

Synopsis:

Social Information Acquisition and
Decision-Making with Social Information

Essays on Experimental Economics

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Fabian Johannes Bopp

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Chapter 1

Introduction

This dissertation consists of four independent studies in the field of behavioral economics. Given the nature of a cumulative dissertation, each study is independently developed and can therefore stand on its own. However, besides building on the same methodological approach of using economic experiments, the studies are also closely related to each other by the research questions asked in the studies.

In the following sections of this introduction, I will describe the context and scope of the dissertation and the choice of methods applied. Next, a summary of all four studies and a description of my contributions to each of the studies is presented. The studies are presented in chapters 2-5, and the dissertation closes with a concluding discussion in chapter 6.

Context and Scope

The four studies of this dissertation explore individual decision-making in a social setting in which social information plays a crucial role. Within this social setting, the dissertation contributes to two main scoping research questions: In chapters 2 and 3, the dissertation explores how and under which conditions people behavioral react to social information. In particular, they explore how the reaction to social information depends on environmental factors such as ambiguity or minority power. Being aware of the behavioral potential of social information, in some cases, it is slightly puzzling why people nevertheless avoid the information. Such avoidance is documented even in situations in which people claim that they want to act prosocial and informing is a necessary step to be able to make a prosocial action. Chapters 4 and 5 address this puzzling behavior and try to better understand why people avoid social information and what can be done to reduce their avoidance.

As all chapters look at individual decision-making in a social setting, they are either indirectly or directly related to prosocial decision-making. Chapter 2 shows that minority power is an important factor for

prosocially supporting the majority when it comes to policy implementation. More indirectly, chapter 3 explores individual decision-making in groups: By explicitly excluding social interaction in the experimental design and combining the findings with existing literature, the chapter implicitly shows that social interaction effects are a relevant factor for decision-making in groups with increasing importance under uncertainty. This conclusion can also be relevant for prosocial decision problems. Chapters 4 and 5 focus on the phenomenon of people avoiding social information, which is necessary to make a prosocial decision. In contrast to the first chapters of this dissertation, the social information is not informative about what other people prefer but contains information about the external effect of own actions. Looking at the relevance of social information for individual decision-making, this dissertation can generate important insights for policy interventions aiming to increase prosocial behavior.

In the following section, I will give a more detailed introduction to the common thread of the four studies included in this dissertation, and I will show how the individual studies relate to each other. I want to start with the observation that humans are no isolated beings, and for different reasons, individuals are influenced by observing the opinions and actions of other people. Such peer-based effects are documented, for example, for prosocial behavior such as donating to charities, paying taxes, or 'green' consumption decisions, for anti-social behavior such as crime, vandalism, and drug abuse, and also for saving and investment decisions - for evidence see Hong et al. (2004); Duflo and Saez (2003, 2002); Falk and Fischbacher (2002); Madrian and Shea (2001); Kelly and O Grada (2000).

To illustrate how much influence peers and social information can have on decision-making, one can think of the Asch paradigm (Asch, 1956) in which individuals comply with a group even if the group is clearly wrong. One obvious explanation for peer group effects might be that individuals feel pressured and fear deviating because of being observed. However, we know that also, in an anonymous setting in which direct peer pressure is excluded, social information can affect the decision-maker. Possible explanations for such an effect are that social information can be informative about own preferences or that it could be informative about what the peer group prefers. For example, a person may not be sure whether to support a specific policy or not. Observing what others do can foster her initial belief or even cause a change in her belief. Such a belief updating is described as social learning. For research on adaptive behavior through the channel of social learning, see Charness et al. (2019); Duffy et al. (2019); Fatas et al. (2018); Goeree and Yariv (2015); Mengel (2009).

Social information can be very informative even if a person is well aware of her preferences, and there is no scope for further learning. A person who cares very much for her group might be willing to act against her individual preference and conform to a specific policy if she thinks that her peers prefer the policy. For illustration, think of parents watching an animated kid's movie with their children. The parents might prefer to watch any other movie, but because they care for their children, they would conform to the children's

preferences. Similarly, a person who does not care for the group, but has strong preferences to not deviate from others, i.e., because of inequity aversion and anticipated regret, might use the social information to do whatever the relevant peer group does (Cooper and Rege, 2011). For illustration, think of a teenager buying new clothes. What her friends wear might be very important for the teenager, and she might insist on buying something similar.

Adapting the own behavior because of caring for the other person or receiving any other utility depending on others can be described as social interaction effects. Because of social interaction, not only the own choice but also the choice or the preference of another person can be important for the own decision.

