



Differential Self-control Effects: Moral Filtering and the Subsidiary Relevance of Self-control

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Abstract

Criminological research has identified low self-control as major cause of criminal activity. However, astonishingly little is known about the individual and situational characteristics that affect the functioning of self-control in relation to crime. Recent theorizing, especially in the context of Situational Action Theory, suggests that the interplay of personal and contextual morality creates a morally preselected choice set whose composition determines the relevance of self-control. Guided by the ideas of differential self-control effects and a moral filtering of action alternatives, the present inquiry investigates whether the role of self-control in crime causation depends on the power of moral factors to exclude crime from the set of the considered behavioral options. We argue that the significance of an individual's capacity for self-control increases with a growing weakness of the moral filter, reaching its maximum when both personal and setting morality encourage criminal activity. Analyses of self-report data on adolescent vandalism delinquency provide support for differential self-control effects. The general picture is that self-control ability matters most when the strength of the moral filter hits a low, which is when both an individual's own moral rules and the moral norms of the setting facilitate offending. Further evidence suggests that crime contemplation is highest when individual morality and setting morality jointly encourage vandalism. There is also indication that trait self-control has a greater effect on vandalism delinquency at higher levels of crime contemplation. All these results accord with the notion of a subsidiary relevance of control.

Keywords Self-control · Situational Action Theory · Moral filter · Conditional relevance of control · Vandalism

Introduction

In contemporary criminology, the lack of self-control represents one of the most prominent explanations of criminal conduct (Gottfredson & Hirschi, 1990, 2020; Hay & Meldrum, 2016; Wikström & Treiber, 2007). However, although a myriad of empirical studies demonstrates that low self-control increases offending (De Ridder et al., 2012; Pratt & Cullen, 2000; Vazsonyi et al., 2017), less is known about the interplay of self-control with other crime-relevant factors. Most analyses confined themselves to the examination

of unconditional or independent effects of low self-control. The longstanding neglect of searching for moderators of self-control effects—a moderator is “a variable that specifies conditions under which a given predictor is related to an outcome” (Holmbeck, 2002, p. 87)—may ground on the fact that Gottfredson and Hirschi's (1990) influential monography describes low self-control as pivotal cause of criminal and analogous behavior.

More recent criminological thought suggests that a multitude of contextual, situational and individual factors may affect the operation of self-control in relation to crime (Burt, 2020; Hay & Meldrum, 2016; Wikström & Treiber, 2007). It is increasingly acknowledged that “a pressing agenda for research on self-control and crime is identifying for whom, when, and how self-control failures produce crime” (Burt, 2020, p. 62). Mamayek et al. (2017a, p. 903) coined the term “differential self-control” to denote the fact that high self-control may prevent offending for some individuals but not for others. Self-control ability may have different effects among different people, with the size of the protective

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self-control effect being contingent on characteristics of the person and properties of the (immediate) environment.

Among the candidates that may condition the strength of the relationship between self-control and offending, exposure to criminal opportunities (Grasmick et al., 1993; Hay & Forrest, 2008; Pratt & Cullen, 2000) and association with delinquent peers (Hirtenlehner & Hardie, 2016; Hirtenlehner et al., 2015; Wright et al., 2001) have received most attention. Some studies also examined the interaction between an individual's moral beliefs and his or her ability to exercise self-control (Kroneberg & Schulz, 2018; Svensson et al., 2010; Wikström & Svensson, 2010). The evolving general picture is that self-control effects vary, with low trait self-control being more predictive of criminal behavior when individuals are burdened with other criminogenic factors (Hay & Meldrum, 2016).

A recently developed account of crime causation that details the role of self-control in governing criminal activity is Situational Action Theory (SAT) (Wikström, 2010, 2014, 2019). This theory emphasizes a solely conditional relevance of self-control: the ability to resist current temptations and provocations is posited to influence the level of offending particularly when a permeable moral filter enables the perception of crime as a viable action alternative. Moral forces are assumed to determine the size of the self-control effect. Only when crime is actually taken into consideration as a justifiable response to a given motivation, an individual's ability to control oneself may come into play as a crime-inhibiting regulator of behavior.

Despite the plausibility of the general argument, SAT goes one step further and limits the crime-dampening efficacy of self-control to the case where a weakness of the moral filter is due to exposure to a crime-encouraging moral context (while personal morals simultaneously support adherence to the law). This restriction is consistent with the theory's special definition of self-control (which focuses on adjusting one's behavior to internalized moral rules), but opens a variety of questions and wrestles with existing empirical evidence. Such a narrow conceptualization of a conditional relevance of self-control is challenged by findings according to which elevated effects of low self-control can be observed among individuals holding weak law-consistent moral beliefs (Craig, 2019; Hirtenlehner & Kunz, 2016; Kroneberg & Schulz, 2018; Svensson et al., 2010; Wikström & Svensson, 2010).

Inspired by insights of SAT, the present work aims at devising and testing an alternative model of a subsidiary relevance of self-control that likewise has a strong focus on moral contingencies. We propose (I). that self-control is more than just the capacity for or the process of a *moral* management of the temptations and provocations an individual encounters in a setting, and (II). that self-control achieves significance in crime causation as soon as a porous

moral filter permits crime to be perceived as a selectable action alternative, regardless of the exact source of the permeability of the moral filter. From our perspective, both crime-conducive personal morals and a crime-facilitating moral context can render self-control important, including cases where all constituents of the moral filter encourage criminal activity. The underlying reason is that any weakness of the moral filter fosters the perception of crime as a potential behavioral option at the point of decision-making.

To assess the tenability of the broader conceptualization of differential self-control effects, we draw on a longitudinal self-report survey on adolescent vandalism delinquency. Vandalism represents a suitable test case for studying a moderating role of moral forces because it is one of the most common forms of juvenile delinquency (Junger-Tas, 2012; Stummvoll et al., 2010). Beyond that, vandalism is a rather heterogeneous phenomenon that contains both rational (instrumental) and irrational (expressive) elements (Coffield, 1991; Goldstein, 1996), is often perpetrated in groups (Sarnecki, 2004; Wikström et al., 2012), can be found in all social strata (Gladstone, 1978; Richards, 1979), and causes—owing to the frequency of its occurrence—considerable economic costs (Coffield, 1991; Goldstein, 1996). A focus on a specific type of rule-breaking is also warranted by the fact that the moral filter functions crime-specific: whether a particular offense is actually contemplated depends on the moral assessment of the corresponding type of crime (Wikström, 2010).

