

# The Nature and Role of Morality in Offending: A Moral Foundations Approach

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## Abstract

**Objectives:** Criminologists have long viewed morality as a critical element in offending. However, two factors limit the theoretical impact of prior work. First, no overarching framework for describing the nature and role of morality has been developed. Second, morality has been measured in a narrow manner as the extent to which individuals disapprove of particular acts of offending. To address these limitations, we examine the utility of a moral psychological framework—Moral Foundations Theory (MFT)—that fits remarkably well with the conceptions of morality found in criminological theorizing (i.e., that morality inhibits offending, has intuitive and pluralistic dimensions, and under certain circumstances may motivate offending).

**Methods:** We use negative binomial regression to model self-reported counts of violence, group violence, theft, property damage, marijuana use, and illegal phone use while driving, in a large national sample of Icelandic

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youths ( $n = 10,710$ ). *Results:* We find that individualizing moral intuitions centered on rights and autonomy and binding moral intuitions centered on social order and cohesion are uniquely associated with different types of offending and exhibit inhibiting or motivating effects depending on the outcome. *Conclusion:* MFT holds considerable promise as a framework for conducting criminological research on the relationship between morality and offending.

### **Keywords**

offending, delinquency, morality, moral intuitions, moral foundations theory

Criminologists have long viewed morality as a critical factor in offending. Early accounts characterized crime as resulting from deficits in an individual's moral character (e.g., Glueck and Glueck 1950; Lombroso 1911) and today, many concepts and assumptions in criminology point to a focus on morality. Moreover, as one reads through the literature one is struck by a consistency in the conceptions of morality developed across various criminological theories. To date, however, criminologists have yet to derive an overarching framework for describing the nature and role of morality in offending. This is an important gap because without a clear sense of how we should conceive of and measure morality, comparing and accumulating results across studies remains difficult, and our ability to take advantage of insights from cognate disciplines remains limited. Indeed, when examined across theoretical perspectives, criminological conceptions of morality often share much in common with conceptions of morality in moral psychology, where morality is treated as foundational to how humans perceive the world. Our goal in the current study, therefore, is to import ideas from moral psychology to establish a coherent trans-theoretic framework for studying the relationship between morality and offending.

We begin by exploring criminological theories in which morality plays a prominent role (i.e., differential association theory, control theory, rational choice theory, situational action theory, and social concern theory). We then consider how the conceptions of morality contained within these theories correspond with contemporary research in moral psychology. We then identify a moral-psychological framework—Moral Foundations Theory (MFT; Haidt 2007, 2012)—that is particularly well suited for use in criminology because it improves upon and extends the conceptualization and measurement of morality found within criminological research. We

conclude with an empirical demonstration of this approach using a unique dataset of 10,710 youth between the ages of 16 and 21 gathered in Iceland.

## **Morality in Criminology: A Brief Review**

Our review of criminological theories in which morality plays a more or less prominent role reveals four cross-cutting themes that fit remarkably well with emerging research in moral psychology. These are: (1) morality inhibits offending; (2) morality is intuitive; (3) morality is pluralistic; and (4) in some instances, morality is capable of motivating offending.

### ***I. Morality Inhibits Offending***

The most consistent theme that cuts across criminological theories is that *morality inhibits offending*. Control theorists, for example, argue that offending varies as moral constraints become weaker or stronger (Kornhauser 1978; Matza 1964). Hirschi (1969) called this variability “belief,” and considered it a key element of the social bond. In later versions of control theory, “belief” is described as a part of self-control and “moral values and principles” are described as “the first line of defense against crime” (Gottfredson and Hirschi 2020:123). Similar ideas have been expressed by earlier control theorists using terms such as “ego control” (Redl and Wineman 1952), “internalized control” (Nye 1958), and “inner containment” (Reckless 1961). Building on control theory, situational action theory (SAT) argues that morality and self-control are both proximal causes of offending (Wikström 2019; Wikström 2010; Wikström and Treiber 2007). Within SAT, morality consists of the “moral values and internalized rules that determine the moral acceptability of offending” (Wikström 2019:262). According to SAT, when moral values are strong they inhibit offending thereby reducing reliance on self-control and sanctions as means of conformity.<sup>1</sup>

Social concern theory (SCT; Agnew 2014:1) argues that “people are naturally socially concerned, as well as self-interested” and that social concern includes “following certain moral intuitions.” The moral intuitions emphasized by SCT include “not killing or physically harming innocent others,” “not taking the property of innocent others by force or theft,” and “treating others in an equitable manner” (Agnew 2014:6). SCT thus conceptualizes morality as an internalized constraint against harming or mistreating others. Differential association theory posits that offenders learn “definitions” (i.e., “the specific direction of motives, drives,

rationalizations, and attitudes”) favorable and unfavorable to offending (Sutherland and Cressey 1978:81). Although Sutherland did not use the term “morality,” his notion of “definitions” include evaluations of “rightness and wrongness, the appropriateness of legal regulations, and self-justifying rationales” (Tittle, Burke, and Jackson 1986:412). Definitions *unfavorable* to offending are thus consistent with an emphasis on moral inhibition.<sup>2</sup> Akers’ (1990) social learning theory extends differential association by articulating its underlying learning mechanisms and drawing attention to the full range of rewards and punishments that are contingent on offending. Consistent with Akers’ formulation, rational choice theorists have included measures of moral “costs” (i.e., guilt and shame) in studies of offending, conceptualizing them as “threats . . . that function similarly to the threat of legal sanctions” (Grasmick, Bursik, and Arneklev 1993:42; see also, Paternoster and Simpson 1996; Piquero and Tibbetts 1996; Tittle, Ward, and Grasmick 2004). The notion that *morality inhibits offending* is thus found in numerous criminological theories.