Such behavioral motives which deviate from the neo-classical idea that humans are not only purely selfish-driven decision-makers but may care for others are well-documented. There is a large body of evidence documenting the human tendency to internalize or feel others' welfare, at least to some extent; individuals have social preferences and care for efficiency and equity in the distribution of payoffs - see Bolton and Ockenfels (2000); Charness and Rabin (2002); Fehr and Schmidt (1999); Cox et al. (2007) and for a review see Cooper and Kagel (2016).

Being aware of the potential influence of social information on individual decision-making, the question of how people react to this can be a crucial factor for policy implementation. Often it is not enough to have a majority, but it is also essential that a sufficient share of the minority at least does not try to hinder the implementation. Not hindering the majority will, could be interpreted as acting prosocially towards the majority. For a recent example of the use of social information, think of the covid-19 vaccination campaign of the German government. As part of their communication strategy, the government shared social information about how many people were already vaccinated and also encouraged vaccinated people to talk with their friends and family.

Learning which psychological mechanisms drive reactions to social information and how these mechanisms are affected by different environments can be an important finding. As a policymaker, the communication of social information to address specific motives could be an efficient tool to foster support for a policy. As part of the communication strategy, one could address different motives. Knowing which motive might be more or less easy to address under certain environmental conditions can be important for a successful implementation strategy. One of these environmental factors could be how much a person feels involved in the decision. If people feel not heard or that they have no fair chance and no power in determining the decision of which policy to implement, this might cause a form of resistance. Some may even try to hinder the implementation.

These examples show the importance and capabilities of social information in decision-making. Therefore, this dissertation focuses on different aspects of dealing with social information.

Chapter 2 of the dissertation, in the first step, shows that both adaptive social learning and steadfast caring for others are important mechanisms for reacting to social information. The experimental design

allows us to disentangle the relevant motive for the individual reaction. This distinction is important as social learners would adjust their preferred choice, whereas caring conformists act against their own preferred choice without adjusting it. Being in a repeated decision-making situation, a social learner would stick to her adapted choice, and a caring conformist would switch back or, depending on the group’s preferences, again comply with the group. To illustrate the long-term differences, consider a repeated funding decision implemented by committee voting. Suppose a committee member conforms to the group decision in one year because of caring for the majority. In that case, she may stop the support in another year if she no longer likes the group or the composition has changed. In the second step, the role of minority power on adaptive social learning and caring as two potential motives for conformism are explored. Indeed, minority members with a higher power to veto a policy implementation are much more likely to support the will of the majority. We conclude that procedural fairness, which depends on individual decision power, is an important factor, as suggested by Bolton et al. (2015). In comparison, social learning seems to be not affected. This is not surprising as people who conform because of social learning conform because of updating their beliefs, and this should be independent of their power.

Knowing that social information has the power to change behavior, chapter 3 focuses on the effect of uncertainty. Based on Cooper and Rege (2011), Karakostas et al. (2021) and Steiger and Pelster (2020), we know that social information becomes more important under increasing uncertainty. In their studies, subjects are more likely to react to a social signal when the environment is rather uncertain compared with a risk environment. However, it is unclear whether this increased reaction to social information is driven by social learning or social interaction effects. People might be more likely to imitate others because they are less confident about their own beliefs and thus more likely to update by following the wisdom of the crowd, or because under uncertainty, it might be more important to do the same as others because of social interaction effects. Using an experimental approach, we disentangle both motives by isolatedly observing the effect of uncertainty on social learning. We test whether subjects under ambiguity are more likely to follow a social signal while excluding social interaction effects. We find a strong null result. This allows us to conclude that social interactions and not social learning can explain increased imitation under uncertainty. Similar to chapter 2, in which social learning is robust towards power, social learning in our experiments also remains robust towards the level of uncertainty.

Being aware of the power of social information, chapters 4 and 5 discuss why a relatively large share of people, even if social information is freely available, prefer to stay uninformed and not learn the information. Starting with Dana et al. (2007), there is consistent evidence that people ignore freely available information. Especially information about the prosocial consequences of their own actions is ignored. Dana et al. (2007) show that the information is instrumental, and when informed, people, on average, behave more prosocially. To illustrate the finding think of consumption decisions. Often consumption decisions cause external effects.