Theoretical Framework

The Nature and Role of Self-control in Situational Action Theory

SAT (Wikström, 2010, 2014, 2019) submits that a person–environment–interaction triggers a perception–choice–process that directly governs action. When a person with a certain level of criminal propensity (determined by his or her morality and self-control ability) encounters a setting with a certain level of criminogeneity (determined by its moral context and deterrent quality), motivation evolves. Motivation activates a search for possible response options, which is guided and restricted by a moral filter. This moral filter consists of the individual's morality (his or her personal moral rules combined with moral emotions) and the moral context of the setting (the moral rules that apply to the immediate environment). Together they regulate which response options enter the set of the perceived action alternatives (choice set). As long as the moral filter holds out—that is when both personal morality and the moral context square with the legal norms of the society—crime is excluded from the choice set.

SAT furthermore maintains that “an act of crime will be chosen if that is considered the best option” (Wikström, 2019, p. 273). This decision may be based on a subjective weighing of the pros and cons of the perceived action alternatives. To be more precise: in line with dual process theories (Evans & Frankish, 2009), SAT acknowledges the existence of two modes of decision-making: a rational deliberate mode wherein individuals choose between several perceived action alternatives and a habitual mode wherein individuals see only one action alternative that is carried out more or less automatically. While moral factors determine which action alternatives are taken into consideration, controls (self-control and deterrence) affect which alternative is selected from the choice set (if this set includes crime as one of several options).

SAT distinguishes between trait self-control (an enduring capability) and state self-control (a situational activity). Self-control is both something that people have and something that people do (Wikström et al., 2012). The exertion of self-control is defined in SAT as “the successful inhibition of perceived action alternatives (...) that conflict with an individual’s morality” (Wikström & Treiber, 2007, p. 252)—a situational process that partly depends on the person’s ability to repress action alternatives that collide with his or her moral values. From this angle, self-control aims primarily at a moral management of the temptations and provocations an individual experiences in a particular setting.

SAT’s principle of the conditional relevance of controls (Wikström, 2010) specifies in which situations (person–environment convergences) which controls are important. It states that controls only gain relevance in the choice process, when (a) personal morality conflicts with the moral context, (b) crime passes the moral filter, *and* (c) the individual deliberates over his or her course of action. Accordingly, conflicting rule-guidance is crucial for controls to become influential—simply because without disharmony, there is nothing to control (Wikström et al., 2012). Controls affect behavioral choices solely when an individual exposed to a particular setting due to a moral conflict considers both criminal and non-criminal action alternatives and deliberates how to act under these circumstances.

SAT is very specific regarding the interplay of the source of the weakness of the moral filter and the necessary type of control. Different person–environment constellations implicate different kinds of controls. The principle of the conditional relevance of controls posits that self-control becomes effective when the moral context encourages criminal behavior (while personal morality supports compliance with the law) and deterrence becomes effective when personal morality encourages criminal conduct (while the moral context supports adherence to the law). Such a clear-cut conception makes sense in light of the concrete definitions of the involved types of control. In SAT, trait self-control describes

an individual’s ability to act in accordance with his or her personal moral rules (when the moral norms of the setting suggest a different course of action) and deterrence captures a setting’s capacity to enforce compliance with its moral rules (when an individual’s own morality suggests acting in a different direction) (Wikström, 2014). State self-control refers to implementing one’s morals into behavior (when faced with outer inducements to act differently) and deterrence is about adjusting one’s behavior to the moral norms of the current surroundings (due to fear of external sanctions).

This argumentation is completed by the principle of moral correspondence, which states that controls remain irrelevant when personal morality and the moral context provide congruent rule-guidance (Wikström, 2010). The insignificance of controls is easy to understand in cases where both an individual’s own moral rules and the moral norms of the setting support adherence to the law. When both personal and contextual morality discourage offending, crime cannot overcome the moral filter and will not be seen as a potential action alternative, which deprives controls of their explanatory power. If crime is not regarded as a basically selectable option, controls are not involved in the process of choice because there is nothing to control for.

The combination of a crime-encouraging personal morality with a crime-facilitating moral context deserves more attention. SAT posits that when both an individual’s own moral rules and the moral norms of the setting are conducive to crime, there is no need to manage conflicting rule-guidance and controls will not become influential (Wikström, 2014). However, the detailed reasoning underlying this assumption remains somewhat unclear. Is it because law-abidance does not cross one’s mind as a possible course of action when personal morality and the moral context concordantly encourage criminal behavior? When individuals consider solely criminal action alternatives, then controls may lack any relevance. Must habitual offending be expected in this case? If individuals do not deliberate over their course of action, controls do not affect the process of choice.

A Broader Conceptualization of Self-control

The psychological literature provides somewhat different conceptualizations of self-control, whose common denominator seems to be that self-control describes the ability to resist short-term hedonistic impulses in favor of higher-ranking standards (Baumeister et al., 1994; Burt, 2020; Fujita, 2011; Inzlicht et al., 2021). Thereby, standards are “abstract concepts of how things should be” (Baumeister et al., 1994, p. 9). Self-control helps inhibit impulses to seek instant gratification of desires when indulging in these desires runs contrary to more abstract, distal goals or target states. As regards the “greater” standards, self-control may be a servant of different masters. Self-control aims at adjusting behavior

to personal standards, but these standards need not be one's own moral rules. In the words of Vohs et al. (2008, p. 884), “[s]elf-control refers to the capacity for altering one's responses, especially to bring them into line with standards, such as ideals, values, morals, and social expectations, and to support the pursuit of long-term goals”.

In processual terms, self-control focuses on the practice of overriding or suppressing a natural spontaneous response to a tempting impulse and replacing it with a response that is more in line with higher-order standards, such as abstract ideals, moral values, social norms, long-range interests or future well-being (Hay & Meldrum, 2016). This process requires “having some standards, monitoring oneself in relation to these standards, and altering the self's responses so as to make them conform better to the standards” (Baumeister et al., 1994, p. 14). Response modification emerges as the crucial issue. However, the literature lacks unanimity concerning the underlying mechanism. A weak ability to defer gratification, an excessive discounting of temporally remote consequences and deficits in the capacity to consider behavioral implications that are delayed in time have been identified as catalysts of self-regulatory failure (Fujita, 2011; Mamayek et al., 2017b; Schulz, 2016). At any rate, an inability to transcend the immediate situation leaves people focused on the here-and-now, which undermines their tendency to act in the service of long-term goals (Baumeister et al., 1994).

More concordance can be found regarding the conceptualization of self-control as a somewhat stable aspect of personality or character trait (Gottfredson & Hirschi, 1990; Mamayek et al., 2017b; Mischel, 2015). According to Baumeister et al. (1994, p. 19), it is “almost certainly true that some people have more self-discipline than others, are better able to control their actions and (...) are more capable of resisting temptation”. This is not meant to rule out temporary fluctuations in self-regulatory strength (ego depletion in the aftermath of previous exertions of self-control is a frequent phenomenon), but enduring individual differences in the tendency to indulge in instant gratification at the expense of higher-order standards cannot be dismissed easily (Muraven et al., 2006).

