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Social Mechanisms in Norm-relevant Situations: Explanations for Theft by Finding in High-cost and Low-cost Situations

Abstract: At the centre of this study is the theoretical and empirical analysis of action-formation mechanisms in norm-relevant situations. Basically two mechanisms are employed, namely action according to a) moral principles and b) the principle of deterrence. Conflicting assumptions concerning the way these mechanisms work are deduced from two theoretical perspectives, the high-cost/low-cost hypothesis and Situational Action Theory (SAT). While the high-cost/low-cost hypothesis leads to the assumption that criminal action is explained by the principle of deterrence in high-cost situations and, in low-cost situations, by moral principles, it follows from SAT that, in high-cost situations, the principle of deterrence has an effect only on those persons with weak moral principles, and influences of moral principles are expected in low-cost situations. Empirical analysis of these hypotheses is conducted with the help of data that have been collected as part of a mail survey (n=2383) of a disproportionately layered random sample of residents of an East German city. Data analyses are carried out in order to estimate the influences of the theoretically specified predictors simultaneously for high-cost and low-cost situations with multiple group comparisons. The study's results partially support both theoretical perspectives. They are finally discussed with respect to theoretical and methodological aspects.

1. Introduction

This study is concerned with an analysis of criminal action in the presence of opportunities. Mainly two explanatory principles have been employed in recent criminological analyses, namely the principle of deterrence and the principle of adherence to moral convictions.[1] The principle of deterrence refers to the idea that actors are kept from criminal action because of its subjective expected costs, the principle of adherence to moral convictions refers to the idea that criminal action is essentially determined by the moral convictions of the acting

[1] The principle of adherence to moral convictions is closely related to the concept of belief in criminological control theory (Hirschi 1969). This concept is defined as a general approval of conventional values and norms, the persuasion that society's rules are reasonable and fair and should be obeyed (cf. Akers 1997). We prefer the term adherence to moral convictions in order to avoid confusion with the notion of belief in Hedström's Desire-Belief-Opportunity-Theory (Hedström 2005) in the following.

persons. However, recent empirical analyses of these ideas revealed ambiguous findings: some studies found evidence that criminal action in the presence of opportunities is prevented by deterrence, other studies revealed that criminal action in the presence of opportunities is determined by the moral convictions of the actors, and yet other studies found influences indicating interactions of the expected negative consequences of criminal action and moral convictions – either in the direction of influences of the expected negative consequences of criminal action only in persons with less pronounced moral convictions or in the direction of influences of expected negative consequences of criminal actions in persons with strong moral convictions (cf. with further references Wikström et al. 2012).

In the light of these ambiguous findings, this study aims at testing these two explanatory principles, which operate in the creation of criminal action in the presence of opportunities. In doing so, we take up the principles of analytical sociology and the concept of mechanisms in particular. Following Gambetta (1998), we understand "mechanisms (as) hypothetical causal models that make sense of *individual* behavior (and) have the form, 'Given certain conditions K, an agent will do x because of (mechanism) M with probability p'" (102). According to this definition, both the principle of deterrence and the principle of adherence to moral convictions can be considered as mechanisms that operate on the micro-level of sociological analysis. Hedström and Swedberg (1998) name these mechanisms *action-formation mechanisms* (Hedström/Swedberg 1998, 23) which "show [...] how a specific combination of individual desires, beliefs, and action opportunities generate a specific action" (Hedström/Swedberg 1998, 23). This phrasing refers to the *Desire-Belief-Opportunity-Theory* (DBOT) which has been suggested by Hedström (2005) at a later point in time. Following Hedström, "in order for a theory to be explanatory it must consider the reasons why individuals act as they do" (Hedström 2005, 36). In the frame of DBOT "the cause of an action is a constellation of desires, beliefs and opportunities in the light of which the action appears reasonable" (39). Although the theory has been criticized for being "simplistic" (Manzo 2010, 130; see also 2014), it seems suited to serve as a framework to which the two mentioned action-formation mechanisms—the principle of deterrence and the principle of adherence to moral convictions—can be related.

In particular, the study starts from the idea that features of opportunities for criminal action might be decisive for the respective action-formation mechanism. We elaborate on two theoretical perspectives that allow us to arrive at concrete hypotheses concerning interactions between the principle of deterrence, the principle of adherence to moral convictions and opportunities. One is the high-cost/low-cost hypothesis originally formulated to go beyond rational choice theories of action; the other is the Situational Action Theory (SAT) which serves as a general theory for the explanation of norm-related action. To our knowledge, the high-cost/low-cost hypothesis has been used in a criminological context in only one previous study (Seipel/Eifler 2010), and the SAT has been applied to a situation-related analysis of juveniles' violent action in a limited number of studies only (cf. Wikström et al. 2012; Haar/Wikström 2010). Thus,

the analysis of both perspectives in an analysis of criminal action in the face of opportunities seems to be particularly fruitful.

Against this background, this study first puts the concept of opportunity in concrete terms (*section 2.1*). Subsequently, those social mechanisms are specified on the basis of the high-cost/low-cost hypothesis and the SAT that explain why characteristics of opportunities increase or decrease the willingness for theft by finding (*section 2.2*). Research questions arise from the mentioned theoretical perspectives and are specified as hypotheses (*section 2.3*). In a second part, the methodological procedure of the study is described. In doing so, particularly the modelling of opportunities with the vignette analysis method allows the operationalization of the competing social mechanisms (*section 3*). A third part comprises the depiction of the results of the research hypotheses' empirical analyses, which are chiefly based on linear and logistic regression techniques and multiple group comparisons (*section 4*). Finally, the findings of this examination are discussed and considered with regard to methodical and theoretical aspects (*section 5*).

2. Social Mechanisms in Norm-relevant Situations

Within the context of daily actions, opportunities for criminal action often open up spontaneously and unplanned. For instance, this is the case if valuables or objects are found that another person has lost. It is typical for such opportunities that they appear to the acting persons as situations offering the incentive to take and keep the found valuables or objects, while, at the same time, knowing that such an action is deviant. Such opportunities are central for this study.

2.1 Opportunities for Theft by Finding

The study starts from the idea that opportunities emerge in the course of regular daily activities. Empirical studies have demonstrated that actors consistently perceive those parts of their daily experience as opportunities that allow them to take possession of relatively unspecific cash values or essential goods, for instance, mistakenly received change or a banknote (cf. Eifler 2009 with further references). Correspondingly, within the framework of DBOT an opportunity is defined as "[...] the actual set of action alternatives that exist independently of the actor's beliefs about them" (Hedström 2005, 39). In this sense, an opportunity is simply a situation in which criminal action forms one action alternative.

The constellations that present themselves more or less spontaneously in the context of daily activities and provoke criminal action have been the object of criminological lifestyle approaches (Sacco/Kennedy 2002). The focus of these approaches is on the description of opportunities as constellations that exist independently of the acting persons and that can be classified as more or less favourable or attractive; particularly in the frame of the routine activity approach, opportunities are defined as "[...] convergence in space and time of three minimal elements of direct-contact predatory violations: (1) motivated of-

fenders, (2) suitable targets, and (3) the absence of capable guardians against a violation" (Cohen/Felson 1979, 589). Starting from these ideas, several studies have demonstrated that the characteristics of opportunities specified in the context of the routine activity approach are also those characteristics essential for a subjective rating of the attractiveness of opportunities by the acting persons. To put it concretely, the attractiveness of opportunities to misappropriate found valuables or objects depends on the risk of discovery (absence of capable guardians) and the goods value (availability of suitable targets; cf. Eifler 2009 with further references).