For example, buying a car with a combustion engine negatively affects the environment. Buying the cheapest coffee or chocolate beans may promote child labor. Just looking at oneself, one might want to buy a car with a combustion engine or the cheapest chocolate. Being aware of the consequences, one can not do that easily anymore and needs to think about what to do. Closing the eyes and not knowing the consequences can help to behave selfishly without feeling bad. Therefore, if we understand why people ignore information, we can develop strategies to stop people from ignoring information and thereby, in a second step, cause more prosocial behavior. Several studies already try to identify relevant psychological mechanisms explaining ignorance behavior. Grossman (2014) shows that the framing and the presentation of information enormously affect ignorance. When information can be ignored without any action, one can see more ignorance compared to a situation in which an action is necessary. Grossman and Van Der Weele (2017) show that self-image concerns can explain ignorance. But as stated by Exley and Kessler (2021), there is still a large share of unexplained ignorance behavior. Chapters 4 and 5 both aim to further understand possible drivers of ignorance and thereby reduce the unexplained share by testing different mechanisms. This insight could be used to develop policy recommendations to promote information acquisition. Chapter 4 builds on the idea that subjects, because of irrational reasoning, can act selfishly and remain ignorant without seeing themselves as selfish. We test whether helping subjects think through and reflect on the situation affects their behavior. This is implemented by giving subjects the opportunity to write down their ends and aims. This small intervention aims to help subjects to realize that not informing implies being selfish. We find that after reflection, a relevant share of subjects change their behavior and start to inform themselves. In addition, we also observe an increased share of prosocial behavior. We contribute to the literature by showing that besides rather rational psychological mechanisms also irrational strategic reasoning can cause ignorance.

In contrast, in chapter 5, I explore whether dilemma aversion as another psychological mechanism could potentially explain ignorance. Dilemma aversion or related concepts such as trade-off or conflict aversion are already mentioned as potential factors causing ignorance. Even though the terminology is not uniformly used, all describe that a person does not like to be in a situation where she has to choose between a socially or an individually better option. The idea of the chapter was to provide clear evidence of the role of dilemma aversion. In the existing literature, dilemma aversion is already recognized. Jarke-Neuert and Lohse (2022) and Exley and Kessler (2021) both argue that dilemma aversion or a related concept drives ignorance behavior. However, the identification strategy of an effect in both studies is not fully convincing. Both try to eliminate other factors and then explain the observed rest of ignorance as dilemma averse driven. In comparison, in the experimental design of this dissertation, the identification works by varying the dilemma size and keeping other factors as constant as possible. The advantage of varying the dilemma size is that reducing ignorance would be clear evidence as identification via the rest could also mirror a baseline rate of erratic behavior. The disadvantage is that reducing the dilemma is impossible without changing the informational

value. Reducing the dilemma size also reduces the informational value, which creates a confounding factor in the opposite direction. In the current study, this confounding effect was bigger than a possible effect of the reduced dilemma, and thus no clear evidence could be generated. Therefore, future studies exploring the role of dilemma aversion might rather try to reduce the dilemma aversion instead of the dilemma size.

In the next section, I will discuss the method selected to address the research questions and describe why a different subject pool has been used for all studies. Next, I will describe my own contribution and the contribution of my co-authors and then I will close the introduction with a summary of each of the four studies.

Choice of Methods and Selection of Subject Pool

All of the studies of this dissertation apply methods of experimental economics. This allows for identifying causal effects as the environment is controlled while the variable of interest can be manipulated. In contrast to the advantage of internal validity, the question of whether the results are also externally valid has to be discussed. Looking at existing studies on information avoidance and dealing with social information, the core paradigm that people ignore information and that people are influenced by social information is well replicated within several field studies. For evidence on information avoidance in field studies, see Andreoni et al. (2017); DellaVigna et al. (2012); Ganguly and Tasoff (2017); Knutsson et al. (2013); Serra-Garcia and Szech (2022); Li et al. (2021); Thunström et al. (2021) and for evidence on peer effects in the field see Hong et al. (2004); Duflo and Saez (2003, 2002); Falk and Fischbacher (2002); Madrian and Shea (2001); Kelly and O Grada (2000). The higher external validity of field experiments clearly is an advantage. Another advantage of conducting a field experiment would be to reduce a possible experimenter demand effect (Zizzo, 2010). However, for the research questions asked in this dissertation, it is mandatory to as good as possible control the environment, and this could not have been achieved in the field. Also, all experimental designs carefully try to avoid or reduce a possible demand effect. Thus, a laboratory experiment or an online (laboratory) experiment is a preferred method. The disadvantage of online experiments is the reduced control of the subjects' environment. Other than in the laboratory, one can not entirely exclude distracting factors. Because of the pandemic situation, conducting experiments in the laboratory has not been possible at all times. This resulted in chapter 2 being conducted in the laboratory and chapters 3 - 5 being conducted as online experiments. Chapter 3 was conducted using the subject pool from the BaER-Lab (Business and Economic Research Laboratory) at the Paderborn University. Chapters 4, and 5 very much follow Exley and Kessler (2021), who conducted their experiment using the MTurk pool. In contrast to chapter 3, these experiments are purposely conducted as online experiments. Because of the small stakes, the experiment was not suitable for the BaER-Lab pool. Hence, following Exley and Kessler (2021), we also tried to conduct the experiment