Implications for the Principles of Moral Correspondence and a Conditional Relevance of Controls

The issues outlined above (and empirical evidence we will review soon) give reason to explore alternative conceptualizations of the complex interdependencies between the moral filter, its components and the role of controls. Relaxing some assumptions of SAT while simultaneously drawing on key propositions of this theory, we propose a slightly different *model of a subsidiary relevance of control*. We argue

that fulfilling conditions (b) and (c) is sufficient for introducing controls as potentially crime-inhibiting factors into the choice process. When the moral filter does not preclude the perception of crime as a viable action alternative and the individual deliberates how to act, controls may exercise an effect on the likelihood of choosing a criminal response to a given motivation. From our perspective, conflicting rule-guidance is not necessary to render controls relevant¹: a crime-encouraging personal morality combined with a crime-facilitating moral context also fosters the perception of crime as a justifiable alternative (presumably to a greater extent), which then brings all sorts of controls into play.

In our view, *various* controls matter as soon as individuals deliberate about which action alternative to choose from a set of perceived behavioral options that includes crime. When a criminal action alternative overcomes the moral filter and is actually being contemplated, both high self-control and strong deterrence render choosing this alternative unlikely, regardless of the precise source of the permeability of the moral filter. Specifically, we do not agree with the restriction that an effect of self-control is possible only when the moral context is criminogenic (and personal morals support compliance with the law) and an impact of deterrence is possible only when personal morals encourage crime (and the moral context promotes adherence to the law). Our position is that both internal and external controls become important as soon as either a crime-conducive personal morality or an antisocial moral context (or both) weaken the moral filter, plainly because having crime on the radar demands for controls to counteract its attractiveness. Compatible with this perspective, empirical research has established a complementary working of internal and external controls: outer regulatory forces seem to exert a greater effect when inner restraints are weak and vice versa (Agnew, 2003; Gerich, 2014; Hirtenlehner & Mesko, 2019; Wright et al., 2001). Findings of this kind suggest that different types of control may substitute for one another.

We are well aware that this wide approach interferes with the specific definitions of self-control and deterrence in SAT as well as with parts of the principle of moral correspondence (where it maintains that controls are irrelevant when personal morality *and* the moral context encourage criminal activity). Both issues deserve additional clarifications.

In SAT, self-control is devised as a means of securing that an individual acts in accordance with his or her own morals

¹ To be clear: we also think that the exertion of self-control is initiated by a conflict—but by a conflict between one's impulses (wishes, needs) and one's standards (values, long-term goals), and not necessarily by a conflict between personal and contextual morality (Burt, 2020; Fujita, 2011; Inzlicht et al., 2021). The incompatibility of an immediate situational temptation with a positively valued higher-order standard calls for self-control as a potential restraining force.

when faced with outer inducements to take a different course of action (Wikström, 2010, 2014, 2019). Divergent from this narrow focus on the implementation of personal morals into behavior, we favor a broader understanding of the crime-relevant functioning of self-control. For us, exerting self-control is more than adjusting behavior to advocated moral standards when confronted with pressures or incentives to breach internalized moral rules. We think that other aspects of self-control also have implications for the tendency to commit acts of crime. The ability to anticipate and calculate the temporally remote consequences of offending for one's personal well-being, social commitments, public reputation or long-term goals, the capacity to resist temptations of the moment whose acting out would run contrary to valid legal rules (which may or may not be approved by the individual), or the faculty to override spontaneous impulses so as to bring behavior into line with the expectations of significant others (e.g. to avoid disappointing parents or spouses) will all affect an individual's level of criminal activity. There are many standards whose pursuit may protect from crime. Personal moral beliefs are just one of them. Restricting the operation of self-control to the inhibition of action alternatives that conflict with one's own morality does not capture the full crime-reducing potential of the concept.

Acknowledging that self-control may serve different masters accords well with our ideas regarding a subsidiary relevance of self-control. The pursuit of various standards may contribute to the prevention of offending as soon as individuals view crime as an option. The wish to avoid drawbacks for one's future career or the desire to stay healthy may exert a crime-reducing effect even when personal and setting morality jointly encourage criminal conduct. The strength of the moral filter is decisive for the significance of self-control, not the specific arrangement of its constituents. There is no need to restrict self-control's crime-dampening function to the moral management of the temptations and provocations of the moment.

Our key argument is that the likelihood that crime is considered for action reaches its maximum when a crime-facilitating personal morality meets a crime-conducive moral context, which is why this constellation will also bring about the largest effects of controls. However, while SAT holds that conflicting rule-guidance is a prerequisite for controls to come into play because it promotes reflection and guarantees that both criminal and non-criminal alternatives are being perceived; we argue that a moral conflict is not necessary for rendering controls important. On the one hand, refraining from action is almost always an option. This should suffice to bring controls into play (because there is a choice between offending and no action at all). On the other hand, we think that in a given jurisdiction's (country's) action settings the law is always at least latently present. It is hard to imagine an advanced society in which people do not know that it

is illegal to steal or rob or intentionally destroy third party property. Thus, the basic prescriptions of the legal order will always color the moral superstructure of the available settings. In real life, it will be difficult to find individuals and social settings completely fixated on crime, in a way that non-criminal action (or not acting at all) does not even occur as a remote possibility.

Prior Research

Previous research on the interworking of controls and components of the moral filter is consistent with our understanding of subsidiary control effects.

In line with the original formulation of the principle of the conditional relevance of controls, several studies show that perceived sanction risk exerts a greater influence on offending among individuals holding crime-encouraging moral beliefs (Hirtenlehner & Hardie, 2016; Hirtenlehner & Mesko, 2019; Kroneberg et al., 2010; Svensson, 2015). Whether the size of the sanction risk effect depends also on the nature of the moral context has received less empirical attention. However, a few works used the level of exposure to peer delinquency as a measure of the moral contexts young people are regularly faced with and analyzed its interaction with the efficacy of deterrence. The majority of these studies demonstrated larger sanction certainty effects among adolescents with many delinquent friends (Hirtenlehner, 2019; Hirtenlehner & Bacher, 2017; Hirtenlehner & Schulz, 2021; with different results: Matthews & Agnew, 2008).