Against the background of these considerations, the study analyses opportunities for theft by finding; in particular, the situation of finding a banknote in the course of daily activities is addressed. We are interested in the action-formation mechanisms that can be used to explain why actors keep a found banknote in case the opportunity arises. In line with previous studies, it is assumed that the attractiveness of such an opportunity depends on the risk that other actors also notice the loss of the banknote (risk of discovery) and on the value of the banknote (goods value). As we already mentioned, mainly two mechanisms have been employed in the explanation of criminal action in the presence of opportunities, namely, the principle of deterrence and the principle of adherence to moral convictions. In the following, we elaborate on the idea that it depends on the attractiveness of the opportunity which mechanism becomes relevant.

2.2 Action-formation Mechanisms in the Analysis of Thefts by Finding

In this study, two theoretical perspectives are employed in order to analyse the features of opportunities that are decisive for the explanation of criminal action in the presence of opportunities, i.e. the action-formation mechanism. One perspective is the high-cost/low-cost hypothesis which allows for a specification of constellations in which action is not determined by the principle of deterrence but by the principle of adherence to moral convictions, the other perspective is SAT which allows for a specification of constellations in which action is not determined by the principle of adherence to moral convictions but by the principle of deterrence.

2.2.1 The High-Cost/Low-Cost Hypothesis and Theft by Finding

In the context of lifestyle approaches, criminal action is conceptualised as the result of a decision. It is assumed that actors are kept from theft by finding because of the expected costs of being discovered and receiving a penalty. This principle of deterrence can be related to the frame of DBOT: in terms of DBOT, the expected costs of being discovered and receiving a penalty are desires and beliefs. Hedström (2005) defines a *desire* as "[...] a wish or want" and a *belief* as "[...] a proposition about the world held to be true [...]" (38). In this sense, being discovered and receiving a penalty is an experience that actors want to avoid (desire) and that they consider as more or less likely (belief) when misplacing a found banknote.

The principle of deterrence has been analysed in a number of studies. It has been demonstrated that criminal action in the presence of opportunities cannot be principally understood as the result of weak deterrence; rather, several studies consistently came to the result that criminal action in the presence of opportunities is essentially determined by the moral convictions of the acting persons: the more persons agree with the moral principles that guide daily activities, the higher is the probability that even attractive opportunities for criminal action are not seized (cf. Piquero/Paternoster 1998; Strelan/Boeckman 2006; Tibbetts 1997a; 1997b). Furthermore, studies have found influences indicating an interaction of deterrence and moral convictions. Some studies found influences of the expected negative consequences of criminal action only in persons with less pronounced moral convictions; other studies found precisely the opposite effect, i.e. influences of expected negative consequences of criminal actions in persons with strong moral convictions (cf. Bachman et al. 1992; Burkett/Ward 1993; Paternoster/Simpson 1996; Wenzel 2004; Wikström et al. 2012 with further references).

To clarify these contradictory findings, one can refer to the high-cost/low-cost hypothesis that has been developed in the context of the empirical analysis of rational choice theories and has received great attention particularly in the area of environmental sociology. Essentially, the high-cost-/low-cost hypothesis contains the consideration that decision situations can be distinguished from each other: there are either situations with a lot at stake for the acting persons (high-cost) or with nothing at stake (low-cost). Within the high-cost/low-cost hypothesis, it is supposed that different action-formation mechanisms operate in high-cost situations and low-cost situations. It is assumed that, which action-formation mechanism becomes relevant depends on the cost structure of a situation. High-cost situations are characterised by a cost aspect that is dominant for certain kinds of social action. Thus, it is expected that the acting persons are oriented towards the expected consequences of their action. In contrast, cost pressure in low-cost situations does not apply, and the decisions do not have further consequences for the acting persons. Accordingly, the action is not explained as the result of expected consequences but rather as the result of moral convictions (Diekmann/Preisendörfer 1992; 1998; Preisendörfer 1999).

The distinction between high-cost situations and low-cost situations has been transferred to the analysis of opportunities in one previous study which addressed the situation of mistakenly received change in particular.[2] An opportunity with high sanction risks was regarded as a high-cost situation, and an opportunity with a low likelihood of sanctions was interpreted as a low-cost situation. The results of this study supported the high-cost/low-cost hypothesis. In the following, these considerations shall be used for the benefit of the analysis of thefts by finding in the presence of opportunities. As an extension of the mentioned

[2] For empirical applications of the high-cost/low-cost hypothesis and different operationalizations of high-cost and low-cost situations, refer to Auspurg et al. 2014; Best 2008; 2009; Best/Kneip 2011; Braun/Franzen 1995; Diekmann/Preisendörfer 2003; Guagnano et al. 1995; Horne/Cutlip 2002; Hunecke et al. 2001; Liebe/Preisendörfer 2007; Markussen et al. 2014; Mayerl 2010; Rauhut/Krumpal 2008; Rössel 2008; Schahn 2000; Schahn/Möllers 2005.

study, a consideration by Quandt and Ohr (2004), who conceptualised *real low-cost situations* where nothing is at stake, is taken up, to the effect that the acting persons neither have much to win nor much to lose. Accordingly, opportunities are classified not only along the sanction risks but also along the incentives for criminal action. Thus, opportunities with both a high probability of sanctions and strong incentives for criminal action could be interpreted as high-cost situations, and opportunities with both a low probability of sanctions and weak incentives for criminal action could be regarded as real low-cost situations. According to the high-cost/low-cost hypothesis, the expected costs of an action would determine the action in high-cost situations—where a lot is at stake—but not in low-cost situations—where nothing is at stake. Correspondingly, criminal action would be the result of the principle of deterrence in opportunities with both a high probability of sanctions and strong incentives for criminal action (high-cost situations) and the result of the principle of adherence to moral convictions in opportunities with both a low probability of sanctions and weak incentives for criminal action (low-cost situation).

In the following, the high-cost/low-cost hypothesis shall be contrasted with another perspective. However, this perspective focuses on the principle of adherence to moral convictions and the limitations it bears.

2.2.2 Situational Action Theory in the Analysis of Theft by Finding

The SAT (Wikström 2004; 2006; 2010a; 2010b; 2012; 2014) constitutes a general frame of reference for explaining norm-related action. Criminal action is conceptualised as moral action, i.e. action that is guided by rules that are "based on (evaluations) about what is right and wrong to do [...]" (Wikström 2004, 15). It is assumed that actors are kept from theft by finding because of their conviction that this action would conflict with these rules. The more actors agree with these rules, the higher is the probability that opportunities are not seized. This principle of adherence to moral convictions can be related to the frame of DBOT: in terms of DBOT, the adherence to moral convictions can be interpreted as a *belief*, i.e. "[...] a proposition about the world held to be true [...]" (Hedström 2005, 38). In this sense, moral convictions (beliefs) are relevant for either keeping or returning a found banknote.