on MTurk using the same selection criteria of being able to speak English and having a good response behavior in Mturk. However, as documented in Chmielewski and Kucker (2020), the quality of responses on the Mturk pool has decreased. During pilot sessions, we especially had issues with low-quality data and obviously automated bot responses in the US MTurk pool. Consequently, based on a recommendation, we conducted the experiment within the EU MTurk pool. In comparison, the quality of responses has been clearly better. However, the EU pool is relatively small, and collecting the number of observations used in chapter 4 was already difficult. Because chapter 5 builds on the same experiment and given the rather small pool, the subjects who already participated in chapter 4 would be biased when participating. Therefore, I conducted chapter 5 using the Prolific pool. Compared with MTurk EU, the subject pool is sufficiently large, and in comparison with MTurk US, the quality of responses has been sufficiently better.

Summary of Studies

This section provides a brief overview of each of the four studies of this dissertation. I will briefly describe the respective research question and the experimental design and state the main findings. I will link the studies with existing literature and discuss their contribution and possible policy implications.

Conformism of the Minorities: Theory and Experiment (Chapter 2)

The study has two main objectives: In the first step, we aim to learn whether subjects in a group situation comply with the group because of caring for the preferences of the group. We describe this motive as caring conformism. In the second step, we explore the effect of minority veto power on the channel of caring conformism. To identify caring conformists, we create a setting in which subjects in groups of three have to vote between two policies. Some of the subjects will be in the minority. In the next step, they can either conform or try to hinder the majority will from being implemented. We refer to these two decisions as voting-implementation-game. Subjects who conform because of social learning and subjects who conform because of caring for the group should conform. To disentangle both motivations, we reshuffle the groups, and the new group repeats the voting. Social learners should stick to their choice, and caring conformists should return to their initial choice. Being able to disentangle caring conformism in the treatment, we vary the power with which a minority member could hinder the implementation of the majority will. In the high power treatment, a minority member can hinder the majority with a probability of $\frac{1}{2}$ and in the low power treatment with a probability of $\frac{1}{6}$. We find that in the high power treatment, 37%, and in the low power treatment only 4% of the minority members can be classified as caring conformists. Thus, caring conformism can be a relevant mechanism (Result 1), which is highly sensitive toward power (Result 2). Social learning, in contrast, is not affected by the level of minority power. To our best knowledge, this study is

the first that identifies caring conformism while disentangling it from other adaptive conformism motives. Thereby, we contribute to the growing literature on conformism and decision-making in groups (Bolton et al., 2015; Charness et al., 2019; Duffy et al., 2021; Fatas et al., 2018; Goeree and Yariv, 2015; Lahno and Serra-Garcia, 2015). Looking at the effect of minority power, we contribute to the literature on procedural fairness (Fudenberg and Levine, 2012; Brock et al., 2013; Cappelen et al., 2013; Cox et al., 2007). Our study has important implications for the implementation of policies. We find strong evidence that the support or the motivation to hinder a policy highly depends on the procedural power of minority members. Reducing power can backfire as it also may increase the likelihood of minority members trying to block the majority. In contrast, giving more power to minority members can potentially foster support for the majority will.