## 2. Morality Is Intuitive

Criminological theories also posit that *morality is intuitive*. Control theorists, Gottfredson and Hirschi (2020:120) note, “We could not manage in the world if we had to decide, through conscious deliberation and weighing of costs and consequences, every possible course of action; humans need mechanisms to rapidly and without disruption distinguish the good things from the bad things, the appropriate from the inappropriate, the dangerous from the safe, friends from foes.” A similar idea is found in SAT’s notion of “moral filtering” (Brauer and Tittle 2017; Etzioni 1988; Herman and Pogarsky 2020; Wikström 2019). According to Wikström et al. (2012:19), “. . . the main reason why most people, most of the time, do not engage in most acts of crime is that they generally do not perceive crime as an action alternative.” Similarly, Agnew (2014:7) asserts that “people generally act on their inclinations with little forethought” so that their “behavior is frequently more habitual and less rational/deliberative than is commonly thought.” While these theorists each acknowledge that deliberative reasoning may be part of the decision to offend, they emphasize that deliberation is less likely when one’s moral intuitions are strong and/or when they are consistent with the demands of the situation. In other words, when morality is strong and/or consistent with situational demands, it tends to be intuitive and automatic in preventing people from considering

offending as an option. Thus, the notion that *morality is (at least in part) intuitive* has become a part of criminological theorizing.

### 3. Morality Is Pluralistic

Criminological theorizing also suggests that *morality is pluralistic*, meaning an individual may experience different degrees of moral inhibition toward different criminal acts. Indeed, most studies in criminology measure morality as crime-specific moral attitudes, i.e. self-reported disapproval of particular acts of offending (e.g., Antonaccio and Tittle 2008; Bachmann, Paternoster, and Ward 1992; Brauer and Tittle 2017; Herman and Pogarsky 2020; Mears, Ploeger, and Warr 1998; Paternoster and Simpson 1996; Piquero and Tibbetts 1996; Schoepfer and Piquero 2006; Svensson 2015; Svensson, Pauwels, and Weerman 2010; Tittle, Ward, and Grasmick 2004). This approach suggests that morality consists of a plurality of moral sensibilities that bear on offending.

Such a pluralistic approach is most directly endorsed within differential association theory. For example, in testing differential association theory, Tittle, Burke, and Jackson (1986:427) report that associating with criminal peers predicts assault, tax evasion, theft, and illegal gambling better than it predicts marijuana use. They explain this result by arguing that “marijuana may have a separate normative status, linked to its *moral distinctiveness* (emphasis added) among the criminal offenses considered” in that contrary to the other offenses examined, “using marijuana involves no exploitation.” This suggests that “definitions” that produce a moral aversion to harming or exploiting others may be different from those that produce a moral aversion to non-exploitive offenses such as using marijuana (see also, Matsueda 1988; Thomas 2018). More generally, differential association theory’s emphasis on *crime-specific* “definitions” suggests that moral content is diverse with regard to particular forms of offending (Sutherland and Cressey 1978). Similarly, SAT’s expansive definition of morality as “*action-relevant cognitive content*” suggests the possibility of differentiation in moral content relevant to offending (Wikström 2019). Thus, the notion that *morality is pluralistic* in that it may be expressed with varying intensity in different domains is a part of criminological theorizing.

### 4. Morality Motivates Offending In Addition to Inhibiting It

A final theme in criminological theorizing is that *morality motivates offending in addition to inhibiting it*. Differential association theory, for example,

suggests a motivating role for morality by arguing that “definitions” may be *favorable* to offending. SAT similarly acknowledges moral motivation by arguing that “. . . one reason why people may find it acceptable to violate a particular law may be that they disagree with or even find the particular law immoral” (Wikström 2017:502). These views are consistent with ideas from other well known criminological perspectives, such as Black’s (1983) “crime as social control” perspective in which acts of violence (including robbery) are shown to arise from “self-help” efforts by “offenders” to control or punish the behavior of others, particularly when access to the law is limited (see also, Anderson 1999; Jacobs and Wright 2008; Katz 1988). Thus, the notion that morality is, under certain circumstances, capable of motivating offending is a part of criminological theorizing.

Overall, criminological theorizing suggests that morality inhibits offending, has intuitive and pluralistic dimensions, and under certain circumstances may motivate offending. However, the measures of morality that have been used in criminological studies are lacking in several key respects that prevent these theoretical ideas from being fully developed and adequately tested.

## **Limitations of Criminological Measures of Morality**

The most significant limitation in criminological measures of morality is that they are often too closely linked to the self-reported measures of offending they are meant to predict. Critiquing current practice, Agnew (2014:15) points out that criminologists tend to measure morality “in a narrow manner, with researchers focusing on the extent to which individuals disapprove of particular crimes.” Gottfredson and Hirschi (2020:121) express a similar concern stating that “if ‘morality’ is measured by ratings of how bad some crimes are, [it] likely will correlate strongly with self-reported evidence of those offenses.” Yet, as suggested above, most studies, regardless of theoretical perspective, measure morality in this way. For example, in a test of situational action theory, Antonaccio and Tittle (2008), asked their respondents how morally acceptable it would be to do each of several criminal acts and how likely they are to commit those same acts. They found a correlation of  $-.74$  between the scales and cautioned that the high correlation was likely due to “cognitive consistency” within their respondents.