The original proposition that self-control matters particularly when the moral context encourages criminal behavior is supported by research investigating the interplay of trait self-control and delinquent peer association. Most of these studies reveal that high self-control mitigates the criminogenic impact of perceived peer delinquency (Hirtenlehner & Hardie, 2016; Hirtenlehner et al., 2015; Ousey & Wilcox, 2007; Wright et al., 2001). While most of the relevant research relies on exposure to peer delinquency as indicator of confrontation with crime-conducive moral contexts, a study conducted in two Eastern European cities aggregated participants' moral attitudes to the neighborhood level and examined whether the self-control effect depends on the moral make-up of the neighborhood (Zimmerman et al., 2015). The obtained findings suggest that the relationship between self-control and offending is amplified in low morality neighborhoods.

In addition, a number of inquiries have addressed the interaction of self-control ability and personal morals. The majority found that the magnitude of the self-control effect is contingent on personal morality, with the ability to exercise self-control being more predictive of crime involvement among individuals with weak law-relevant morality (Craig,

2019; Hirtenlehner & Kunz, 2016; Kroneberg & Schulz, 2018; Svensson et al., 2010; Wikström & Svensson, 2010).

In a cross-sectional study conducted in Germany, Schepers and Reinecke (2018) observed that both self-control and perceived sanction risk exhibit their greatest explanatory power among adolescents characterized by a combination of a crime-facilitating personal morality and a criminogenic setting morality (the latter inferred from high levels of perceived peer delinquency). These results suggest that internal and external controls unfold a larger effect when the moral filter does not exclude crime from the range of the perceived action alternatives, regardless of whether this failure is due to a crime-encouraging personal morality or a crime-conducive moral context. The fact that the largest control effects emerged among adolescents low in morality *and* high in peer delinquency indicates that the impact of controls peaks when the strength of the moral filter is minimal.

Direct empirical evidence that the self-control effect depends on the operation of the moral filter comes from a scenario study conducted among adults in Bangladesh. Brauer and Tittle (2017) addressed the moral filtering of violent action alternatives and its implications for the influence of controls. They found that personal and contextual morality additively affected the likelihood of contemplating crime as a potential response option and that crime contemplation moderated the impact of trait self-control. The authors conclude that “a person must first see crime as an option before the capacity to resist impulses (...) can influence choices to offend or comply” (Brauer & Tittle, 2017, p. 820 f.).

In another inquiry, Serrano-Maillo (2018) employed the self-reported frequency of feelings of temptation to commit offenses as indicator of an individual’s tendency to consider crime as selectable action alternative. Based on cross-sectional survey data from adolescents in Latin America, he found that people’s capacity for self-control has a stronger effect on offending at higher levels of crime contemplation. This pattern is consistent with the assumption that low trait self-control is most predictive of criminal conduct among those who (for moral reasons) are most likely to see crime as ‘real’ alternative.

Current Study

The present study examines whether the effect of trait self-control on the frequency of acts of vandalism depends on the strength of the moral filter, which results from the interplay of an individual’s own moral rules and the moral norms of the current setting. However, in deviation from SAT’s original formulation of the principle of the conditional relevance of controls (Wikström, 2010), we explicitly expect the largest self-control effect among individuals for whom both a crime-facilitating personal morality and a crime-conducive

setting morality promote a permeability of the moral filter for acts of vandalism, simply because these people are most likely to contemplate engaging in an intentional defacement, damage or destruction of property not one’s own (Goldstein, 1996).

Thereby, we draw on a wide understanding of trait self-control as an individual’s ability to resist immediate desires, urges and impulses (temptations and provocations) whose fulfillment is in contradiction to higher-order standards (Hay & Meldrum, 2016). Self-control is exerted to bring one’s responses into line with higher-ranking standards (e.g. long-term goals, long-range interests, social commitments, moral values, abstract ideals), which usually oppose breaching the law. The capability to override spontaneous hedonistic impulses in favor of diverse higher-order standards is presumed to exert the greatest influence on offending when the strength of the moral filter hits a low.

Hypothesis 1: The impact of trait self-control on vandalism activity is dependent on the strength of the moral filter, with self-control effects increasing in size when the moral filter becomes weaker.

As described above, the moral filter determines whether crime is regarded as a justifiable means to respond to a given motivation. Serrano-Maillo (2018) suggests using the frequency with which people feel tempted to engage in acts of crime as a measure of their tendency to see crime as a selectable action alternative. Following his example, we infer an individual’s inclination to view vandalism as a real option from the frequency of his or her vandalism-related temptation experiences. To be clear: temptation experiences are conceptualized here as a measure of the perception of crime as a thinkable alternative, not as a specific form of motivation that arises when a need meets an opportunity (Wikström et al., 2012).² Accordingly, we hypothesize that the level of temptation to damage or destroy third party property varies with the strength of the moral filter. We explicitly expect to find the highest level of temptation to perpetrate vandalism when a crime-facilitating personal morality concurs with a criminogenic moral context.

Hypothesis 2: The level of temptation to damage or destroy property not one’s own (and therewith the tendency to see vandalism as action alternative) increases when the moral filter becomes weaker.

To keep delinquency at bay, temptation or crime contemplation experiences must be defused by controls (Wikström,

² In line with Gottfredson and Hirschi (2020), we regard opportunities for vandalism as ubiquitous.

2014). Hence, we assume that the impact of self-control on offending increases as temptation rises. The largest effect of an individual's capacity for self-control on his or her vandalism activity is expected for those who frequently feel tempted to damage or destruct third party property.

Hypothesis 3: The impact of trait self-control on vandalism activity is contingent on the level of temptation to damage or destroy property not one's own, with self-control exerting a greater effect when vandalism-related temptation is a more frequent phenomenon.

In accordance with the hypotheses delineated above, the ensuing analyses will proceed in three steps. First, we examine whether and how the effect of the capacity for self-control on vandalism delinquency varies across combinations of personal and contextual morality. These combinations are thought to represent different stages of the strength of the moral filter (hypothesis 1). Second, we use feelings of temptation to engage in vandalism as indicator of the perception of vandalism as selectable action alternative and compare mean levels of temptation across categories of the moral filter (hypothesis 2). Third, we test whether and how the effect of trait self-control on vandalism activity varies with the level of temptation to engage in this type of behavior (hypothesis 3).

Methods

Data

The employed data stems from a longitudinal student survey on self-reported vandalism delinquency conducted in the city of Linz (Austria). Linz is the capital of the province of Upper Austria. It has approximately 200,000 inhabitants and is characterized by extensive industry and economic prosperity. Although Linz was once a classical steel city, it has successfully dealt with economic structural change, resulting in a flourishing labor market and low levels of socioeconomic inequality.

The school-administered online survey was based on a multistage sampling plan. At first, all lower secondary schools located in Linz were asked to take part in the survey. 31 out of contacted 35 schools agreed to participate. In each of them, one 7th and one 8th grade class were randomly selected. All 1294 students attending the chosen classes were then invited to repeatedly answer a questionnaire.