Social learning under ambiguity - an experimental study (Chapter 3)

This study builds on the observation that with increasing uncertainty, or with the introduction of ambiguity, an increase in imitating behavior can be observed (Cooper and Rege, 2011; Karakostas et al., 2021; Steiger and Pelster, 2020). However, this observed effect could be explained by either social learning or social interaction effects. Therefore, we aim to disentangle the possible alternative effects by testing whether social learning is affected by the level of uncertainty. To observe social learning, we need to create a situation where one can observe others' choices. The experiment consists of several rounds in which subjects choose between two lottery tickets. After making her own choice, the subject observes the most popular choice and can decide to revise her decision. To test the effect of increased uncertainty, we manipulate the appearance of lottery tickets similar to Cooper and Rege (2011). In the risk-only version, possible lottery ticket results with corresponding probabilities could be relatively easily observed. In the ambiguous version, this was not possible anymore. To exclude social interaction effects, we implemented a strict independence rule. As a consequence, no decision problem, and thus none of the selected lottery tickets could become payoff relevant for more than one person. We do observe a strong null result as the uncertainty level in our study does not affect the likelihood of imitating others because of social learning (Main result). We conclude that social interaction effects should mainly drive the effect observed in other studies. The study has two major implications: First, because social learning is relatively robust towards uncertainty even in a very uncertain environment, sharing social information and appealing to social learning can be efficient in order to foster a majority. Second, the more uncertain an environment is, the more effective it might be to address social interaction-based motives. For the relevance of appealing to different motives, one can think of the sequential different communication strategies of the German government to promote covid-19 vaccinations. For many people, whether to vaccinate might have been characterized as a decision under uncertainty as non-expert people have not been aware of the probabilities. At the beginning of the campaign, the government repeatedly shared how many people were already vaccinated. Such communication could affect others via social learning.

After a while, the government also asked people to talk about vaccination with their peers. This could have promoted social interaction-based effects. In this situation, knowing which channel is more or less likely to react to social information and adapting the form of the social information to appeal to such a channel clearly can affect policy implementation.

Does room for reflection reduce ignorance and increase pro-social behavior? An Experimental Study (Chapter 4)

Many people claim that they want to behave prosocially. Some of these people fail to hold their claim when it comes to real behavior. One explanation for this intention-behavior gap is that subjects do not acquire the relevant information necessary to know how to behave prosocially. Indeed (Dana et al., 2007) find that a large share of subjects ignores freely available social information even if the information would be instrumental and might have an effect on their own behavior. Thus, in the first step, understanding why people remain ignorant and reducing ignorance in the second step can be a powerful tool to cause more prosocial behavior. Several articles use experimental variation to support or refute specific preference-based explanations for ignorance (Matthey and Regner, 2011; Feiler, 2014; Kajackaite, 2015; Spiekermann and Weiss, 2016; Grossman and Van Der Weele, 2017). As pointed out by Exley and Kessler (2021), these studies all have their value as not one, but several factors may cause ignorance. While they take behavior as revealing subjects' preferences, we depart from the idea that subjects engage in a systematic error or inconsistency. We contribute to the research on information avoidance as we test whether strategic inconsistency can explain ignorance. Using the experimental setup from Exley and Kessler (2021), we examine the effect of a minimal reflection-based intervention. The idea of the intervention is that subjects raise awareness that claiming that one would act prosocial and not acquiring the necessary information is contradicting. After thinking through the own strategy, one should realize this contradiction and, in the next step, adapt the strategy. We find that subjects who wrote down their means and ends significantly more often revealed the necessary social information (Result 1). Moreover, we observe that in this group, significantly more subjects choose the prosocial action and thereby prevent harm to others (Result 2). Our finding highlights the importance of the role of information acquisition. As a policymaker, one may want to motivate people to better inform themselves in order to act more prosocial. One implication of our study is that using nudge-based policies to raise awareness of the role of informing and reflecting the own behavior can already have a positive effect.

Dilemma Aversion and Information Avoidance (Chapter 5)

Similar to chapter 4, this study aims to better understand why people ignore social information. Following Exley and Kessler (2021); Golman et al. (2017); Jarke-Neuert and Lohse (2022) one explanation could be