Similarly, in differential association theory, criminal “definitions” are often measured as ratings of the perceived moral wrongness of various acts of offending (e.g., Tittle, Burke, and Jackson 1986; Matsueda 1982;

Thomas 2018). And whereas social learning/rational choice theory extends this perspective by focusing on moral emotions (Grasmick et al. 1993), guilt and shame are usually measured as anticipated emotions in response to (self-reported) projected involvement in acts of offending (i.e., how guilty would you feel if you stole something from someone) (but, see Van Gelder et al. 2014). And, in the handful of studies that have attempted to test social concern theory (e.g., Chouhy, Hochstetler, and Cullen 2017; Shadmanfaat et al. 2020), the “moral intuitions” component of social concern is operationalized using Bandura et al.’s (1996) “moral disengagement” scale, which includes items such as “damaging property is no big deal . . .,” “it is alright to beat someone who bad mouths your family,” and “it is all right to fight when your group’s honor is threatened”—all of which are clearly linked to offending.

Thus, although prior studies tend to find that morality has a strong negative relationship with offending (Brauer and Tittle 2017), the tautological nature of the measures used casts doubt on their meaning and limits their theoretical impact. A useful way to advance theory in criminology, therefore, would be to adopt a measurement approach that is consistent with the full range of criminological conceptualizations of morality (i.e., intuitive, pluralistic, inhibiting and motivating), but which attempts to decouple the measurement of morality from the measurement of offending. To be most effective, the approach should be theoretically driven, empirically testable, and capable of encompassing the variety of perspectives on crime that have evolved within the field. To identify such a framework we turn to moral psychology.

## **A Moral Foundations Approach to Conceptualizing and Measuring Morality**

For decades, research in moral psychology has sought to understand how and why we make moral judgments and the effects that our judgments have on our perceptions and behavior. Insights from this work are thus highly relevant for studying the relationship between morality and offending. Several moral-psychological frameworks are noteworthy because of their emphasis on intuitive responses to norm violations, including mind perception theory (Gray, Young, and Waytz 2012), moral motives theory (Janoff-Bulman and Carnes 2013), and moral foundations theory (Graham et al. 2011, 2013; Haidt 2012). Among these, we identify moral foundations theory (MFT) as particularly well suited for criminological theorizing because, consistent with the conceptions of morality that have emerged

within criminology (described above), MFT is grounded in the assumptions that morality (1) consists of “fast thinking” (i.e., intuitive) cognitions that precede and influence moral reasoning (Haidt 2001); (2) is expressed within distinct domains (i.e., care, fairness, loyalty, etc.) and that people vary in how intensely they experience moral intuitions in these domains (Graham, Haidt, and Nosek 2009; Haidt 2012); and (3) is capable of inhibiting action (e.g., moral intuitions may cause one to feel an aversion to treating others unfairly or disloyally) and motivating action (e.g., moral intuitions may cause one to feel an urge to punish those who act unfairly or disloyally toward oneself or others) (Haidt 2012).<sup>3</sup> As importantly, MFT scholars have done extensive psychometric work to develop an instrument—the Moral Foundations Questionnaire (described below)—that measures moral intuitions *independent of participation or projected participation in particular acts of offending*. MFT thus holds considerable promise as a guide for criminological research on the nature and role of morality in offending.

Drawing on research in cultural anthropology (Shweder 1991), MFT organizes people’s moral intuitions into two broad domains, one in which the primary moral concern is to avoid harming or mistreating others—referred to as “individualizing moral intuitions”—and another in which the primary moral concern is to safeguard the order and cohesion of social groups—referred to as “binding moral intuitions.” According to MFT, individualizing moral intuitions evolved within human societies to enhance interpersonal relationships through the promotion of equal rights, autonomy, and reciprocity, whereas binding moral intuitions evolved to enhance group cohesion through the promotion of loyalty, hierarchy, and appreciation of the sacred (Graham et al. 2013). However, because of social learning, individuals and groups vary in how intensely they experience moral intuitions within the individualizing and binding domains (Graham et al. 2009; Haidt 2012).<sup>4</sup>

In terms of conceptualization and measurement, Haidt and colleagues derive the individualizing and binding moral intuitions from five more specific intuitions referred to as “moral foundations” (Graham et al. 2011; Haidt 2012). Two moral foundations contribute to an individual’s individualizing moral intuitions: The *Care/harm* foundation, which is rooted in the evolutionary challenge of child rearing, “makes us sensitive to signs of suffering and need” and “makes us despise cruelty and want to care for those who are suffering” (Haidt 2012:153). The *Fairness/cheating* foundation, which is rooted in the evolutionary challenge of forming cooperative non-kin relationships, “makes us sensitive to indications that another person is likely to be a good (or bad) partner for collaboration and reciprocal

altruism,” and “makes us want to shun or punish cheaters” (Haidt 2012:153). Three additional moral foundations contribute to an individual’s binding moral intuitions: The *Loyalty/betrayal* foundation, which is rooted in the evolutionary challenge of forming cohesive groups, emphasizes loyalty to nations, families, teams, peers, etc. and “makes us sensitive to signs that another person is (or is not) a team player” (Haidt 2012:154). The *Authority/subversion* foundation, which is rooted in the evolutionary challenge of maintaining functioning hierarchies, “makes us sensitive to signs of rank or status, and to signs that other people are (or are not) behaving properly, given their position” (Haidt 2012:154). Finally, the *Sanctity/degradation* foundation, which is rooted in the evolutionary challenge avoiding pathogens and defining sacred totems (Durkheim 1995/1915), makes “people feel that some things, actions, and people are noble, pure, and elevated; [while] others are base, polluted, and degraded” (Haidt 2012:174).<sup>5</sup>