Wikström (2004; 2006; 2010a; 2010b; 2012; 2014) has developed the SAT as a general approach for the explanation of criminal action. The classical social-psychological concept of the interaction of person and situation constitutes the theory's starting point. On both steps of the perception-choice process, characteristics of persons and characteristics of situations act in combination and result in opportunities being recognised and seized. The relationship between acting persons and their environment is formulated as *perception-choice process*: "It postulates that all actions (including acts of crime) are ultimately an outcome of (1) what action alternative a person perceives and, on that basis, (2) what choices he or she makes." (Wikström 2010a, 1004)

In the first step of the perception-choice process the SAT explains why temptation results from the presence of opportunities. In line with DBOT, opportunities are situations in which criminal action is one action alternative; they can

be more or less criminogenic or attractive, especially because of different probabilities of sanctions: "Settings vary in the level of risk that a person who violates a law (or specific laws) would face intervention and sanctions." (Wikström 2004, 21) It is assumed that a *moral filter* takes effect on the perception-choice process, explaining why the experience of temptation results from the presence of an opportunity. In line with DBOT, moral convictions can be interpreted as a sort of belief, or, in Wikström's words, "[...] beliefs about what is right and wrong to do [...] (that also refer to) how much (an actor) cares about doing the right thing [...] and (to) the strength of the feelings of guilt and shame [...] that may be associated with not doing the right thing" (Wikström 2004, 15). According to the theory, an interaction between the moral convictions of actors and the situational inducements is assumed: while moral convictions are supposed to shape the experience of temptation in a situation with low sanction risks, moral convictions do not necessarily prevent actors from experiencing temptation in a situation with high sanction risks (Wikström et al. 2012).

In the second step of the perception-choice process, the SAT explains why criminal action results from the perception of an opportunity. It follows from SAT that criminal action is guided by an interaction between situational inducements and two action-formation mechanisms, namely the principle of adherence to moral convictions and the principle of deterrence. It is supposed that—in general—actors with strong moral convictions are very likely not to commit criminal acts, while actors with weak moral convictions are very likely to commit criminal acts. In an opportunity with low sanction risks, i.e. strong situational inducements, criminal action is explained by the level of adherence to moral convictions. In an opportunity with high sanction risks, i.e. weak situational inducements, the influence of moral convictions is moderated by the expected costs of criminal action: actors with strong moral convictions are very likely not to commit criminal acts anyway, while actors with weak moral convictions are kept from criminal action because of the expected costs.

In recent empirical analyses of the SAT, the first step of the perception-choice process has not been examined. With regard to the second step of the perception-choice process, the hypothesis that deterrence is only relevant for people with weak moral convictions is only partly supported (Gallupe/Baron 2010; Wikström et al. 2011; Pauwels et al. 2011; Svensson 2013; Piquero et al. 2013; Hirtenlehner et al. 2013; 2014). Moreover, to our knowledge, only two studies were concerned with an analysis of the SAT on the situational level, both of them referring to violent actions of juveniles (Wikström et al. 2012; Haar/Wikström 2010).

Against this background, an empirical analysis of the above mentioned idea—that the two action-formation mechanisms operate differently in the face of situational inducements—seems to be an important task.

Based on these considerations, we will now summarise the conclusions that can be drawn from the high-cost/low-cost hypothesis and the SAT, and develop research questions and hypotheses for a comparative empirical analysis.

2.3 Research Questions and Hypotheses

In *section 2.2* it has been clarified how opportunities for thefts by finding can be analysed from the perspective of two competing theoretical approaches, i.e., the high-cost/low-cost hypothesis and the SAT. Both of these theoretical approaches introduce two action-formation mechanisms that have been employed in the analysis of criminal action, namely the principle of deterrence and the principle of adherence to moral convictions. The principle of deterrence refers to the idea that actors are kept from criminal action because of its subjective expected costs, the principle of adherence to moral convictions refers to the idea that criminal action is essentially determined by the moral convictions of the acting persons. The study started from the idea that features of opportunities for criminal action might be decisive for the respective action-formation mechanism. In the following, the high-cost/low-cost hypothesis and the SAT are subjected to a systematic comparison.

Summarising the considerations up to this point, partly competing, partly consistent conclusions can be drawn from the high-cost/low-cost hypothesis and the SAT. The main difference between these perspectives concerns the assumptions about the dominating action guiding principle, which is the principle of deterrence in the high-cost/low-cost hypothesis, and the principle of adherence to moral convictions in SAT. Another equally important difference concerns the action theory which is explicitly a two-step theory in the frame of SAT. Finally, the high-cost/low-cost hypothesis and the SAT lead to competing conclusions with regard to high-cost or—in terms of SAT—less tempting situations but to consistent conclusions with regard to low-cost or—in terms of SAT—more tempting situations.

Against the background of these considerations, two main hypotheses are formulated. The first hypothesis refers to the first step in the so-called perception-choice process which is assumed in the frame of the SAT. Correspondingly, the first hypothesis refers to the conditions that entice someone to commit criminal actions in the presence of opportunities. The second hypothesis refers to the second step in the so-called perception-choice process, i.e. the specification of the mechanisms that lead to criminal action. Accordingly, two sets of research hypotheses are formulated, the first of which refers to the perception of opportunities and the second to the willingness to carry out theft by finding. Figure 1 illustrates the second hypothesis in particular.

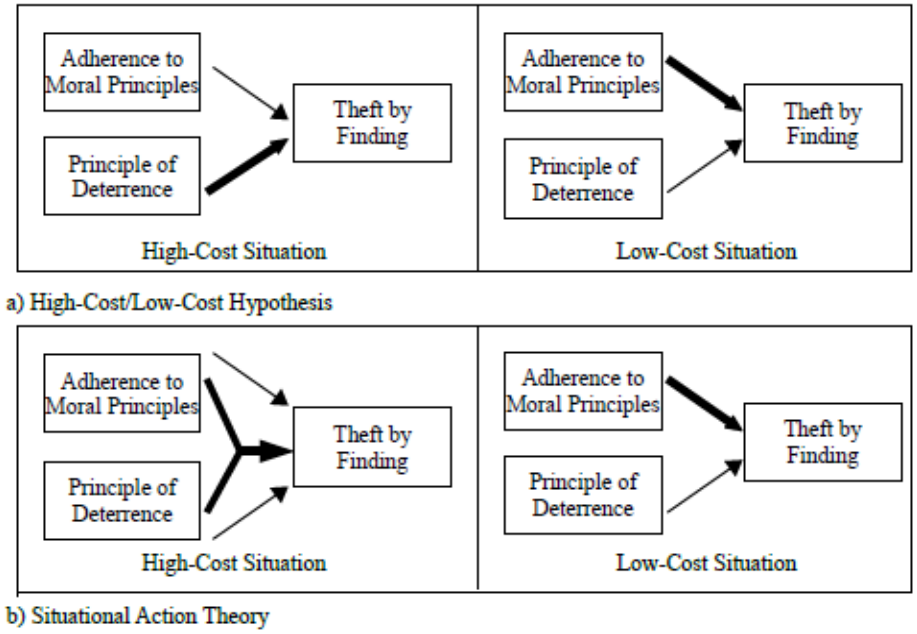

Figure 1: Social mechanisms in high-cost and low-cost situations.

2.3.1 Conditions of the Perception of Opportunities

According to the SAT, the perception of an opportunity depends on the acting person's adherence to moral convictions and on the probability of sanctions in a given situation (a). In particular, it is expected that influences of moral convictions explain why an opportunity is perceived only in a situation with a low probability of sanctions (b). Consequentially, the first research hypothesis can be derived:

Hypothesis 1:
The stronger the adherence to moral convictions is developed, the less a situation is perceived as opportunity. This assumption holds particularly for situations in which there is a low probability of being discovered and punished (low-cost situations).

2.3.2 Conditions of the Willingness for Criminal Action

With regard to the willingness to carry out a theft by finding, the high-cost/low-cost hypothesis and SAT lead to corresponding assumptions about the action-formation mechanisms in low-cost situations, but not in high-cost situations.

Hypothesis 2:
a) *Corresponding assumptions of the high-cost/low-cost hypothesis and the SAT:* For a low-cost situation, the following relationship is assumed: the stronger the adherence to moral convictions, the less likely criminal action will be.

b) *Conflicting assumptions of the high-cost/low-cost hypothesis and the SAT:* For a high-cost situation, the high-cost/low-cost hypothesis allows the following assumption: the higher the expected costs of being discovered and punished, the less likely criminal action will be.