The inquiry comprised two waves of data collection, separated by a lag period of four months. In contrast to the bulk of criminological panel studies which gather data at annual intervals, our longitudinal research relies on a much shorter time lag between the surveys. For several reasons,

we consider a shorter lag period as advantageous. In terms of age, our respondents are in a stage of life characterized by dynamic personal and moral development. Friendship relationships may change. The participants are also rapidly approaching the typical age peak of criminal activity. All of this suggests measuring 'cause' and 'effect' as close as possible in time. Certainly, the chances to disclose causal relationships are greater when time-ordered data are collected at shorter intervals.

The first wave of data gathering took place in November and December 2017, the second wave followed in March and April 2018. 1194 students participated in the first, 1198 in the second wave. Thus, the response rates were 92% and 93%, respectively.³ The analyses conducted in the course of this work rest on the 809 students who took part in both survey waves and provided valid panel codes.⁴ Participants were mainly 13 or 14 years old when they entered the study, with boys and girls represented on equal terms.⁵ Table 1 informs about the composition of the employed net sample.

Participants completed the surveys online during class time in the school's computer rooms under the supervision of trained interviewers.

Measurement

Vandalism Delinquency

The employed delinquency measure unites the frequency of intentionally scratching third party property (e.g. keying cars or carving symbols into desks) with the frequency of (other than scratching) deliberately damaging or destroying property not one's own. In both cases, crime incidence was determined for the last four months preceding the second survey. The two items ($r = .39$) were added up to quantify respondents' overall level of vandalism activity. 15% of the participants reported having committed at least one of these acts within the last four months.

Self-control

The capacity for self-control was measured with an abridged version of the self-control scale utilized by Wikström et al. (2012), which itself builds on the inventory developed by

³ The dropouts were mostly due to absences on the day of the data collection.

⁴ To link the two anonymous surveys, we relied on a small number of items whose values could not change within the investigation period (e.g. class identification code, sex, month of birth, first letter of mother's forename).

⁵ In terms of their sociodemographic profile and their level of offending, the students who participated in both waves do not differ systematically from all respondents of the first wave.

Table 1 Sample composition ($n = 809$)

Characteristic	Percent
Sex	
Boys	48%
Girls	52%
Age	
12 years	18%
13 years	47%
14 years	30%
15 or more years	5%
Grade	
7th class	46%
8th class	54%
Ethnicity	
Austrian	66%
Non-Austrian	34%
Place of residence	
Linz	93%
Outside of Linz	7%
Type of school	
Grammar school	40%
General lower secondary school	60%

Grasmick et al. (1993). The scale does not focus specifically on the ability to implement one's own morals into behavior, but depicts an individual's general tendency to control his or her actions. The eleven items presented to participants tap primarily into the risk-taking, impulsivity and temper components of the concept.⁶ Responses on a four-category answering format ranging from "strongly agree" to "strongly disagree" were summed to form a total score. High values on this score indicate low trait self-control (Cronbach's $\alpha = .75$).

Personal Morality

To determine an individual's vandalism-relevant morality, an index variable was created that combines three items tapping into the perceived wrongfulness of vandalism as well as feelings of guilt and shame regarding this type of activity (Hirtenlehner & Hardie, 2016). Moral beliefs were measured with the question "How wrong is it to smash a street light for fun?" ("very wrong", "fairly wrong", "a little wrong", "not wrong at all"). Anticipated feelings of guilt and shame were assessed with the questions "Would you feel guilty if you intentionally damaged or destroyed property that is not your own?" and "If your parents found out that you intentionally damaged or destroyed property that is not

your own, would you feel ashamed?" (response categories in both cases: "yes, very much", "yes, a little", "no, not at all"). A composite measure was constructed by summing the three z-standardized item values. High scores on the index variable denote a more crime-encouraging personal morality (Cronbach's $\alpha = .62$).

Moral Context

Contextual morality is partly determined by the moral attitudes of the people with whom an actor shares the setting (Hirtenlehner & Hardie, 2016; Hirtenlehner & Schulz, 2021). SAT posits that "a measure of the strength of a moral rule that applies to a setting is the degree to which it is shared (cognitively and emotionally) by those taking part in the setting" (Wikström, 2010, p. 222). Since young people spend plenty of time in the company of peers (Warr, 2002), their friends' discernable stance towards offending represents a suitable indicator of the moral make-up of adolescents' immediate environment at the point of action. The level of exposure to crime-encouraging peers was inferred here from participants' perceptions about both their friends' moral beliefs regarding vandalism and the proportion of friends involved in vandalism. The former was operationalized by an assessment of the statement "Most of my friends think it is okay to damage or destruct property that is not their own." ("Strongly disagree", "mostly disagree", "mostly agree", "strongly agree"). The latter was measured with the question "How many of your friends intentionally scratched, damaged or destroyed property that was not their own in the last 12 months?" ("none", "a few", "most of them", "all"). The two items ($r = .40$) were added up and coded in a way that higher values reflect a more crime-encouraging moral context.

We are well aware that perceptual measures of peer vandalism may be contaminated by projection bias and false consensus effects (Gottfredson & Hirschi, 2020; Young et al., 2014). The respondent's own moral attitudes, his or her level of self-control as well as jointly committed offenses may affect young people's assessment of their friends' crime proneness. Individuals tend to attribute to their peers qualities that are similar to their own. However, relying on a respondent-generated measure of peer vandalism can be defended here by highlighting that it is the perceived stance of physically or psychologically present friends towards damaging or destroying third party property that counts when adolescents make behavioral decisions.

Moral Filter

To capture the overall strength of the moral filter, the sample is divided into four subgroups according to combinations of the median-dichotomized measures of personal and setting

⁶ Item examples are "I often take a risk just for the fun of it." and "I lose my temper pretty easily."

morality. Individuals characterized by a crime-discouraging personal morality and a crime-discouraging moral context are assumed to have the strongest (most effective) moral filter. People characterized by a crime-encouraging personal morality and a crime-encouraging moral context are presumed to have the weakest (least effective) moral filter. Groups expressing discrepant combinations of personal and contextual morality are supposed to represent a medium strength of the moral filter.

Crime Contemplation

Based on the assumption that individuals differ in their tendency to consider crime as a possible response to motivation, we draw on the frequency with which participants feel tempted to damage or destruct third party property to quantify the scope of the perception of vandalism as a selectable action alternative. Respondents were asked “How often do you feel tempted to damage or destroy property that does not belong to you?”, with “never”, “seldom”, “sometimes”, “often” and “very often” as answering categories. Higher values denote an increased tendency to view vandalism as ‘real’ option.⁷

Perceived Sanction Risk

Participants’ assessment of the vandalism-related sanction certainty was measured in terms of the perceived likelihood of getting caught when deliberately smashing a street light. Four response categories between “very great risk” and “no risk at all” were provided. Answers were coded so that higher values indicate a lower risk perception.