With regard to offending, the categorization of moral intuitions as individualizing and binding suggests that certain types of offenses may trigger one set of intuitions more strongly than another, and that individuals with strong moral intuitions in a particular domain may be especially inclined to avoid (or punish) offending that violates the moral principles of that domain (Bettache et al. 2019; Durrant 2020; Silver 2017). Specifically, individualizing moral intuitions should *inhibit* offending that harms individual victims (e.g., offenses against persons or their property) or elevates the risk of such harm (e.g., ignoring public health or safety directives). In addition, individualizing moral intuitions should *motivate* “self-help” offending (Black 1983) aimed at protecting vulnerable victims or correcting injustices (e.g., eco-terrorism or violent protesting). Conversely, binding moral intuitions should *inhibit* offending that harms or threatens the cohesion, hierarchical structure, or customs of valued ingroups (e.g., disobedience toward police, flag desecration, illegal drug use, etc.). In addition, binding moral intuitions should *motivate* offenses that support the social cohesion, hierarchical structure, or purity standards of valued ingroups even at the expense of individual well-being (e.g., gang-related offending, honor killing, suicide bombing, etc.).

It is also likely that, within the individualizing and binding moral domains, some offenses will be uniquely inhibited or motivated by endorsement of particular moral foundations. For example, violence is a prototypical trigger of the Care/harm foundation, whereas intergroup conflict is a prototypical trigger of the Loyalty/betrayal foundation (Haidt 2012). However, given that the moral foundations that make up the individualizing and binding moral intuitions are often strongly related to one another

(i.e., Care/harm and Fairness/cheating) and that particular violations may trigger multiple moral foundations (i.e., drug use may signify dissolution of the social order, rejection of traditional authority, and violation of purity norms), the investigation of moral foundation-specific effects in the current study is considered exploratory.<sup>6</sup>

To our knowledge, only one prior study has attempted to use MFT's intuition-based moral categories to study offending empirically (Silver and Abell 2016). The study found that among a sample of 1,429 college students, individualizing moral intuitions (combining the Care/harm and Fairness/cheating foundations) were inversely associated with fighting, while binding moral intuitions (combining the Loyalty/betrayal, Authority/subversion, and Sanctity/degradation foundations) were inversely associated with theft from a person or store, pot smoking, drug use, and viewing pornography. While the study suggests MFT may be useful, it did not provide a clear theoretical basis for anticipating its findings, made no attempt to link its findings to relevant theoretical perspectives in criminology, and did not disaggregate individualizing or binding moral intuitions into their component moral foundations. The study therefore provides only the smallest possible step toward exploring the value of MFT. In addition, the generalizability of the study was limited in that it was based on a convenience sample of college students. The current study improves substantially on this prior effort by showing how MFT corresponds to the conceptualizations of morality contained within dominant criminological theories, and by providing an empirical test of the effects of MFT's individualizing and binding moral intuitions (as well as its five constituent moral foundations) using data from a large national sample of Icelandic youth between the ages of 16 and 21 ( $N = 10,710$ ).

## The Current Study

The current study examines the utility of MFT as a framework for conceptualizing and measuring morality in criminology by operationalizing morality in two ways: (1) as individualizing and binding moral intuitions; and (2) as all five moral foundations. The offenses we examine include self-reported violence, group violence, theft, property damage, marijuana use, and illegal phone use while driving. We hypothesize that individualizing moral intuitions will *inhibit* offending against persons (any violence and group violence) and their property (theft and property damage) and offending that threatens the safety of others (illegal phone use while driving). We also hypothesize that the binding moral intuitions will *inhibit* marijuana use,

which may signify a rejection of group norms (within Iceland, drug offenses are considered serious; Gunnlaugsson and Galliher 2000) as well as violating intuitions of bodily purity. We also hypothesize that binding moral intuitions will *motivate* involvement in group violence, which has been shown to strengthen intragroup solidarity (Anderson 1999).<sup>7</sup> Although we do not formulate specific hypotheses connecting the five constituent moral foundations to each type of offending (as we view this part of the analysis as exploratory), we nonetheless expect to observe results consistent with those suggested above (i.e., Care/harm inversely associated with offenses against persons and their property, Sanctity/degradation inversely associated with marijuana use, etc.).

## Data and Methods

Data for this study come from the 2016 Iceland Youth Survey administered by the Icelandic Center for Social Research and Analysis at Reykjavik University. Iceland is an economically advanced democratic nation whose population of just over 330,000 is mostly urban and concentrated in the city of Reykjavik, which is visited by over two million tourists each year, mostly from the United States, Western Europe, and Canada. Crime rates in Iceland are lower than those in the United States, but generally comparable to those of Western European nations.

The Iceland Youth Survey is administered approximately every three years to all students registered in Iceland's 30 upper secondary schools (the sample would thus be a census were it not for an imperfect response rate). Twenty-seven of these schools, enrolling 85% of students, are academically focused and three, enrolling 15% of students, are vocationally focused. In Iceland, compulsory education ends in 10th grade after which students either enter upper secondary school or look for work. The matriculation rate into post-secondary education is 96%, and as of 2016, the percentage of students expected to graduate from upper secondary school (63%) was one of the highest among OECD and partner countries (OECD n.d.). The survey was administered anonymously by teachers in a test-like school environment. 10,717 students completed the survey for a response rate of 70%.<sup>8</sup> No attempt was made to reach absentees.

