2 and 5), while they do rather agree with the two statements that imply *dissimilarity* between the two contexts (items 3 and 4). This indicates that subjects perceive a rather loose link between the two contexts. Interestingly, this rather loose link between the two contexts already exists in inexperienced subjects and it persists in experienced subjects.

Table 8. Degree of consent regarding statement about link between lab and field.

	Item 1 (+)	Item 2 (+)	Item 3 (-)	Item 4 (-)	Item 5 (+)
Inexperienced	0.17***	0.00	0.45***	0.28***	-0.07
Experienced	0.01	-0.02	0.33***	0.29***	-0.12**
All subjects	0,09**	-0,01	0,39***	0,28***	-0,09**

Notes: Normalization is done using the same scoring as above, i.e. the more positive (negative) the score, the more subjects agree (disagree) with a statement. The "+" and "-" in the brackets state whether the item suggests similarity (+) or dissimilarity (-) between the two contexts. *, **, *** indicates significance at the 10%, 5%, and 1% level; two-sided t-tests against zero.

Result 4: Inexperienced and experienced participants slightly differ regarding the evaluation of the relation between the lab and the field. Moreover, independent from the degree of experience, the subjects perceive the link between behaviors in the two contexts to be rather loose.

5. Exploratory Analyses

5.1. Generalizability of Lab Norms

Our experiment was designed to examine how two groups, i.e. inexperienced and experienced subjects, differ in a range of items. Thus, we conducted a series of comparisons between the two groups, while it was not the primary interest of the study to compare behavior between items. However, our data allows to contribute to the discussion on the generalizability of lab experiments, by examining whether social norm perception in the lab (module 3) corresponds to social norm perception in the field (module 4). Remember that we used the exact same items in these modules, once framed to the lab and once framed to the field. Holding the content of the item fixed and varying the context thus allows isolating the effect of the context on normative evaluations regarding the behaviors described in the items.

We start by conducting correlation analysis between norm perception in the lab and the field context. Table 9 shows that correlations of norm perception in the two contexts are positive and mainly significant.

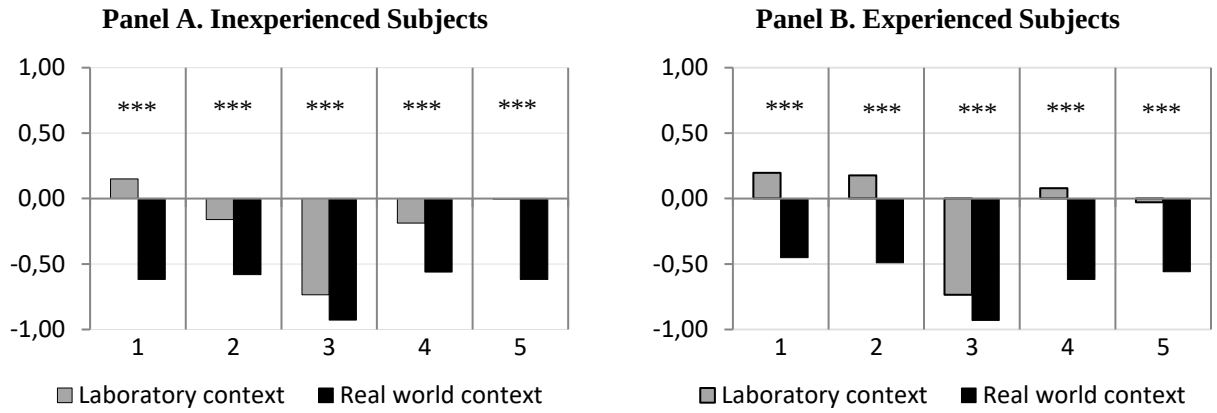
Table 9. Correlations between laboratory and field norms.

	Selfishness	Exploitation	Spitefulness	Deception	Ignorance
Inexperienced	0.2064*	0.3116***	0.4103***	0.1740	0.2581**
Experienced	0.1398	0.1461	0.6060***	0.2561**	0.0796
All subjects	0.1775**	0.2654***	0.4951***	0.1877**	0.1721**

Figure 2 shows comparison of social norm perception between the two contexts. The comparisons indicate that perceptions about the appropriateness of the unsocial behaviors described in the items differ substantially between the two contexts and this applies independent from the degree of experience. This finding is consistent with the results concerning the relationship between the lab and the field from module 5 (see table 8) in two ways. First, it corresponds to the result that subjects perceive the representativeness of lab behavior for field behavior to be rather loose. Second, the differences between the two contexts are observed independent from the degree

of experience. That is, inexperienced subjects that have not yet participated in lab experiments already hold this prior, and the perception persists when subjects participate repeatedly.

Figure 2. Social norm perception in lab context versus field context.



Notes: The behaviors described in the items are: 1. selfishness, 2. exploitation, 3. spitefulness, 4. deception and 5. ignorance. The bars represent the degree of consent with the statement that a particular behavior is considered to be an appropriate behavior in the respective context. *, **, *** indicates significance at the 10%, 5%, and 1% level; two-sided MWU-tests.