Additional control variables include school type (grammar school vs. general lower secondary school) as well as participants’ domicile (Linz vs. non-Linz), age, sex and ethnicity. Whether the respondent is of Austrian or other ethnicity was inferred from his or her parents’ country of birth. As soon as one parent was born abroad, the respondent was classified as having foreign ethnicity.

Table 2 presents descriptive statistics and bivariate correlations for the variables included in the study.

Analytic Strategy

In statistical terms, the employed response variable—the self-reported frequency of acts of vandalism—represents a count variable. Negative binomial regression has been established as appropriate statistical procedure for modeling skewed count variables with overdispersion (Hilbe, 2011).

⁷ 6 % of the respondents reported that they feel “often” or “very often” tempted to engage in acts of vandalism.

Table 2 Product-moment correlations and descriptive statistics

	1	2	3	4	5	6	7	8	9	10	11
1. Vandalism frequency	1										
2. Low self-control	.18***	1									
3. Weak personal morality	.22***	.34***	1								
4. Weak moral context	.27***	.27***	.32***	1							
5. High temptation	.21***	.37***	.32***	.32***	1						
6. Low risk perception	-.02	.09*	.24***	.06	.05	1					
7. Age	.01	-.03	.05	-.04	-.07	.03	1				
8. School type: grammar school	-.05	-.04	-.14***	-.08*	-.03	.01	-.20***	1			
9. Sex: boy	.07*	.09*	.09*	.10**	.08*	.03	.07*	-.02	1		
10. Ethnicity: foreign	-.01	.01	.03	.04	.02	-.02	.18***	-.29***	.01	1	
11. Domicile: Linz	-.03	-.00	-.01	-.07	-.02	-.05	.05	-.19***	-.08*	.13***	1
Arithmetic mean/Standard deviation	.63/3.61	24.51/5.38	-.12/2.14	2.80/1.06	1.71/.94	1.99/.91	1.3.23/.83	.40/.49	.48/.50	.34/.48	.93/.25

p* < .05; *p* < .01; ****p* < .001

Table 3 Average marginal effects of trait self-control on vandalism frequency (differentiated by category of the moral filter)

Filter strength	Moral filter group [<i>n</i> /vandalism prevalence rate]	AME	SE	Z	<i>p</i>
1	Crime-discouraging personal morality/crime-discouraging moral context [231/2%]	.10	.09	1.15	.248
2	Crime-encouraging personal morality/crime-discouraging moral context [147/10%]	.00	.04	.00	.997
2	Crime-discouraging personal morality/crime-encouraging moral context [129/17%]	.21	.14	1.56	.120
3	Crime-encouraging personal morality/crime-encouraging moral context [199/31%]	1.65	.68	2.44	.015

AME average marginal effect, SE standard error, Z Z-statistic, *p* *p*-value

Hence, self-control effects were determined on the basis of negative binomial models.

However, the interpretation of interaction effects is more complex for nonlinear models than in the linear framework. Interaction is inevitably introduced into nonlinear models by the link function (the logarithmic function in the case of a negative binomial regression) which implies that the partial effect of a given covariate will necessarily depend on the levels of all other covariates included in the equation. Notwithstanding, to capture the complete interplay of two covariates involved in an interaction relationship it is necessary to additionally incorporate their product term in the model's linear predictor. The joint presence of model inherent interaction and product term induced interaction complicates the identification and interpretation of the total interaction effect. As both forms of interaction sum up to the total interaction effect, the strategy of focusing solely on the significance and value of the product term's parameter estimate may be misleading and produce methodological artifacts. For example, one may erroneously infer that no (total) interaction effect is present because the product term induced interaction effect is zero while the model inherent interaction actually points in a different direction (Ai & Norton, 2003; Berry et al., 2010; Karaca-Mandic et al., 2012; Tsai & Gill, 2013).

Against this backdrop, we relied on comparisons of average marginal effects (AMEs) obtained from negative binomial models to examine the interplay of trait self-control and the functioning of the moral filter (Mood, 2010; Williams, 2012). A marginal effect (ME) relates a covariate to the predicted change of the dependent variable, given specific values of other covariates in the model (Hilbe, 2011). For some continuous covariate x_k included in the covariate set \mathbf{x} , the ME equals the partial derivative $\partial y|\mathbf{x}/\partial x$. It can be directly computed for each individual i ($i = 1, \dots, n$) from \mathbf{x}_i and the parameter estimates obtained from the model. In the case of a negative binomial regression, it expresses how the conditional expected count response changes with a one-unit increase in the covariate of interest. Finally, the AME can be computed by $\sum_{i=1}^n ME_i/n$.

Based on the logic that variability in conditional MEs indicates the presence of interaction, AMEs of self-control

ability on the frequency of vandalism were calculated for subsamples representing different categories of the moral filter or different levels of crime contemplation. These conditional MEs were then tested for equality. The Z-test proposed by Paternoster et al. (1998) was employed to examine whether the subgroup-specific marginal self-control effects differ significantly from each other.

All models were fitted with Stata 15. To correct for the nesting of students in school classes, inference statistics were based on cluster-robust standard errors.

Results

Self-control Effects Differentiated by Strength of the Moral Filter (Hypothesis 1)

At the heart of the present study is the question whether the significance of an individual's capacity for self-control varies with the strength of the moral filter. To obtain comparable conditional self-control effects, we split the sample into four subgroups representing different combinations of personal and contextual morality,⁸ and perform subgroup-specific negative binomial regression analyses in which we regress the incidence of vandalism on self-control ability, sanction risk perception and several control variables (school type, age, sex, ethnicity and domicile). These groups are assumed to embody different stages of the vandalism-related strength of the moral filter. From the subgroup-specific negative binomial models, we calculate the respective AMEs of trait self-control on people's frequency of vandalism. The latter are reported in Table 3.

The key finding of the segmented analyses is that an individual's ability to exercise self-control relates to his or her level of vandalism delinquency solely among adolescents characterized by both weak personal morals and a crime-encouraging moral context. Put differently: the capacity to override destructive behavioral

⁸ As described above, personal and setting morality were dichotomized at the median before building the moral filter groups.