that subjects use ignorance as a tool to avoid a situation in which subjects have to make a trade-off between an individually and a socially optimal outcome. Such avoidance behavior could be motivated by social dilemma aversion. Indeed Jarke-Neuert and Lohse (2022), as well as Exley and Kessler (2021), already provide evidence indicating that dilemma aversion is a relevant mechanism. However, the identification strategy in both studies is discussable as both try to exclude other psychological motives and identify the effect of dilemma aversion via an unexplained remaining rest of ignorance. Looking at chapter 4 of this dissertation, in contrast, we see that not only rational motives but also irrational strategies might explain ignorance. Similarly, the rest could be driven by inattention or error-like random behavior. Therefore, the aim of this study was to provide clear evidence of the role of dilemma aversion in information acquisition. In contrast to the existing studies, the identification is not based on eliminating other motives but on keeping other motives constant as far as possible while manipulating the social dilemma size. Using two approaches, I try to reduce the dilemma by defusing the tension between the social and individual optimal behavior. Both approaches have the disadvantage of a counter-directed confounding factor, as defusing the dilemma directly also reduces the informational value. This makes it harder to identify an effect. Given the confounding effect being counter-directed, an observed reduction of ignorance behavior would have been a clear indicator that dilemma aversion is a relevant mechanism. Other than expected, the study does not support that dilemma aversion is a relevant driver of ignorance (Main result). In both treatment variations, the share of ignorance behavior even slightly increases, and one can observe less prosocial behavior. Because of the confounding factor, this reduction does not imply that dilemma aversion does not affect information acquisition. The only finding within the experimental setting one can make is that if dilemma aversion had an effect, this effect was smaller than the confounding effect. Having clear evidence of the role of dilemma aversion would allow for important policy implications. If people avoid information because of dilemma aversion, policies aiming to reduce individual dilemma aversion and reduce the fear of being in difficult situations could improve information acquisition behavior. Similarly, one could raise awareness that avoiding information is not really helping to avoid a dilemma and is instead just a tool for self-deception.

Description of Contribution of Joint Work with Co-authors

The table below presents my contribution to the four studies in this dissertation. As one can hardly disentangle the precise contribution of each co-author, for simplicity, every co-author is estimated to have contributed equally.

Table 1.1: Description of Contribution

Chapter 2	Vadovič, R. , Schnedler, W. and Bopp, F. (2023): Conformism of the Minorities: Theory and Experiment, Working Paper, Paderborn University
Contribution of joint work with co-authors	Co-authorship with Radovan Vadovič and Wendelin Schnedler (R. Vadovič: 33%, W. Schnedler: 33%, F. Bopp: 33%) <ul style="list-style-type: none"> • Idea by Radovan Vadovič and Wendelin Schnedler • Development of experimental design jointly • Experimental procedure by Fabian Bopp • Theoretical framework mainly by co-authors • Analysis by Fabian Bopp and Wendelin Schnedler • Write-up of paper jointly
Conferences / Workshops	VfS 2021, IAREP 2022, ESA 2021, SABE 2021, GFeW 2019, SPUDM 2021, Faculty Workshop 2019
Chapter 3	Le Roux, S. and Bopp, F. (2023): Social learning under ambiguity - an experimental study, Working Paper, Paderborn University
Contribution of joint work with co-authors	Co-authorship with Sara le Roux (S. le Roux: 50%, F. Bopp: 50%) <ul style="list-style-type: none"> • Idea by Fabian Bopp • Development of experimental design jointly • Experimental procedure by Fabian Bopp • Theoretical framework mainly by Sara le Roux • Analysis by Fabian Bopp • Write-up of paper jointly
Conferences / Workshops	Newcastle Experimental Economics Workshop (2022)
Chapter 4	Schnedler, W. and Bopp, F. (2023): Does room for reflection reduce ignorance and increase pro-social behavior? An experimental study, Working Paper, Paderborn University
Contribution of joint work with co-authors	Co-authorship with Wendelin Schnedler (W. Schnedler: 50%, F. Bopp: 50%) <ul style="list-style-type: none"> • Idea jointly • Development of experimental design jointly • Experimental procedure by Fabian Bopp • Theoretical framework mainly by Wendelin Schnedler • Analysis jointly • Write-up of paper jointly
Conferences / Workshops	ICSD 2022, accepted: IAREP 2023, ESA-AP 2023
Chapter 5	Bopp, F. (2023): An Experiment on Dilemma Aversion and Information Avoidance, Working Paper, Paderborn University
	This work is single-authored. This work was not presented at any conference or workshop.

Note. Presentations held by my co-authors are not listed.

Chapter 2

Conformism of the Minorities: Theory and Experiment

Conformism of the Minorities: Theory and Experiment

Fabian Bopp^{*}, Wendelin Schnedler^{*} and Radovan Vadovič⁺

Abstract

Successful implementation of new rules and policies depends in part on the degree of popular support. The key ingredient in mounting a general consensus behind one alternative is the individual tendency to conform. What drives conformism? Is it lasting or is it temporary? Traditionally, the literature has focused on adaptive mechanisms which are based on social learning. Observing others' actions generates new information which may lead to a permanent change in own preference. However, this type of conformism requires that individual opinions are still evolving and there is room for new information to make a difference. What happens once opinions mature and people become more steadfast in their preferences? Is it then not possible to generate group-wise consensus? We explore an outstanding conjecture that even steadfast individuals may yield (temporarily) to the will of the majority if they are sufficiently caring and don't like to hinder others. We design a laboratory experiment that allows us to identify the two behavioral mechanisms (adaptive vs. steadfast). We find evidence that steadfast subjects conform because they care about others. We also show that they are more willing to conform if they have more power.