For a high-cost situation, the SAT allows the following assumption: the weaker the adherence to moral convictions, the more is it possible to explain the willingness to carry out a theft by finding with the principle of deterrence.

3. Methods

The empirical analysis was conducted in the frame of the project "Coexistence in the City" from March 2011 to March 2013. A project documentation was published in the series *Eichstätter Beiträge zur Soziologie* (*Eichstätt Contributions to Sociology*) (Eifler 2014).

3.1 Procedure of Data Collection

Data collection was carried out during the period from 1st October to 31st December 2011 as a cross-sectional mail survey, following the tailored design method developed by Dillman (Dillman et al. 2009).

3.2 Sample

The population comprised all citizens recorded in the register of residents of the city Leipzig, who were between 18 and 65 years on the cut-off date (31/8/2011), i.e. were born between 1/9/1945 and 31/8/1993, who had their main place of residence—not their only place of residence—in Leipzig and were German citizens.

Selection Procedure and Realized Sample

A disproportionately layered random sample (n = 1000) was drawn from this population, with the characteristics gender (manifestations: male, female) and age (age in years, grouped: 18–29 years, 30–41 years, 42–53 years, 54–65 years) chosen as stratification criteria. The register sample was reduced because of neutral and systematic losses that were analysed according to the Standard Definitions of the American Association for Public Opinion Research (AAPOR 2011, 25) and are depicted differentiated in *table 1.*

	Absolute Frequencies	Relative Frequencies
Initial sample (Register sample)	8,000	100.00%
Neutral losses		
Invalid addresses	114	1.43%
Adjusted initial sample	7,886	100.00%
Systematic losses		
Non-participation	5,397	68.44%
Explicit refusal	36	0.46%
Implicit refusal	14	0.18%
Not able to be surveyed	48	0.61%
Not part of the population	4	0.05%
Incomplete response	4	0.05%
Net sample	2,383	30.22%

Table 1: Coverage and reasons for losses.

As can be seen in *table 1*, the initial sample (register sample) is reduced by 1.43% to n = 7886 research units because of neutral losses. The greatest part of systematic losses is accounted for by non-participation with 68.44%. Having finished the data collection, in total n = 2383 evaluable questionnaires were available. Accordingly, the participation rate as quotient of net sample and adjusted initial sample amounts to 30.22%.

	Register sample		Realized Sample		Official Statistics*
Age, grouped	N	%	N	%	%
18-29	2,000	25.00	466	19.64	27.41
30-41	2,000	25.00	543	22.88	25.09
42-53	2,000	25.00	587	24.74	26.28
54-65	2,000	25.00	777	32.74	21.22
Total	8,000	100.00	2,373	100.00	100.00
Gender					
Male	4,000	50.00	1,031	43.37	50.28
Female	4,000	50.00	1,346	56.63	49.72
Total	8,000	100.00	2,377	100.00	100.00

* Source: Stadt Leipzig (2012)

Table 2: Selectivity of the sample.

The realised sample was analysed with regard to the characteristics age and gender of the interviewed persons and compared to the initial sample and the official statistics. As can be gathered from *table 2*, the distributions of the characteristics age and gender differ. Compared to the initial sample and to the official statistics, the group of those interviewed persons aged 18 to 29 is underrepresented in the realised sample; in contrast, the group of the interviewed

aged 54 to 65 is overrepresented. Furthermore, the realised sample has a larger share of interviewed females in comparison to the initial sample and to the official statistics.

3.3 Operationalization

In this study, the situation of theft by finding was modelled using a vignette analysis. Vignettes are short descriptions of hypothetical situations that are presented to the interviewees for reply in a survey. One objective in employing vignettes is to illustrate the relevant parts of daily experience as close to reality as possible, and another objective is to model the action-formation mechanisms on the level of the situation. In addition, the application of vignettes within the frame of an experimental design (cf. Mutz 2011) allows for an analysis of the causal influences of situational characteristics on (presumable) action. In the context here, a vignette was employed describing a situation occurring in the city's pedestrian precinct. The interviewed persons are asked to imagine that they are in the pedestrian precinct and see a banknote dropping out of the pocket of a man without him noticing. With this situation, it is investigated which characteristics of the event influence the perception of the situation as opportunity for theft by finding and which social mechanism in the face of a perceived opportunity explains the probability with which a found banknote is taken and kept (cf. *section 5* of this contribution for further methodological considerations).

3.3.1 Independent Variables

Situations can be distinguished regarding their degree to entice someone to criminal action. Based on the routine activity approach, an opportunity's attractiveness is determined by the incentive (suitable target) and the risk of discovery (capable guardians) (cf. *section 2* of this study). Hence, the vignettes are varied according to a full-factorial two-factor between-subjects design. The design does not include a repetition of measurement, i.e. each interviewed person responds to one vignette and hence to a combination of each step of the two factors incentive and risk of discovery (cf. *figure 2*).

	Factor B: Risk of Discovery	
Factor A: Incentive	low (0)	high (1)
weak (0)	A_0B_0	A_0B_1
strong (1)	A_1B_0	A_1B_1

Figure 2: Two-factor between-subjects design.

The incentive for theft by finding is varied by the loss of a banknote either with low or high value. The risk of discovery is varied, which means that the behaviour remains either explicitly unnoticed by others or not. The relevance of these distinctions has been identified due to expert ratings in earlier investigations (Eifler 2010). In *figure 3*, the descriptions of the situation are reproduced in their original wording. The experimental variations of the two factors incentive and risk of discovery are marked in bold. In this study, all other features of the situation, like for instance the status of the victim, remained constant because they were of subordinate importance for the project.

On a Saturday noon around 12 you walk along the pedestrian precinct in the city centre that is very crowded at this time. Suddenly you notice that a banknote drops out of the coat pocket of a well-dressed man with a briefcase some metres before you without him noticing. You recognize that the ***banknote is worth ten/hundred Euros***. ***The other passer-bys apparently do not notice, as nobody takes a move to pick up the banknote. / You are not sure if other passer-bys probably have noticed the incident.***

Figure 3: Vignettes in original wording.

Only two of the four situations resulting from the complete combination of the manifestations of the two factors incentive and risk of being detected clearly represented high-cost and low-cost situations in the sense of "true" high-cost and low-cost situations (cf. more detail on this in section 2 of this study). For this reason, only the respective two situations were used in this study to distinguish opportunities as understood by the high-cost/low-cost hypothesis. Accordingly, the original sample size of n=2383 is reduced to n=1173. An opportunity with a high incentive for theft by finding and a high risk of discovery is interpreted as "true" high-cost situation; an opportunity with a weak incentive for theft by finding and a low risk of discovery is interpreted as "true" low-cost situation (cf. *figure 4*).

	High-Cost Situation	Low-Cost Situation
Factor A: Incentive	Strong	Weak
Factor B: Risk of discovery	High	Low
	A_1B_1	A_0B_0

Figure 4: Order of vignettes in high-cost and low-cost situation.

Since the realised sample has already shown deviations between the distributions aimed at and the actual distributions of the characteristics age and gender and, moreover, since a disproportionate number of interviewed persons with higher school education participated in the study, the respective distributions are depicted according to the high-cost and the low-cost situation in the following (cf. *table 3*).