Table 4 Significance of the differences of the average marginal effects of trait self-control on vandalism frequency (across categories of the moral filter)

Category	Category	Z	p
Personal morality/moral context	Personal morality/moral context		
Encouraging/encouraging	Discouraging/discouraging	2.26	.024
Encouraging/encouraging	Encouraging/discouraging	2.42	.016
Encouraging/encouraging	Discouraging/encouraging	2.07	.038
Discouraging/encouraging	Discouraging/discouraging	.66	.509
Discouraging/encouraging	Encouraging/discouraging	1.44	.150
Encouraging/discouraging	Discouraging/discouraging	1.02	.308

Z Z-statistic, p p-value

Table 5 Mean level of temptation (differentiated by category of the moral filter)

Filter strength	Moral filter group [n]	M	SE
1	Crime-discouraging personal morality/crime-discouraging moral context [246]	– .36	.75
2	Crime-encouraging personal morality/crime-discouraging moral context [159]	– .17	.91
2	Crime-discouraging personal morality/crime-encouraging moral context [139]	– .11	.83
3	Crime-encouraging personal morality/crime-encouraging moral context [230]	+ .54	1.14

M arithmetic mean, SE standard error

tendencies significantly inhibits vandalism delinquency when a crime-conducive personal morality meets a crime-facilitating moral environment—a combination that is indicative of a feeble moral filter. However, as soon as either personal or contextual morality oppose damaging or destroying third party property, the self-control effect ceases to exist. The protective impact of high trait self-control cannot be reproduced in the other three groups.

Comparing the average marginal effects (of trait self-control on vandalism activity) across groups (Table 4) using the Z-test proposed by Paternoster et al. (1998) reveals significant pairwise effect differences for the ‘weak personal morality/criminogenic moral context’ subsample. The group that depicts the least powerful moral filtering exhibits significantly greater self-control effects than all other groups. Between the remaining groups, no systematic effect variation can be observed.

Taken together, these individual-level findings indicate that the capacity for self-control is most influential when both a crime-conducive personal morality and a crime-facilitating moral context promote the perception of vandalism as a viable action alternative. The fact that trait self-control is particularly consequential under the condition of ‘poor personal morality coupled with crime-encouraging setting morality’ suggests that the size of the self-control effect varies with the strength of the moral filter. Therewith, some support for hypothesis 1 is discernable.

Moral Filtering and Crime Contemplation (Hypothesis 2)

In the present study, respondents’ extent of crime contemplation or their tendency to see vandalism as ‘real’ alternative is inferred from the number of pertinent temptation experiences. Following this logic, we assume that the level of temptation to damage or destroy property not one’s own is largest under the condition of ‘poor personal morality coupled with criminogenic setting morality’ (very weak moral filter) and smallest when law-consistent personal morals are accompanied by a crime-discouraging moral context (very strong moral filter).

Table 5 gives average temptation levels differentiated by categories of the moral filter. Temptation is employed in z-standardized form. Group-specific arithmetic means are displayed. It is immediately apparent that the tendency to see vandalism as an action alternative is a function of the strength of the moral filter. A non-parametric Kruskal–Wallis test ($H = 94.47$; $p = .000$) points towards group-specific differences in the level of crime contemplation. The frequency with which participants feel tempted to commit acts of vandalism varies significantly across the investigated categories of the moral filter. The by far highest level of crime contemplation can be observed among adolescents amalgamating a weak personal morality with

Table 6 Average marginal effects of trait self-control on vandalism frequency (differentiated by level of temptation)

Temptation [<i>n</i> /vandalism prevalence rate]	AME	SE	Z	<i>p</i>
Never [388/7%]	.04	.05	.76	.448
Seldom to very often [338/25%]	.95	.34	2.82	.005
Effect difference	Contrast	SE	Z	<i>p</i>
Never—seldom to very often	.91	.34	2.68	.007

AME average marginal effect, SE standard error, Z Z-statistic, *p* *p*-value

a criminogenic moral context. The lowest level of crime contemplation can be found among youths marked by a law-consistent personal morality and a crime-discouraging moral context. The respondent groups representing a mediocre filter strength range between these two extremes.⁹

On balance, the resulting overall picture suggests that an increasing weakness of the moral filter is associated with an elevated inclination to consider vandalism for action. Such a relationship squares with hypothesis 2 which implies that the likelihood of contemplating crime rises when the moral filter becomes more porous.

Self-control Effects Differentiated by Level of Crime Contemplation (Hypothesis 3)

Our last hypothesis contends that the impact of the capacity for self-control depends on the level of crime contemplation, with the latter measured in terms of the frequency of vandalism-related temptation experiences. To examine the presence of differential self-control effects, we divide the sample into two subgroups according to the participants' scores on the crime contemplation variable. In detail, we differentiate adolescents who never feel tempted to perpetrate acts of vandalism from youths who at least sometimes (seldom or more often) feel tempted to damage or destroy third party property.¹⁰ As before, separate negative binomial regression models are estimated for the constructed subgroups (with vandalism frequency as response variable and trait self-control, sanction risk perception and the sociodemographic control variables as predictors). Based on these estimations, the AMEs of self-control ability on vandalism activity are determined for the two subsamples. Table 6 presents the relevant results.

⁹ Pairwise comparisons with Mann-Whitney *U*-tests indicate that it is again the group characterized by both crime-encouraging personal morality and crime-encouraging setting morality that significantly differs from all other groups ($U \geq 5,995.50$; $p \leq .001$).

¹⁰ A finer gradation of the second group is impossible because the vast majority of its members reported feeling rarely tempted to commit vandalism.

The findings can be reduced to the fact that the influence of trait self-control on the frequency of vandalism is limited to those who at least occasionally perceive damaging or destroying property not their own as a selectable action alternative. While the capacity for self-control fails to affect offending among respondents who never feel tempted to damage or destroy third party property, the ability to control oneself significantly diminishes involvement in vandalism among individuals who at least sometimes feel tempted to engage in this type of behavior. Comparing the conditional self-control effects with a Z-test (Paternoster et al., 1998) shows that the magnitude of the self-control effect differs significantly between the groups. The observation that the ability to exercise self-control is more consequential for those who more frequently consider vandalism for action harmonizes with hypothesis 3.

Discussion

The present inquiry unites the idea of differential self-control effects (Mamayek et al., 2017a) with the notion of a morally preselected choice set (Wikström, 2019). Based on the premise of a moral filtering of the action alternatives that are seriously taken into consideration to respond to a given motivation, we proposed a novel model of a subsidiary role of people's capacity for self-control in the process of crime causation. The significance of an individual's ability to exercise self-control is assumed to depend on the strength of the moral filter, with trait self-control being most influential when both the moral rules of the person and the moral norms of the setting encourage the perception of crime as a basically selectable response option. The underlying rationale is that crime contemplation is most likely to occur when both components of the moral filter enable seeing crime as a justifiable action alternative.