Table 1 shows descriptive statistics for the sample. Although missing data varied by measure, and almost all respondents provided responses on the offending measures, only 76% of respondents had complete data on all relevant independent variables. The greatest proportions of item missing data are on the scales measuring self-control (10%), parental education

**Table 1.** Descriptive Statistics.

	M	SD	Range	N
<b>Offending</b>				
Personal Violence	.10	.49	0–6	10,360
Group Violence	.07	.55	0–8	10,355
Theft	.44	1.34	0–12	10,287
Marijuana Use	.18	.75	0–6	10,385
Property Damage	.12	.57	0–6	10,308
Illegal Phone Use While Driving	2.14	1.92	0–12	5,370
<b>Morality</b>				
Individualizing moral intuitions	4.42	1.03	1–6	9,651
Binding moral intuitions	3.83	.91	1–6	9,643
Care/harm foundation	4.53	1.17	1–6	9,638
Fairness/cheating foundation	4.31	1.06	1–6	9,602
Loyalty/betrayal foundation	3.96	1.04	1–6	9,620
Authority/subversion foundation	3.40	1.07	1–6	9,587
Sanctity/degradation foundation	4.12	1.07	1–6	9,553
<b>Control Variables</b>				
Self-control	3.09	0.65	1–5	9,692
Incarcerated parent (ever)	.06	—	0–1	10,715
Parental monitoring	3.09	0.72	1–4	10,103
Parental support	3.48	0.66	1–4	10,454
Perceived wealth	3.61	0.96	1–5	10,534
Parent education	3.59	1.26	1–5	9,859
Female	.50	—	0–1	10,539
Age	17.34	1.24	16–20	10,320
Foreign language at home	.03	—	0–1	10,593

*Note:* Descriptive statistics are shown for all measures prior to imputation. Standard deviations are not provided for dummy variables.

(9%), the Loyalty/betrayal, Authority/subversion, and Sanctity/degradation moral foundations (about 8% each), and the Care/harm and Fairness/cheating moral foundations (about 7% each). Therefore, we used chained multiple imputation ( $M = 20$ ) to restore missing data on the independent variables. These results were not appreciably different from those using listwise deletion (available on request).

### *Dependent Measures*

The Iceland Youth Survey includes six measures of delinquent and deviant behavior: violent offending (including any violence and group violence),

property offending (including both theft and property damage), marijuana use, and illegal phone use (including texting) while driving. *Any Violence* is measured by an item asking respondents how often in the past 12 months they committed any physical violence (coded 0 = never, 1 = once, 2 = 2 to 5 times, 3 = 6 to 9 times, 4 = 10 to 13 times, 5 = 14 to 17 times, 6 = 18 or more times). *Group Violence* is measured by summing two items asking how many times in the past twelve months respondents had been a part of a group that either *hurt a person* or *attacked another group* (both coded 0 = never, 1 = once, 2 = twice, 3 = 3 to 4 times, 4 = 5 or more times), resulting in a *group violence* index ranging from 0 to 8. *Theft* is measured by summing two items asking how many times in the past twelve months respondents stole (1) something worth less than 5000 kronor (about \$44 USD at the time of the survey) and (2) something worth more than 5000 kronor (both items are coded 0 = never, 1 = once, 2 = 2 to 5 times, 3 = 6 to 9 times, 4 = 10 to 13 times, 5 = 14 to 17 times, 6 = 18 or more times). *Property Damage* is measured by an item asking how many times in the past twelve months respondents damaged or destroyed property not belonging to them (coded 0 = never, 1 = once, 2 = 2 to 5 times, 3 = 6 to 9 times, 4 = 10 to 13 times, 5 = 14 to 17 times, 6 = 18 or more times).

*Marijuana Use* is measured by an item asking respondents how frequently in the past 30 days they used marijuana (coded 0 = none, 1 = less than once per week, 2 = less than once per day, 3 = 1 to 5 times per day, 4 = 6 to 10 times per day, 5 = 11 to 20 times per day, 6 = 20 or more times per day). *Illegal Phone Use While Driving* was measured by summing three items asking how often *during a typical drive* respondents used their phones for calling, texting, or messaging (each item was coded 0 = never, 1 = once, 2 = twice, 3 = 3 to 4 times, 4 = 5 or more times). Respondents who reported not having a driver's license were excluded, resulting in a smaller number of cases for this outcome (N = 5,370).

### *Independent Measures*

We operationalize individualizing and binding moral intuitions and their constituent moral foundations using the Moral Foundations Questionnaire (MFQ) developed and validated by Graham et al. (2011) (see Appendix A). The MFQ consists of two parts. Part 1 asks respondents to rate the relevance of various values to their moral decision-making. Part 2 asks them to rate their agreement or disagreement with value statements related to each moral foundation. Although Parts 1 and 2 are typically combined, we found that the Part 1 items were all highly intercorrelated and that scales created from

these items had unacceptably high correlations and exhibited unacceptable multicollinearity when used in our multivariate models. Given that both the Part 1 and Part 2 items can be used separately to gauge endorsement of the moral foundations (see Graham et al. 2009), we constructed measures using only the Part 2 items (for a similar approach, see Silver, Silver, and Sigfusdottir 2020).<sup>9</sup> Six Part 2 items correspond to the individualizing moral foundations Care/harm and Fairness/cheating ( $\alpha = .80$ ), and nine Part 2 items correspond to the binding moral foundations Loyalty/betrayal, Authority/subversion, Purity/sanctity ( $\alpha = .81$ ). Higher scores on these measures correspond to greater endorsement of the respective moral domains. The correlation between the scales is .61. Multicollinearity diagnostics indicate that in the full models, the variance inflation factors (VIFs) for the Part 2 measures are 1.78 for individualizing moral intuitions and 1.65 for binding moral intuitions, both of which are less than the critical value of 4.00 usually employed to indicate multicollinearity problems (O'Brien 2007).