	High-Cost Situation	Low-Cost Situation
Absolute (relative) frequency	594 (50.64%)	579 (49.36%)
Average age (dispersion)	44.03 (13.52)	44.28 (13.53)
Proportion of gender = 1 (female)	58.28%	59.41%
Proportion of education = 1 (A-levels; Abitur)	43.76%	36.06%

Table 3: Distribution of interviewed persons in high-cost and low-cost situations.

The interviewed persons' distribution across both situations is largely balanced. Age differences between the groups are very small and statistically insignificant (age: t_{1166} = -0,31; n. s.). The proportion of women also does not vary between the groups (V = 0,01; χ^2 = 0,16; n. s.). However, with regard to the proportion of subjects with a higher school education (0: basic primary and secondary, lower secondary modern, secondary modern, specialised secondary school certificate; 1: A-levels/Abitur), statistically significant differences are revealed (V = -0,08; χ^2 = 7,16; $p \leq 0{,}05$). Against the background of the deviations between sample and realised sample described above and the present findings, the characteristics age, gender and school education are included in the further data analysis as control variables.

IV: Principle of Adherence to Moral Convictions

Besides the type of situation, the survey also measures the persons' moral convictions. In the context of this study, the measurement of adherence to moral convictions follows Wikström's definition (cf. *section 2.2.2* of this study in more detail). Accordingly, three aspects were measured, i.e. the importance such beliefs have for the interviewed persons, the degree of being conscience-stricken after a transgression and the strength of their concerns with regard to a transgression. The items were presented to the interviewed persons for response with a five-step rating scale (1: no importance/not at all/no concerns; 2 low importance/to a low degree/little concerns; 3 average importance/to an average degree/average concerns; 4 high importance/to a high degree/strong concerns; 5 highest importance/to the highest degree/strongest concerns). A factor analysis of the three items had the result that the items measured the importance of general rules of living together one-dimensionally. Item-analysis revealed strong item-test correlations for each item. Thus, a mean value score (range of val-

ues 0 to 4) was formed, with an internal consistency that can be considered satisfactory (Cronbach's $\alpha = .684$).

IV: Principle of Deterrence

In addition to the principle of adherence to moral convictions, this study takes into account the expected costs of criminal action as explanatory principle. Costs refer here to the occurrence of negative action consequences, particularly the occurrence of negative sanctions in the form of punishment (deterrence). In this study, the principle of deterrence was measured situation-related by relating negative sanctions to the possibility that bystanders notice the theft by finding and demand to return the money. The interviewed persons were asked to estimate with a five-step ordinal scale how likely they expect the occurrence of negative action consequences and to which degree they evaluate these as inconvenient (1 not at all; 2 to a low degree; 3 to an average degree; 4 to a high degree; 5 to the highest degree). The expected costs of a theft by finding were measured by multiplying the evaluation with the expectation. The item measuring the evaluation consists of a range of values from 0 to 4, the item measuring the expectation was transformed to a set of values ranging from 0 to 1. The items measuring the expected costs of theft by finding are correlated with the situation in the expected direction: in a high-cost situation, subjects report a higher probability with which they expect the occurrence of negative action consequences and a higher degree with which they evaluate this consequence as inconvenient (expectation: r = -0,20; p ≤ 0,000; evaluation: r = -0,11; p ≤ 0,01; expected costs: r = -0,21; p ≤ 0,000).

3.3.2 Control Variables

CV: Social Desirability

Since former studies have shown that measures of probable action with vignettes differ from measures of actual action in comparable field situations, particularly if sensitive topics are investigated, influences of the individual propensity to social desirability were controlled. To do so, the scale (SES-17) constructed by Stöber (1999) in the tradition of Crowne and Marlowe (1960) was employed. In this study, the scale did not provide reliable measures of social desirability (cf. more detail on this Eifler 2014). For this reason, it was not possible to control influences of the individual propensity to social desirability in the subsequent data analyses.

CV: Experiences with the Theft by Finding Situation

Moreover, it could be supposed that experience with the misappropriation of found banknotes might influence the perception of the situation described in the vignette. For this reason, the self-reported frequency of such actions was measured. The interviewed persons were asked to provide how often they had taken and kept found banknotes in the past. This item was dichotomised for the following data analyses, so that interviewees without experiences in the theft by finding situation (48.33%) were distinguished from interviewees with at least

one experience with the theft by finding situation (0: no experience; 1: at least one experience).

Dependent Variables

Subsequent to the vignette, the interviewed persons were asked to say if the situation described can be regarded as an opportunity for the misappropriation of the found banknote (0: does not apply; 1: applies). All interviewed persons who responded this question with "applies" were then asked to estimate or to provide the probability with which they would take and keep the banknote (indication of probability in the sense of a relative frequency in percent). *Figure 5* shows both items in original wording.

Perception of Situation

In this situation one might feel tempted to take and keep the banknote.

Probability of theft by finding

How likely is it that you take and keep the banknote?

Figure 5: Items for measuring the dependent variables.

Table 4 shows that with 48.0% nearly half of the interviewees reach the verdict that the situation described can be regarded as an opportunity for theft by finding. In addition, it follows from Table 4 that this judgement does not depend on the type of situation.

	Low-Cost	High-Cost	Total
Perception			
does not apply (0)	308 (52.0%)	289 (50.4%)	597 (51.2%)
applies (1)	284 (48.0%)	285 (49.7%)	569 (48.8%)
Total	592	574	1166

Table 4: Items for measuring the perception of the situation in high- and low-cost situations.

On average, those interviewees who responded to the item of perception of situation with the option 'applies' reported a mean probability to carry out a theft by finding (M = 33.46; s = 33,34). It can be taken from Figure 6 that the interviewed persons preferred numbers in steps of 5 or 10 when estimating the probabilities (heaping). Additionally, the distribution is right-skewed and flat (skewness = 0,65, Kurtosis = 2,12). The distribution's form deviates significantly from the normal distribution (Shapiro-Wilks test: W = 0,97; V = 10,40; $p \leq 0{,}001$). The distribution for those interviewees who responded to the item of the perception of situation with the option "does not apply" is not considered at this point.

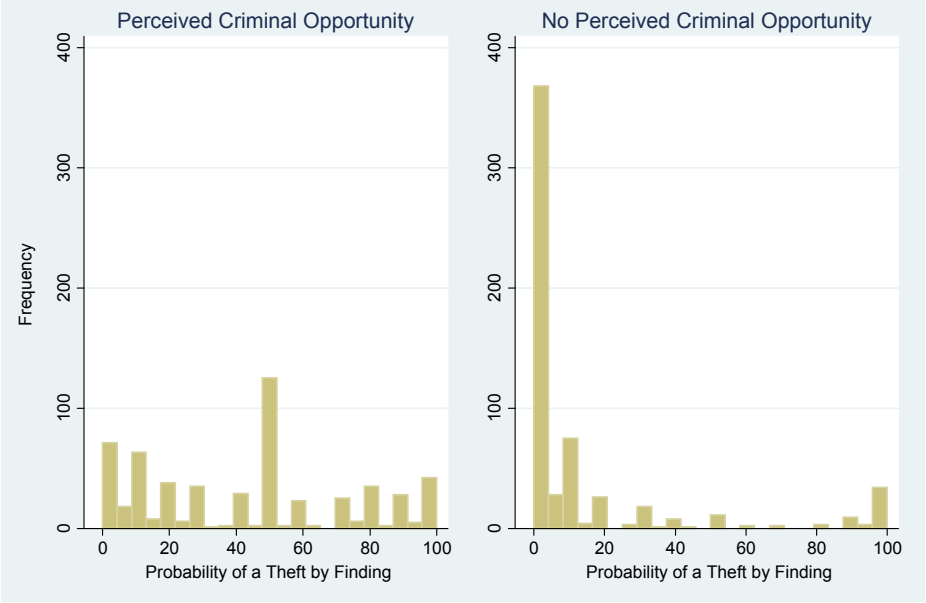

Figure 6: Items measuring the probability of a theft by finding.