5.2. Socio-Demographics: Age, Gender and Field of Study

Throughout all analyses, we control for age, gender and field of study (see appendix A1 to A4 for the complete regression tables on the control variables). We find that the differences in all blocks between inexperienced and experienced participants are fully independent from differences in age after controlling for experience. However, we identify some interesting relations regarding gender and field of study. Consistent with previous studies on gender effects in dictator game giving (e.g. Eckel and Grossman, 1998; Andreoni and Vesterlund, 2001), female subjects are significantly more guided by egalitarianism and significantly less guided by efficiency in experimental allocation tasks, than male subjects. However, females consider it to be more appropriate to ignore the consequences that the own decisions have on other people in a lab experiment. Second, economics students consider several unsocial behaviors (exploitation, deception, spitefulness) in the laboratory context as more appropriate, than non-economist students. These differences, however, only refer to norm perception in the laboratory context. Regarding norm perception in the field context, all sub-group differences vanish.

6. Summary and Conclusion

We compare social norm perception of inexperienced and experienced participants in economic laboratory experiments using the Krupka and Weber (2013) approach. We find that the two groups differ both with respect to perceptions about socially appropriate behavior (injunctive norms) and to perceptions about prevalent behavior (descriptive norms) in allocation decisions in the lab, with the latter differing more strongly. Consistent with Matthey and Regner (2013) and Benndorf et al. (2017), egalitarianism is more pronounced in norm perception of inexperienced subjects, while efficiency and profit maximization dominate in experienced subjects. We complement these results by the finding that experienced subjects evaluate exploitation and deception of other participants in the lab to be more appropriate than inexperienced subject do.

We also compare norm perceptions for the context of daily life and find that these also slightly differ between the two groups. Precisely, experienced subjects, consider selfishness in daily life to be more appropriate than inexperienced subjects do. This finding is consistent with studies suggesting that selection effects though drop-out lead to an overproportionally large share of selfish individuals in the subject pool (Casari et al. 2007, Guillén and Veszteg 2012). Moreover, the perception about how the lab context relates to the field context also differs, as experienced subjects are more prone to state that they do not have the same moral standards regarding their own behavior in an economic laboratory experiment as in daily life. This is consistent with our result that experienced subjects consider it more appropriate to exploit and deceive other individuals in the lab context.

Finally, we conduct exploratory analyses in order to contribute to the debate about the generalizability of findings from the lab to the real world by comparing social norm perception between the two contexts. We find that norm perception between the two contexts is correlated. However, independent from the degree of experience, behaving unsocially in the lab is considered significantly more appropriate than in the real world. This finding stands in contrast with the hypothesis, that social preferences measured in the lab are inflated (e. g. Levitt and List 2007) and indicates a distinction between revealed social preferences and the elicitation of normatively appropriate behavior using coordination games. Consistent with this divergence, the subjects´ evaluations about how two contexts are related to each other suggest a rather loose link, again independent from the degree of experience.

Our study contributes to the literature in two ways. First, we show that not only social preferences are related to the number of participations, but that also social norm perception, which

potentially mediates the differences in behavior, is different between subjects with varying degrees of experience. Second, our results suggest that both selection effects and learning lead to the observed differences. However, the fact that lab norms differ more strongly than field norms indicates that learning about the specific lab environment is more important than selection for explaining the differences. For a conclusive analysis of the relative importance of learning and selection, however, further research is necessary. For that sake, it might make sense to especially compare field behavior in a more comprehensive way.

Our results corroborate the idea that, when conducting economic laboratory experiments, the degree of experience of participants in the lab needs to be taken care of. However, it is difficult to explicitly control for the number of participations, as the rules of privacy protection within most recruiting systems prohibit matching any participant characteristic from the data base with the data generated in the experiment. Alternatively, subjects could simply be asked to state the number of previous participations, such as they are asked to state their age or gender, but this will obviously yield a noisy measure. We therefore conclude, that it is essential to make sure that "experience" is properly randomized between treatments. To ensure this, however, the recruitment bias identified by Benndorf et al. (2017), i.e. that the share of inexperienced subjects tends to be lower in early recruitment waves, needs to be considered.

Appendix

A1. Complete regression analysis on distributive motives with controls

Table 10. Regression analysis on distributive motives.