To construct the constituent moral foundation scales, we averaged respondents' scores on the three (Part 2) items corresponding to each foundation, i.e. Care/harm ( $\alpha = .66$ ), Fairness/cheating ( $\alpha = .60$ ), Loyalty/betrayal ( $\alpha = .57$ ), Authority/subversion ( $\alpha = .56$ ), and Sanctity/degradation ( $\alpha = .61$ ).<sup>10</sup> Higher scores on these measures correspond to greater endorsement of the respective moral foundations. Correlations between the scales created from the Part 2 items are consistent with MFT: the correlation between the individualizing foundations (Care/harm and Fairness/cheating) is  $r = .71$  and the correlations among the binding moral foundations are  $r = .61$  for Authority/subversion and Loyalty/betrayal,  $r = .55$  for Authority/subversion and Sanctity/degradation, and  $r = .62$  for Loyalty/betrayal and Sanctity/degradation (see Appendix B). Multicollinearity diagnostics indicate that in the full models, the VIFs for the Part 2 measures range from a low of 1.80 (Authority/subversion) to a high of 2.28 (Care/harm).

### ***Control Variables***

To reduce spuriousness, we control for variables that have been found in prior research to be associated with adolescent delinquency and that may be related to an individual's moral intuitions. These variables include self-control, parental socialization (i.e., parental monitoring, parental support, and parental incarceration), family SES (i.e., parental education and perceived wealth), and demographic characteristics (i.e., gender, age, and foreign language spoken at home).

Consistent with situational action theory, both self-control and morality have been found to be related to offending (Brauer and Tittle 2017); therefore, it is useful to control for self-control in order to better isolate the effects of morality on offending. Self-control may also provide a useful benchmark against which to compare the effects of the morality measures (Antonaccio and Tittle 2008). We measure trait *self-control* using a scale developed by Tangney, Baumeister, and Boone (2004) in which respondents are asked to evaluate the extent to which 13 statements apply to them (coded 1 = does not apply to me at all to 5 = applies to me very well). Example items are “I am good at resisting temptation” (reverse coded),” and “I do things that are bad for me if they are fun.” The items were averaged to form a scale ranging from 1–5, with higher values indicating greater self-control ( $\alpha = .76$ ).

In addition, according to Gottfredson and Hirschi (2020), the development of self-control, which for them encompasses the individual’s moral sense, is strongly rooted in parent behaviors and attitudes; therefore, it is useful to control for parenting (which we measure as parental monitoring, parental support, and parental incarceration). To measure *Parental Monitoring*, respondents indicated their agreement with four statements: “My parents know with whom I spend time in the evenings”; “My parents know where I am during the evenings”; “My parents know my friends”; and “My parents know my friends’ parents” (coded 1 = applies to me very badly, 4 = applies to me very well). The items were averaged so that values ranged from 1–4, with higher values indicating greater parental control ( $\alpha = .76$ ). To measure *Parental Support*, respondents indicated how hard it is to receive the following forms of support from their parents: caring and warmth; discussions about personal issues; advice about school; other kinds of advice; and assistance with various other tasks (coded 1 = very hard, 4 = very easy). The items were averaged so that values ranged from 1–4, with higher values indicating greater parental support ( $\alpha = .90$ ). To measure *Parental Incarceration*, we use a single item asking respondents whether they had a parent who had ever been incarcerated (coded 1 = yes, 0 = no).

According to recent work in cultural sociology and moral psychology, morality also is related to socioeconomic background, with individuals from educated and resourced families tending to value the Care/harm and Fairness/Cheating foundations more strongly than they value the Loyalty/betrayal, Authority/subversion, and Sanctity/degradation foundations (Haidt, Koller, and Dias 1993; Vaisey and Miles 2014). Family SES is also a known predictor of offending (Jolliffe et al. 2017). Therefore, we control for both parental education and perceived family wealth. We measure

family SES using two indicators: parental education and perceived wealth. *Parental education* was measured by asking respondents to indicate the educational attainment of both their mother and father. Response options were 1 = finished primary school or less, 2 = started a school on the secondary level, 3 = finished secondary level, 4 = started school at the university level, or 5 = completed a university degree. The items for mother and father were averaged so that values ranged from 1–5, with higher values representing higher parental education; where only one parent was present that parent's educational attainment was used. We measured *Perceived Wealth* using a single question asking respondents to indicate on a 7-point scale how well off financially their family is compared to other families in Iceland (coded 1 = much worse off to 7 = much better off).

Studies also show that demographic characteristics including gender and nationality are related to an individual's endorsement of moral values (Gilligan 1982; Graham et al. 2011; Haidt et al. 1993; Shweder 1991). Therefore, we control for both gender and whether or not Icelandic is spoken at home. We also control for age since it is a robust predictor of offending (Gottfredson and Hirschi 2020) and may be related to moral development in young adults (Smith et al. 2017). Sex is coded 1 for girls and 0 for boys (referred to as *Female* in the analyses). Age is coded 16 = 16 years old or younger, 17 = 17 years old, 18 = 18 years old, and 19 = 19 years old, and 20 = 20 years old or older. *Foreign language at home* was measured with a single item asking whether Icelandic was spoken at home (coded 1 for no and 0 for yes) and is used as a proxy for minority status.<sup>11</sup> Table 1 provides descriptive statistics for all variables; Appendix B provides bivariate correlations.