3.4 Procedure of Data Analysis

In this study, the strategies of data analysis were chosen with the intention of modelling the assumed action-formation mechanism most accurately. Against the theoretical background of the study, theft by finding is conceptualised as the result of a two-step decision process in the frame of SAT. First, the perception of the situation as opportunity for theft by finding is analysed, second, the presumable action in the face of a perceived opportunity is predicted. Two models are available for analysing two-step decision processes in principle, namely the so-called *two-part model* (Manning et al. 1987) and the *Heckman selection model* (Heckman 1976; 1979). The two-part model includes a separate logit or probit model to model the first step—the perception of an opportunity—followed by

a regression to model the second step—the action, i.e. keeping or returning the found banknote. The Heckman selection model includes a combined selection equation for modelling the first step and a regression equation for modelling the second step, the error terms of both equations being correlated in order to control for non-random selection processes. The two-part model allows for an estimation of the influences of the adherence to moral convictions and deterrence only for those respondents who perceived an opportunity for theft by finding. In contrast to this, the Heckman selection model is used to estimate influences of the adherence to moral convictions and deterrence independent of the perception of an opportunity – which implies that equal regression coefficients result for both groups of respondents, those who perceive an opportunity and those who don't perceive an opportunity. Since it seems implausible to calculate influences of the adherence to moral convictions and deterrence on theft by finding for respondents who don't perceive an opportunity, the two-part model better represents the hypothesized action-formation mechanism. For this reason, the empirical test of the hypotheses was conducted in two steps using the programmes Stata (version 13) and M*Plus* (version 7). In a first step, influences of adherence to moral convictions (hypothesis 1) on the perception of opportunities for theft by finding were determined by probit models with robust WLS estimators (Long 1997). The hypothesis that this influence depends on the type of situation was examined by estimating influences of adherence to moral convictions simultaneously for the high-cost situation and the low-cost situation with the help of multiple group comparisons and by comparatively assessing the unstandardized regression weights. In a second step, influences of adherence to moral convictions on the probability of theft by finding were determined with multiple regression analyses with robust ML estimators (Long 1997). The data basis was formed by the data of those interviewees who had identified the situation described as an opportunity for theft by finding. Since the regression diagnosis revealed that the assumptions of homoscedasticity and normal distribution of residuals were violated and since there were indications for influential observations, the results of the robust estimators were compared with robust regression analyses on the basis of the module *robreg* (Jann 2010); only the results of the multiple regression with robust ML estimators are reported in the following. The question of whether the influences of the adherence to moral convictions and the expected costs of a theft by finding emerge depending on the type of situation (hypothesis 2) was examined by estimating the influences of the adherence to moral convictions and the expected costs of a theft by finding simultaneously for the high-cost situation and the low-cost situation with the help of multiple group comparisons and by comparatively assessing the unstandardized regression weights.

4. Results

In the following, the results of the analyses that were carried out to test the hypotheses are reported. In a first part, the conditions for the perception of

opportunities are analysed (hypothesis 1), a second part is dedicated to the conditions of the willingness to carry out a theft by finding (hypothesis 2).

4.1 Conditions of the Perception of an Opportunity for Theft by Finding in the Presence of High-cost and Low-cost Situations

In the frame of the first hypothesis, the assumption was formulated that the perception of opportunities for theft by finding can be attributed to the adherence to moral convictions of the interviewed persons. It was supposed that the probability with which a part of the daily experience is perceived as opportunity increases with growing adherence to moral principles (hypothesis 1). To test this hypothesis, a probit model with robust WLS estimators was calculated (cf. *table 5*).

	b (beta)	S. E.	P
Age	-0.021 (-0.257)	0.003	0.000
Gender	-0.004 (-0.002)	0.080	0.956
A-levels (Abitur)	-0.111 (-0.049)	0.082	0.181
Experience	0.540 (0.245)	0.078	0.000
Moral Convictions	-0.250 (-0.132)	0.067	0.000
Constant	-1.361 (-1.234)	0.242	0.000
R^2	.178 (n=1136)		

*Indicated are non-standardised regression weights (b) and standardised regression weights in brackets (beta), furthermore robust standard errors (SE); standardized regression weights indicate a change in the dependent variable for a standard deviation change in the independent variable.

Table 5: Influences of moral convictions on the perception of opportunities*.

As can be gathered from *table 5*, there is a negative influence of the adherence to moral convictions on the probability that the situations described are perceived as opportunities: the less the interviewed persons adhere to moral principles or good manners, the higher the probability of their opinion that, in view of the situation described, one could feel tempted to take and keep the found banknote. The additional question, if influences of the adherence to moral convictions do not occur in a high-cost situation but in a low-cost situation was addressed in a next step. To go into this question, influences of the adherence to moral convictions for the high-cost situation and the low-cost situation were simultaneously estimated in the course of a multiple group comparison. All relations between

the control variables age, gender, education and experience, the predictor adherence to moral convictions and the dependent variable perception of opportunities were revealed. Table 6 presents the results of this multiple group comparison.

	Type of Situation					
	High-Cost Situation			Low-Cost Situation		
	b (beta)	S.E.	P	b (beta)	S.E.	P
Age	-0.022 (-0.269)	0.004	0.000	-0.020 (-0.245)	0.004	0.000
Gender	-0.063 (-0.028)	0.113	0.576	0.056 (0.025)	0.114	0.621
A-levels (Abitur)	-0.022 (-0.010)	0.115	0.845	-0.209 (-0.092)	0.120	0.082
Experience	0.571 (0.256)	0.111	0.000	0.497 (0.227)	0.111	0.000
Moral Convictions	-0.239 (-0.127)	0.095	0.011	-0.259 (-0.136)	0.096	0.007
Constant	-1.365 (-1.222)	0.344	0.000	-1.357 (-1.241)	0.340	0.000
R^2	0.198 (n=575)			0.163 (n=561)		

*Indicated are non-standardised regression weights (b) and standardised regression weights in brackets (beta), furthermore robust standard errors (SE); standardized regression weights indicate a change in the dependent variable for a standard deviation change in the independent variable.

Table 6: Conditions of the perception of opportunities according to the type of situation*.

Table 6 shows that, both in a high-cost and in a low-cost situation, there is a negative influence of adherence to moral convictions on the perception of the situation described as opportunity. Thus, an interaction of type of situation and adherence to moral convictions cannot be observed. The finding that moral convictions play a role in the perception of opportunities, even if the probabilities of sanctions in this situation are high and could account for the perception of the situation as an opportunity alone, does not point in the direction of the assumptions made by the SAT.

4.2 Conditions of the Willingness to Carry Out a Theft by Finding

In hypothesis 2, assumptions were formulated on the conditions of the willingness to carry out a theft by finding. All subsequent analyses only include the data of those interviewed persons who responded with the option 'applies' to the question of whether one would feel tempted to take and keep a found banknote.

The probability with which the interviewed persons would take and keep a found banknote served as dependent variable. Hence, instead of actual behaviour, the willingness for certain behaviour was measured here. A descriptive analysis reveals that the means of the willingness to carry out a theft by finding vary with the level of the opportunities' attractiveness. The willingness is significantly higher in a low-cost situation than in a high-cost situation ($t = -3.330$, $df = 566$, $p \leq .001$; cf. *table 7*).