JEL Classification: D72, C92, D83, D71

Keywords: conformism, collective choice, ex-ante fairness

^{*}Paderborn University, Department of Management, fabian.bopp@uni-paderborn.de and wendelin.schnedler@uni-paderborn.de.

⁺Carleton University and Ottawa-Carleton Graduate School of Economics, Department of Economics, radovan.vadovic@carleton.ca.

(Note: other than suggested by the title, this version does not yet contain the theoretical framework.)

Chapter 3

Social learning under ambiguity - an experimental study

Social learning under ambiguity - an experimental study

Sara le Roux^{*} and Fabian Bopp⁺

Abstract

The social media age has meant that many behaviours spread through contact with others. The extent to which people adopt/imitate behaviour they observe, can critically affect whether policymakers are successful when introducing new initiatives. In many situations people can either make decisions based on their own intuitive signals or follow a social signal. Depending on the quality of the signals one might be more informative than the other. This project aims to better understand how people use social information to learn and imitate others in ambiguous situations, when both the private and the social signal are not perfectly informative. We conduct an experimental study that observes whether people are prone to imitate others in risky and ambiguous environments, and in gain and loss domain settings. We find that individuals do significantly learn from social information, independent of the framing. Social learning behaviour is not significantly affected by ambiguity.

JEL Classification: C91, D81, D82, D83

Keywords: risk; ambiguity; imitating; social learning

^{*}Oxford Brookes Business School, Headington Campus, Oxford OX3 0BP; UK. e-mail: drsaraleroux@gmail.com ⁺(corresponding author) Paderborn University, Germany e-mail: fabian.bopp@uni-paderborn.de

Chapter 4

Does room for reflection reduce ignorance
and increase pro-social behavior? An
experimental study

Does room for reflection reduce ignorance and increase pro-social behavior? An experimental study

Fabian Bopp^{*} and Wendelin Schnedler⁺

Abstract

A lot of harm comes about because people ignore the consequences of their behavior on others. Experimental evidence suggests that people might even willfully ignore consequences so that they can act selfishly without a ‘bad conscience’. In essence, such people ‘kid themselves’. If I care about the consequences of my acts on others, I should not ignore them. Upon reflection, people may discover this inconsistency. De-biasing people may thus be an effective tool to prevent harm. We examine this idea experimentally. We find that inviting subjects to describe their aims and means makes them more likely to inform themselves and ultimately act more pro-socially.

JEL classification: C91

Keywords: willful ignorance, strategic ignorance, social preferences, de-biasing

^{*}fabian.bopp@uni-paderborn.de, Paderborn University, Department of Management, Warburger Straße 100, D-33098 Paderborn, Germany.

⁺wendelin.schnedler@upb.de, Paderborn University, Department of Management, Warburger Straße 100, D-33098 Paderborn, Germany.

Chapter 5

An Experiment on Dilemma Aversion and Information Avoidance

An Experiment on Dilemma Aversion and Information Avoidance

Fabian Bopp*

Department of Management

Paderborn University

Abstract

Many people claim to intend to act pro-socially but fail to implement their intention when informing themselves about the consequences of their own action is necessary for a pro-social action. This attitude-behavior-gap is well documented, even in situations where informing can be done without additional costs. One reason for this attitude-behavior gap might be that after being informed the perceived social dilemma is increasing. It might become more obvious that one can not get both an individual and a socially optimal outcome. In this study, I am exploring whether reducing the potential dilemma in the second stage is affecting ignorance behavior in the first stage. Using a novel identification strategy with the disadvantage of a counter-directed confounding factor by defusing the dilemma size, this study finds no evidence for dilemma aversion being an important factor in explaining information avoidance behavior.

JEL classification: C91

Keywords: willful ignorance, strategic ignorance, conflict aversion, dilemma aversion, trade-off aversion

*fabian.bopp@uni-paderborn.de, Warburger Straße 100, D-33098 Paderborn, Germany

Chapter 6

Discussion

Even though the four chapters can stand alone and each study has its own discussion section, I want to end the dissertation by discussing and summarizing what can be learned and which implications can be drawn. All four studies deal with different aspects of social information. The dissertation aimed to further explore how people react to social information and to better understand why some people ignore social information.