## Analysis Plan

All outcome variables are coded as counts and all have right-skewed distributions with evidence of overdispersion. Thus, we use negative binomial regression to model them. We first predict each outcome (violence, group violence, theft, property damage, marijuana use, and illegal phone use while driving) from the individualizing and binding moral intuitions plus controls (Table 2). We then predict each outcome from the five constituent moral foundations plus controls (Table 3). All models include dummy variables for respondents' school identifiers to account for school-level (and geographic) variation (not shown). To compare effects within models, the moral intuitions, moral foundations and self-control measures are standardized.

## Results

We begin the analysis by predicting involvement in different offending types from the individualizing and binding moral intuitions. Table 2 presents the results of negative binomial regressions predicting respondents' frequency of involvement in any violence (model 1), group violence (model 2), theft (model 3), property damage (model 4), marijuana use (model 5), and illegal phone use while driving (model 6) from the individualizing and binding moral intuitions and controls.<sup>12</sup> Overall, Table 2 shows that individualizing and binding moral intuitions differentially predict involvement in different offense types. Specifically, as hypothesized, individualizing moral intuitions inhibit any violence ( $b = -.246$ ,  $p < .01$ ), group violence ( $b = -.506$ ,  $p < .001$ ), and theft ( $b = -.190$ ,  $p < .001$ ), as well as illegal phone use while driving ( $b = -.113$ ,  $p < .001$ ); however, the association between individualizing moral intuitions and property damage is nonsignificant ( $b = -.137$ ,  $p = .084$ ), perhaps reflecting the fact that some property damage (e.g., damage to public property) may lack an individual victim. As expected, individualizing moral intuitions are not associated with marijuana use ( $b = .070$ ,  $p = .334$ ). As hypothesized, however, binding moral intuitions inhibit marijuana use ( $b = -.275$ ,  $p < .001$ ), but none of the other offending types. Together, these results provide evidence for moral pluralism in that individualizing moral intuitions differentially inhibit offending that harms or threatens persons (i.e., any violence, group violence, theft, and illegal phone use) while binding moral intuitions inhibit offending that violates conventional expectations but for which there is no direct victim (i.e., marijuana use).

We also hypothesized that binding moral intuitions would motivate involvement in group violence, which model 2 shows is the case ( $b = .244$ ,  $p < .05$ ). Interestingly, binding moral intuitions also appear to motivate illegal phone use while driving ( $b = .054$ ,  $p < .001$ ). This finding suggests a willingness among those with strong binding moral intuitions to prioritize communication with one's friends and family over the safety of unknown individuals who are put at risk by such behavior. However, as expected, binding moral intuitions are not associated with increased involvement in any of the personal or property offenses. Overall, then, this analysis provides evidence that individualizing and binding moral intuitions have discriminating effects on different forms of offending (i.e., moral pluralism) and that moral intuitions may inhibit or motivate offending in predictable ways. Moreover, the presence or absence of harm or risk of harm to individuals appears to be pivotal in differentiating the effects of individualizing and binding moral intuitions on offending.

**Table 2.** Negative Binomial Regression Models Predicting Offending from Binding and Individualizing Moral Domains and Controls.

Variables	DV: Any Violence		DV: Group Violence		DV: Theft		DV: Property Damage		DV: Marijuana Use		DV: Illegal Phone Use While Driving	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Individualizing intuitions <sup>a</sup>	-.246**	.079	-.506***	.132	-.190***	.054	-.137	.079	.070	.073	-.113***	.021
Binding intuitions <sup>a</sup>	-.042	.077	.244*	.124	.017	.049	-.045	.075	-.275***	.073	.054**	.019
Self-control <sup>a</sup>	-.124*	.055	-.070	.086	-.236***	.037	-.180**	.054	-.241***	.051	-.082***	.013
Parent incarceration	.889***	.207	1.463***	.324	.679***	.156	1.123***	.213	.712***	.200	.231**	.067
Parental monitoring	-.262***	.075	-.268*	.121	-.317***	.050	-.256***	.076	-.479***	.070	-.020	.019
Parental support	-.272***	.077	-.582***	.128	-.141**	.054	-.385***	.081	-.226**	.073	.000	.021
Perceived wealth	.002	.051	.104	.077	-.033	.034	.015	.051	-.054	.046	.028*	.013
Parental education	-.027	.043	-.003	.071	-.020	.029	-.027	.044	-.042	.038	-.025*	.011
Female	-.1.235***	.115	-.1.515***	.187	-.666***	.069	-.1.052***	.110	-.749***	.099	-.131***	.027
Foreign language	-.544	.339	.581	.480	-.414	.221	-.192	.333	.513	.265	-.310**	.094
Age	.029	.039	-.210**	.065	-.151***	.026	-.120**	.040	.179***	.036	.096***	.012
N	10,355		10,322		10,283		10,302		10,382		5,369	
Pseudo R <sup>2</sup>	.070		.084		.032		.056		.067		.024	

<sup>a</sup>Standardized measure.

\* p &lt; .05 \*\* p &lt; .01 \*\*\* p &lt; .001.

It is also instructive to compare the effect sizes of the moral intuitions against the relevant benchmark of self-control using the incidence rate ratio (IRR). The IRR is the change in the ratio of the offending rate associated with a one standard deviation increase in the independent measure. To illustrate, the IRR for the effect of individualizing moral intuitions on any violence is .782, which corresponds to a 21.8% ( $1 - .782 \times 100$ ) decrease in the rate of violence for each standard deviation increase in the individualizing moral intuitions measure, while the IRR of .883 for self-control corresponds to a 11.7% decrease in the rate of violence for each standard deviation increase in self-control. Indeed, for all offending measures, the individualizing and binding moral intuitions had inhibitive effects that were comparable to, or greater than, those of self-control, including for violence (individualizing IRR = .782; self-control IRR = .883); group violence (individualizing IRR = .603; self-control IRR = .933); theft (individualizing IRR = .827; self-control IRR = .790); marijuana use (binding IRR = .759; self-control IRR = .786); and illegal phone use while driving (individualizing IRR = .893; self-control IRR = .922). Thus, consistent with prior research examining morality, self-control, and offending (e.g., Antonaccio and Tittle 2008; Brauer and Tittle 2017), our findings suggest that even when morality is measured pluralistically and using a scale that is decoupled from the disapproval of offending, morality is strongly associated with offending, relative to self-control.