	Type of Situation	
	High-Cost Situation	Low-Cost Situation
Mean	38.599	47.306
Standard deviation	29.604	32.640
	(n=284)	(n=288)

Table 7: Distribution of the willingness to carry out a theft by finding across groups.

Hypothesis 2 formulated the assumption that the adherence to moral convictions and the expected costs of a theft by finding influence the willingness to carry out a theft by finding. First, the respective influences were calculated for the total sample. The analysis is based on a multiple regression model with robust ML estimators.

	b (beta)	S. E.	p
Age	-0.239 (-0.099)	0.071	0.001
Gender	-2.684 (-0.041)	1.891	0.156
A-levels (Abitur)	-10.461 (-0.157)	1.863	0.000
Experience	12.407 (0.190)	1.853	0.000
Moral Convictions	-12.729 (-0.223)	2.438	0.000
Deterrence	-11.531 (-0.412)	3.342	0.001
Moral Convictions*Deterrence	2.532 (0.283)	1.113	0.023
Constant	79.715 (2.442)	7.972	0.000
R^2	.182 (n=1112)		

*Indicated are non-standardised regression weights (b) and standardised regression weights in brackets (beta), furthermore robust standard errors (SE).

Table 8: Influences of moral convictions and deterrence on the willingness to theft by finding*.

As follows from *table 8*, the willingness to carry out a criminal action is affected by the adherence to moral convictions and the expected costs of a theft by finding. A statistically significant interaction of the characteristics moral convictions and deterrence is found (b = 2.532). The interaction's pattern is depicted in *figure 7*.

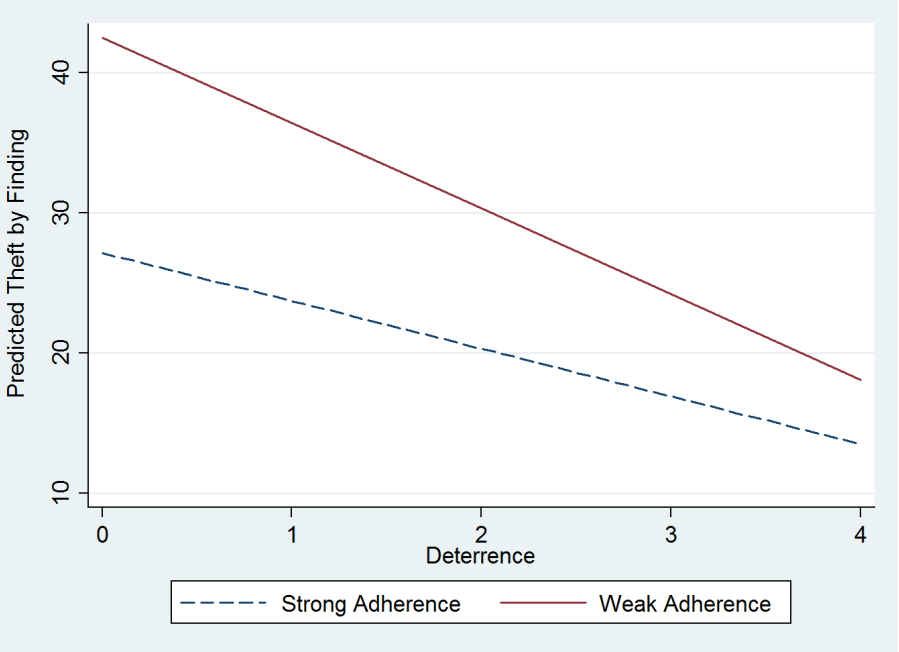

Figure 7: Effect of deterrence depending on adherence to moral convictions.

As *figure 7* shows, the expected costs of a theft by finding seem to be action-relevant both in persons with weak adherence to moral convictions and in persons with strong adherence to moral convictions. Nevertheless, the expected costs of sanctioning exhibit a significantly stronger influence on the willingness for theft in people with a weak adherence to moral convictions.

Hypothesis 2 focused on if the willingness to carry out a theft by finding is determined by the adherence to moral convictions and the expectation of negative consequences depending on the type of situation. For a low-cost situation, corresponding assumptions were derived: in a situation where nothing is at stake for the actors, both theoretical perspectives lead to the conclusion that the willingness to carry out a theft by finding can be explained by the principle of adherence to moral convictions (Hypothesis 2a). For a high-cost situation, conflicting assumptions were derived: in a situation where much is at stake for the actors, the high-cost/low-cost hypothesis explains theft by finding through the principle of

deterrence while the SAT states that the principle of deterrence operates only in actors with weak adherence to moral convictions (Hypothesis 2b). To answer this question, influences of the adherence to moral convictions and the expected costs of a theft by finding for the high-cost situation and the low-cost situation were estimated simultaneously in the course of a multiple group comparison. All relations between the control variables age, gender, education and experience, the predictors moral convictions and expected costs and the dependent variable willingness to carry out a theft by finding were revealed. *Table 9* depicts the results of this multiple group comparison.

	Type of Situation					
	High-Cost Situation			Low-Cost Situation		
	b (beta)	S.E.	P	b (beta)	S.E.	P
Age	-0.235 (-0.105)	0.094	0.012	0.240 (-0.095)	0.106	0.023
Gender	-1.666 (-0.027)	2.448	0.496	-3.801 (-0.054)	2.897	0.189
A-levels (Abitur)	-10.640 (-0.174)	2.433	0.000	-9.765 (-0.136)	2.861	0.001
Experience	13.015 (0.214)	2.351	0.000	11.840 (0.171)	2.837	0.000
Moral Convictions	-11.454 (-0.223)	3.451	0.001	-13.529 (-0.215)	3.437	0.000
Deterrence	-13.067 (-0.518)	4.244	0.002	-7.041 (-0.218)	5.638	0.212
Moral Convictions*Deterrence	2.912 (0.372)	1.429	0.042	1.294 (0.120)	1.882	0.492
Constant	74.660 (2.457)	11.259	0.000	82.791 (2.397)	11.208	0.000
R^2	0.157 (n=561)			0.134 (n=551)		

*Indicated are non-standardised regression weights (b) and standardised regression weights in brackets (beta), furthermore robust standard errors (SE).

Table 9: Conditions of the willingness to theft by finding according to the type of situation*.

It follows from *table 9* that, in a low-cost situation, the willingness to carry out a theft by finding can be explained by the adherence to moral convictions (b = -13.529) which is in line with both theoretical perspectives and supports hypothesis 2a. In the high-cost situation, there is a significant interaction between the adherence to moral convictions and the expected costs of theft by finding which is in line with the SAT (b = 2.912). The pattern of this interaction is depicted in *figure 8*.