In chapter 2, we learn that the reaction of minority members to social information can highly depend on their power. If someone wants to prevent minority members from trying to hinder the majority will, it may help to give more power to the minority. However, it may also backfire as the minority might use this power against the majority's will. Given the artificial laboratory situation, one can not directly draw an implication on how much power one should give to minorities. Also, looking at generality, a further limiting factor is that in the experiment, we only look at two rather extreme cases of minority power. Thus, we can not know whether the different reaction to power is rather continuous or threshold-depending. This might highly depend on the situational context. However, in any group decision, an individual has a certain power. One should be aware that this power can strongly influence individual behavior. Consider a hiring committee to illustrate a situation where individual power and procedural fairness play a crucial role. Using a simple majority vote as a rule to decide whom to hire basically cuts the power of someone not sharing the majority opinion. As a reaction to this maybe rather unfairly perceived procedure, the minority member might try to hinder the implementation by searching for unfair arguments against the majority-favored candidate or by unnecessarily prolonging the hiring procedure.

In chapter 3, we learn that social learning is a relatively robust mechanism. Even in rather uncertain and ambiguous environments, people still use social learning. This aligns with the non-observed effect of power on social learning motivated conformism in chapter 2. Combining this finding with existing literature, we conclude that social interactions become more influential with increasing uncertainty. This insight underlines the importance of communication strategies and approaches aiming to enable social interactions. However, looking at external validity, one needs to be careful when generalizing the findings to other decision domains. To manipulate the level of uncertainty, we asked subjects to choose between lotteries. Hence, our finding is based on behavior in a monetary setting. It might be that subjects, when confronted with health risks or with climate risks, behave systematically differently compared to monetary decision problems. Consider a village that could invest in a wind power plant. For a non-expert, such an investment is rather complicated and thus can be described as an investment with

uncertainty. Assuming that a non-steadfast minority in the village is against the power plant, it might help to encourage the villagers to talk with each other in order to reduce this minority share via the channel of social interaction. One can summarize the finding and the possible implications with the observation that communication of social information is an important factor, and the way specific motives are addressed can determine how influential the information is. Being aware of the power of social information, it seems puzzling why people try to avoid this information. Dana et al. (2007) reports that nearly every second subject ignores freely available information, which, at least for some of the ignorant subjects, would have been instrumental. Chapters 4 and 5 discuss two potential explanations for such ignorance. In chapter 4, we argue that some people do not understand the strategic connection between acquiring social information and behaving prosocially. After reflecting on the situation, subjects realize that avoiding information and wanting to be prosocial is an inconsistent strategy. We observe less ignorance and more prosocial behavior. Looking at possible implications, this result is promising. It hints that if a policy intervention makes people reflect on their planned behavior, i. e. their consumption decisions, some may, in the first step, open their eyes and think of the external effects and, in the second step, adapt their behavior. The question of how to design such an intervention remains open and needs further research in the field.

Building on the same puzzling behavior, chapter 5 aims to test whether people ignore information to avoid a social dilemma situation. Suppose that people, as a consequence of dilemma aversion, prefer to stay uninformed because they think this helps to avoid the dilemma. In that case, interventions explaining that avoidance is just self-deception and not really helpful in avoiding the dilemma could cause a positive effect. In contrast, when varying the dilemma size as in chapter 5, a counter-directed confounding factor is included. Because of this confounding factor, the study does not find evidence for or against dilemma aversion as a motive for information avoidance.

Summarizing, the dissertation presents evidence highlighting the potential of social information to cause behavioral change and that this potential can depend on different psychological mechanisms as well as environmental factors. Depending on the environmental factors and the type of social information in this dissertation, between 16.5% in chapter 2 and 81.8% in chapter 4 of individuals change their behavior when confronted with conflicting social information. From a policy perspective, even if one can not interpret these shares as externally valid, such a strong reaction to social information can be highly economically significant. The dissertation underlines the power of social information as a non-monetary and thus comparable cheap tool to cause a behavioral reaction. This behavioral reaction can be motivated by different psychological mechanisms. Knowing which mechanism is likely to cause a change in a specific environment can be highly important. On the other side, we see that just because social information is sent or is available, it does not necessarily reach the receiver of the information. People may ignore social information. We find that this behavior can partly be described as irrational, and asking people to reflect can reduce information avoidance. Overall, we learn that social information has the potential to change behavior. However, one must think about how to communicate information in a specific environment and ensure that the information is seen.

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