	Injunctive social norms			**Descriptive social norms**		
	Efficiency	Egalitarianism	Profit maximization	Efficiency	Egalitarianism	Profit maximization
Experience	0.081**	-0.194***	0.152***	0.075**	-0.272***	0.210***
	(0.039)	(0.063)	(0.057)	(0.034)	(0.062)	(0.064)
Age	0.000	-0.007	0.006	-0.002	0.001	0.005
	(0.004)	(0.006)	(0.005)	(0.003)	(0.006)	(0.006)
Female	-0.127***	0.112*	0.010	-0.078**	0.156**	-0.058
	(0.039)	(0.062)	(0.056)	(0.034)	(0.062)	(0.064)
Economics	0.028	-0.082	0.028	0.026	-0.034	0.018
	(0.039)	(0.062)	(0.056)	(0.034)	(0.062)	(0.064)
Constant	-0.113	0.376**	-0.095	-0.137*	0.038	0.173
	(0.092)	(0.146)	(0.133)	(0.079)	(0.146)	(0.150)
# Obs.	141	141	141	141	141	141

Notes: OLS-regressions. *, **, *** indicates significance at the 10%, 5%, and 1% level; standard errors in parentheses. Experience represents a dummy variable which indicates that a subject participated in a session where only experienced subjects were recruited. As robustness check, we use Tobit models and find the same results.

A2. Complete regression analysis on behavior in the lab

Table 11. Regression analysis on behavior in the lab.

	Selfishness	Exploitation	Spitefulness	Deception	Ignorance
Experience	0.067	0.319***	-0.005	0.308***	-0.022
	(0.096)	(0.096)	(0.0780)	(0.094)	(0.095)
Age	-0.007	0.005	0.001	-0.013	0.009
	(0.009)	(0.009)	(0.007)	(0.009)	(0.009)
Female	-0.005	0.113	0.101	0.117	0.269***
	(0.095)	(0.095)	(0.077)	(0.093)	(0.095)
Economics	0.022	0.223**	0.214***	0.303***	0.074
	(0.095)	(0.095)	(0.077)	(0.093)	(0.095)
Constant	0.294	-0.414*	-0.899***	-0.081	-0.383*
	(0.225)	(0.224)	(0.182)	(0.220)	(0.223)
# Obs.	141	141	141	141	141

Notes: OLS-regressions. *, **, *** indicates significance at the 10%, 5%, and 1% level; standard errors in parentheses. Regressions are ran on the degree of consent that the respective behavior is considered to be an appropriate behavior in the lab context. Experience represents a dummy variable which indicates that a subject participated in a session where only experienced subjects were recruited. As robustness check, we use Tobit models and find the same results.

A3. Complete regression analysis on behavior in the field

Table 12. Regression analysis on behavior in the field.

	Selfishness	Exploitation	Spitefulness	Deception	Ignorance
Experience	0.165*	0.079	0.006	-0.056	0.075
	(0.087)	(0.078)	(0.047)	(0.072)	(0.071)
Age	-0.005	0.000	-0.001	-0.001	-0.001
	(0.008)	(0.007)	(0.004)	(0.007)	(0.006)
Female	-0.095	-0.085	0.048	-0.028	0.087
	(0.086)	(0.077)	(0.047)	(0.071)	(0.070)
Economics	0.069	-0.027	-0.002	-0.030	-0.024
	(0.086)	(0.078)	(0.047)	(0.071)	(0.071)
Constant	-0.473**	-0.525***	-0.937***	-0.520***	-0.642***
	(0.203)	(0.183)	(0.110)	(0.167)	(0.166)
# Obs.	141	141	141	141	141

Notes: OLS-regressions. *, **, *** indicates significance at the 10%, 5%, and 1% level; standard errors in parentheses. Regressions are ran on the degree of consent that the respective behavior is considered to be appropriate in the context of daily life. Experience represents a dummy variable which indicates that a subject participated in a session where only experienced subjects were recruited. As robustness check, we use Tobit models and find the same results.

A4. Complete regression analysis on perception about relation between lab and field

Table 13. Regression analysis on perception about relation between lab and field

	Agreement with statements				
	Item 1 (+)	Item 2 (+)	Item 3 (-)	Item 4 (-)	Item 5 (+)
Experience	-0.165**	-0.011	-0.125	0.007	-0.076
	(0.082)	(0.086)	(0.090)	(0.090)	(0.083)
Age	-0.001	-0.000	0.004	0.000	0.007
	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)
Female	-0.047	0.042	0.067	0.012	0.032
	(0.081)	(0.085)	(0.089)	(0.089)	(0.082)
Economics	0.056	0.056	0.024	0.136	0.122
	(0.081)	(0.085)	(0.090)	(0.089)	(0.083)
Constant	0.204	-0.040	0.314	0.225	-0.273
	(0.190)	(0.200)	(0.211)	(0.210)	(0.194)
# Obs.	141	141	141	141	141

Notes: OLS-regressions. *, **, *** indicates significance at the 10%, 5%, and 1% level; standard errors in parentheses. Regressions are ran on the degree of consent that the respective behavior is considered to be appropriate in the context of daily life. Experience represents a dummy variable which indicates that a subject participated in a session where only experienced subjects were recruited. The (+) and (-) refer to whether the statements constitute affirmations (implying similarity between the lab and field) or negations (implying differences between the lab and field). As robustness check, we use Tobit models and find the same results.

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