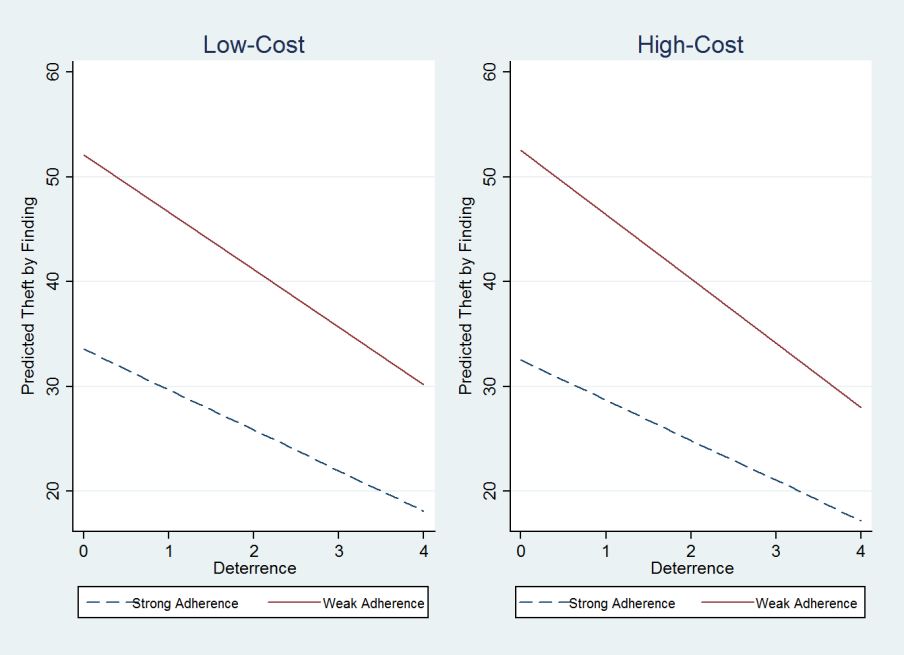

Figure 8: Effect of deterrence depending on adherence to moral convictions.

As *figure 8* shows, the revealed pattern does not prove strong. Despite the significant influences that were depicted in Table 9, the expected costs of a theft by finding seem to be action-relevant both in persons with weak adherence to moral convictions and in persons with strong adherence to moral convictions, and also in both high-cost and low-cost situations.

5. Discussion

In this study, opportunities for theft by finding were investigated theoretically and empirically from the perspective of the high-cost/low-cost hypothesis and the Situational Action Theory (SAT). Both approaches refer to the principle of adherence to moral convictions and the principle of deterrence which serve as action-formation mechanisms on the micro-level of analysis according to Hedström and Swedberg (1998). From the perspective of the high-cost/low-cost hypothesis, the misappropriation of found banknotes in a high-cost situation constitutes the result of the expected negative consequences and, in a low-cost situation, the result of moral convictions. In contrast, the SAT infers the hypothesis that in opportunities with high risks of sanctions the expected negative consequences only become relevant for persons with weak moral convictions and that in opportunities with low risks of sanctions the moral convictions become action-relevant.

The results of the empirical analyses revealed that the perception of situations as opportunities depends on the acting persons' adherence to moral principles. This holds both for high-cost situations and low-cost situations, i.e. just as much for opportunities with high risks of sanctions and strong incentives, as for opportunities with low risks of sanctions and weak incentives. The study had the result that an interaction between the expected costs of negative consequences and the adherence to moral convictions is explanatory in a high-cost situation: particularly for actors with weak moral convictions it holds that the stronger the acting persons believe that other persons will notice the theft by finding and demand the return of the money, the lower is the willingness to take and keep a found banknote. While this result is rather indicative of the SAT, the theoretically postulated relations for low-cost situations find support in this study: in a situation with nothing at stake for the acting persons, i.e. with neither high risks of sanctions nor strong incentives, the action is explained by the adherence to moral convictions. This result would have been expected from both theoretical perspectives.

However, in this context it is necessary to bear in mind several theoretical and empirical aspects. With regard to the high-cost/low-cost hypothesis, one problem seems to have been the operationalization used to assess high-cost and low-cost situations. The theft-by-finding situations described in the vignette could have revealed similar influences of the adherence to moral convictions and the expected costs of negative consequences because they were perceived as rather similar situations. This implies that the distinction between high-cost and low-cost situations might have been too vague in the frame of the present study. In addition, the subjects were asked to indicate if they perceived an opportunity or not; they were not asked to report if they perceive the opportunity as a situation where much is at stake or not, or if the situation evokes reflection motivation or not. For this reason, it was not possible to take up a theoretical refinement of the high-cost/low-cost hypothesis that has recently been introduced by Best and Kroneberg (2012). The authors propose an interaction between moral convictions and subjective expected costs in the presence of low-cost situations which evoke reflection motivation in the acting persons. A systematic comparison of this idea with the SAT would have been particularly interesting but is not suited for an empirical translation. With regard to the SAT, the main problem seems to have been the operationalization of the opportunities as well. This study considered low-cost situations with low incentives, hence, according to Quandt and Ohr (2004) *real* low-cost situations, but it did not consider situations with small probabilities of sanctions and, at the same time, strong incentives; and this study considered high-cost situations with high incentives, hence, according to Quandt and Ohr (2004) *real* high-cost situations, but it did not consider situations with high probabilities of sanctions and, at the same time, weak incentives. This would allow for a clearer distinction between different levels of temptation that arise in the face of opportunities. In addition, the SAT assumes influences of a further action-formation mechanism, namely self-control, which is defined as an actor's ability to act in accordance with moral convictions. These additional aspects are the subject of a further study focusing on the SAT in particular (Eifler,

in press). Some formulations in the SAT suggest additional aspects: with regard to opportunities, Wikström describes the process of recognising an opportunity as an interruption of daily actions: "[...] certain morally charged environmental cues might cause a break in the carrying out of habitual action (inaction) and transform it into deliberative action" (Wikström 2006: 99). This would mean that, in the presence of opportunities, the acting persons do not choose on the basis of their moral principles whether they misappropriate lost property or not, but *always* on the basis of the subjective expected costs (cf. Eifler 2009).

Apart from the mentioned theoretical shortcomings, the study contains several empirical faults. Firstly, a look at the operationalization that we used of the perceived costs of a theft by finding shows that it probably was not the principle of external control or deterrence that was activated here, but that the question rather implied the perceived costs of shame and feelings of guilt. The subjects were asked to estimate how likely or inconvenient it would be, if other passers-by noticed the incident and demanded the return of the money. Secondly, it would probably have been expedient to include not only the principle of deterrence in the analysis, but also to address further cost and benefit components systematically in the frame of the high-cost/low cost hypothesis and in the frame of SAT. Thirdly, some operationalizations in this study have turned out to be weak. This does not only apply to the already mentioned ambiguities in measuring the perceived costs of a theft by finding, but also to the measurement of the propensity for socially desirable response behaviour—in this context, it included a scale to measure social desirability in the tradition of Crowne and Marlowe (1960; Stöber 1999) which provided neither valid nor reliable results. Fourthly, for the time being, this study's results have to be treated with caution: one reason for this is that this examination did not investigate actual thefts by finding in the context of daily actions, but instead modelled opportunities through vignette analysis. The elicited self-reports possibly only correspond to a limited extent to the actual behaviour of persons in real situations (cf. for a summary of this Eifler/Petzold 2014). Although former studies have shown that the influences of opportunities' characteristics are similar in a field experiment and in a vignette analysis (Eifler 2010), this may not necessarily be the case in this study. Finally, this study only examined one opportunity for carrying out a theft by finding. For now, the analyses' results can only apply to the situation concretely described in the context of the vignette analysis. It would be necessary in future to include a broader spectrum of daily opportunities that allow the unjustified taking and keeping of foreign property or valuables.

Against the background of this study's results, further investigations should systematically establish connections to competing action-theoretical explanations and analyse them systematically. The present study focused on the idea of an interaction between moral convictions and the expected costs of a criminal decision. From other action-theoretical approaches, the hypothesis that moral convictions precede the expected costs of criminal action would follow (cf. Eifler 2009). A promising strategy might be to use sociological dual-process theories for both theoretical reformulations and consequent empirical examinations. In doing so, characteristics of opportunities should be operationalized in a more

complex manner than has been done so far. At the same time, the methodological distinction between the *situation as it is* and the *situation as it is perceived* (cf. Magnusson 1976) should be taken better into account methodologically with regard to the depiction of the probabilities of sanctions and the strength of incentives.

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