This model is certainly at odds with the original formulation of the principle of the conditional relevance of controls (Wikström, 2010) which conceives a moral conflict as a prerequisite for controls to come into play and limits the influence of self-control to situations where contextual morality encourages and personal morality

discourages offending. It also challenges the principle of moral correspondence (Wikström, 2010) which posits an irrelevance of controls in the case of congruent rule-guidance. Furthermore, the reformulation requires a broad understanding of self-control that goes beyond the ability to act in accordance with one's own morals when tempted or provoked to take a different course of action (Wikström & Treiber, 2007). However, as soon as one accepts these deviations, a simpler impact dynamics evolves according to which the effect of self-control (defined as effortful inhibition of immediate impulses in the service of various higher-order standards) steadily increases with a growing weakness of the moral filter.

In the empirical section of the article, the proposed model of subsidiary self-control effects is applied to the test case of adolescent vandalism delinquency. Based on a longitudinal student survey on self-reported vandalism activity, we demonstrate that the influence of the ability to resist current temptations and provocations to act in ways that violate diverse higher-order standards on the frequency of vandalism depends on moral forces. There is evidence of “differential self-control” (Mamayek et al., 2017a, p. 903). Moral factors condition the significance of the capacity for self-control. Groups formed according to levels of personal and contextual morality differ in the magnitude of the self-control effect. This indicates the presence of an interaction between the strength of the moral filter and the importance of the ability to exercise self-control.

In detail, we find that trait self-control predicts vandalism frequency especially among adolescents who combine a crime-facilitating personal morality with a crime-conducive contextual morality—the group of respondents representing the lowest filter strength. For other constellations of personal and contextual morality, self-control ability proves to be largely inconsequential. Youths marked by both crime-encouraging personal morality and criminogenic setting morality are most likely to perceive vandalism as selectable action alternative. Adolescents amalgamating a law-consistent personal morality with a law-consistent moral context are least prone to regard vandalism as a true option. There is also indication that the significance of trait self-control rises with the level of crime contemplation: the explanatory power of the capacity for self-control is restricted to individuals who at least sometimes consider vandalism for action. Taken together, these observations suggest (I). that the impact of the ability to exercise self-control on criminal offending varies with the strength of the moral filter, (II). that this variation is due to differences in the inclination to view crime as alternative, and (III). that trait self-control is more effective at higher levels of crime contemplation. Such results corroborate the assumption that people's capacity for self-control constitutes merely a second line of defense against unlawful activity that matters chiefly when moral

forces fail to render crime unthinkable (Brauer & Tittle, 2017).

The reported findings question the principle of moral correspondence. SAT contends that controls do not influence behavior when an individual's own moral rules are congruent with the moral norms of the setting. This implies an irrelevance of self-control in cases where personal and contextual morality unanimously encourage criminal activity. Our results—likewise the findings of Schepers and Reinecke's (2018) cross-sectional study—seem to challenge such a position. Trait self-control reduces offending most effectively under the condition of ‘crime-facilitating personal morality coupled with crime-conducive setting morality’. This observation is definitely in line with the more general assumption that the ability to control oneself gains importance when the moral filter becomes weaker. Its implications for the principle of moral correspondence are less clear. Given that our sample hardly includes individuals with a strictly antisocial morality or exclusively crime-prone friends, respondents classified as displaying ‘weak morality’ or ‘criminogenic exposure’ actually score moderately on these concepts. In absolute terms, our ‘crime-facilitating personal morality meets crime-conducive setting morality’ group reflects a mediocre level of filter strength. It does neither depict a complete absence of moral constraints nor represent unequivocally congruent rule-guidance in favor of crime. Self-control effects in this group are thus not necessarily inconsistent with the principle of moral correspondence. Pursuing this thought further, the insignificance of trait self-control in the other groups (which all reflect absolute high levels of filter strength) seems indeed supportive of SAT.

Nonetheless, an alternative conceptualization of differential control effects could be taken into consideration. Perhaps the empirical reality is less black-and-white than initially presumed. Maybe the overall strength of the moral filter is the decisive point: with a decreasing power of the moral filter to prevent the perception of crime as potential option, various controls could gain relevance. Which type of control becomes salient may then depend less on the specific constellation of the constituents of the moral filter and more on the level of the diverse controls. It might be possible that internal and external controls substitute for one another to a certain extent, with inner controls having greater effects when outer controls are weak, and vice versa (Hirtenlehner & Mesko, 2019).

Finally, some methodological limitations of our work must be acknowledged.

A point of critique may be that the research reported here focuses solely on adolescent vandalism delinquency. Whether the findings also apply to other crimes and older populations must be considered an open question. Although a crime-facilitating effect of low trait self-control has been established for a variety of unlawful behaviors (Pratt &

Cullen, 2000; Vazsonyi et al., 2017) as well as for the later portions of the life-course (Hirtenlehner & Kunz, 2017; Wolfe, 2015), evidence regarding a dependency of this effect on the interplay of the components of the moral filter has remained scant. We therefore strongly recommend replicating the study for different offenses and age groups.

Another issue concerns the measurement of the capacity for self-control. The attitudinal self-control scale employed here essentially captures self-control as devised by Gottfredson and Hirschi (1990). It does not specifically tap into the ability to bring one's behavior into line with a broad range of higher-order standards (such as abstract ideals, moral values or social commitments), but it may be assumed to be closely associated with a corresponding notion of self-control.

The employed operationalization of the moral context must be regarded as incomplete. The crime-related beliefs and behaviors of adolescents' friends constitute only one part of the moral make-up of youths' immediate environment. Which moral rules dominate in a setting is also shaped by other people present in the setting (e.g. parents, teachers, property owners) and more abstract entities, as for example the legal order of a society. Concentrating only on the level of exposure to crime-encouraging peers implies a narrow conceptualization of setting morality that may restrict the scope of our findings to adolescents and young adults.

The current study draws on data collected at the individual level to test a situational process. The underlying assumptions are that (1). youths with crime-prone friends are more frequently faced with settings providing a crime-encouraging moral context, (2). individuals who report a weak law-consistent personal morality more often fail to have own moral objections against criminal behavior, and (3). respondents' self-reported acts of vandalism were committed when the moral filter was permeable. The validity of the presented findings undoubtedly rests on the tenability of these auxiliary assumptions. Situational level data might therefore be more appropriate to scrutinize the mechanism of the moral filtering of action alternatives and its implications for the significance of self-control (Hardie, 2020). Although our person-level observations accord with results we would expect to see were the pertinent situational processes operating as conjectured, future research should rely on hypothetical scenarios and space–time budget data to study the functioning of self-control in concrete person–environment intersections.

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