Next, we turn to exploratory analyses predicting each offending type from the five moral foundations provided by MFT. Table 3 presents the results of negative binomial regressions predicting frequency of involvement in any violence (model 1), group violence (model 2), theft (model 3), property damage (model 4), marijuana use (model 5), and illegal phone use while driving (model 6) from the five moral foundations and controls. Although we did not put forth specific hypotheses regarding the effects of each moral foundation, the results of Table 3 confirm that (1) moral foundations within the individualizing and binding domains predict involvement in different offense types, providing evidence for moral pluralism, and (2) moral foundations both inhibit and facilitate offending depending on the offense examined.

Specifically, among the individualizing moral foundations, Care/harm significantly inhibits all personal and property offenses, including any violence ( $b = -.358, p < .001$ ), group violence ( $b = -.470, p < .001$ ), theft ( $b = -.238, p < .05$ ), and property damage ( $b = -.216, p < .05$ ); and Fairness/cheating significantly inhibits illegal phone use while driving ( $b = -.190, p < .001$ ). Thus, the Care/harm foundation appears to be an

**Table 3.** Negative Binomial Regression Models Predicting Offending from Five Moral Foundations and Controls.

Variables	DV: Any Violence			DV: Group Violence			DV: Theft			DV: Property Damage			DV: Marijuana Use			DV: Illegal Phone Use While Driving		
	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	b	SE		b	SE		b	SE		b	SE		b	SE		b	SE	
Care/harm <sup>a</sup>	-.358***	.088		-.470**	.151		-.238***	.057		-.216*	.086		.032	.080		-.029		.021
Fairness/cheating <sup>a</sup>	.062	.089		-.103	.139		.054	.058		.104	.088		.049	.080		-.107***		.021
Authority/subversion <sup>a</sup>	-.035	.076		.042	.114		.038	.047		.020	.074		-.133*	.065		-.004		.018
Loyalty/betrayal <sup>a</sup>	.004	.085		.285*	.142		-.034	.058		.077	.085		.018	.077		.043*		.020
Sanctity/degradation <sup>a</sup>	.013	.091		-.051	.152		-.006	.055		-.163	.084		-.201*	.078		.034		.021
Self-control <sup>a</sup>	-.128*	.057		-.083	.088		-.242***	.037		-.173**	.054		-.242***	.051		-.082***		.013
Parent incarceration	.907***	.207		1.479***	.323		.669***	.157		1.122***	.214		.719***	.201		.244***		.067
Parental monitoring	-.252**	.075		-.285*	.122		-.306***	.050		-.255**	.077		-.479***	.071		-.021		.019
Parental support	-.268***	.077		-.575***	.129		-.132*	.054		-.379***	.081		-.232**	.074		-.003		.021
Perceived wealth	.009	.052		.116	.078		-.022	.033		.032	.051		-.055	.046		.025		.013
Parental education	-.027	.043		-.010	.074		.024	.029		-.030	.043		-.040	.038		-.023*		.011
Female	-1.206***	.117		-1.463***	.188		-.658***	.070		-.998***	.111		-.732***	.100		-.136***		.027
Foreign language	-.531	.336		.551	.477		.415	.220		-.229	.332		.505	.267		-.309**		.093
Age	.033	.039		-.198**	.065		-.150***	.026		-.117**	.040		.181***	.036		.097***		.012
N	10,355			10,322			10,283			10,302			10,382			5,369		
Pseudo R <sup>2</sup>	.072			.086			.033			.056			.067			.024		

<sup>a</sup>Standardized measure.\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$ .

important factor inhibiting offending against individual victims, whereas Fairness/cheating is important in inhibiting offending that increases the *risk* of harm but does not involve directly harming persons or property. Among the binding moral foundations, both Authority/subversion ( $b = -.133$ ,  $p < .05$ ) and Sanctity/degradation ( $b = -.201$ ,  $p = .010$ ) significantly inhibit marijuana use, consistent with the notion that using marijuana implies a rejection of both traditional authority norms regarding bodily purity. Interestingly, whereas Loyalty/betrayal does not inhibit involvement in any of the offenses examined, it appears to *motivate* involvement in group violence ( $b = .285$ ,  $p < .05$ ) and illegal phone use while driving ( $b = .043$ ,  $p < .05$ ), both of which may involve a heightened sense of loyalty toward one's ingroup. As before, the magnitudes of the effects of the moral foundations are comparable to, or stronger than, those of self-control, including for violence (Care/harm IRR = .699; self-control IRR = .880); group violence (Care/harm IRR = .625; self-control IRR = .921); theft (Care/harm IRR = .788; self-control IRR = .785); property damage (Care/harm IRR = .806; self-control IRR = .841); marijuana use (Authority/subversion IRR = .875; Sanctity/degradation IRR = .818; self-control IRR = .785); and illegal phone use while driving (Fairness/cheating IRR = .898; self-control IRR = .921).

Finally, among the control variables in both sets of models, female gender, self-control, parental monitoring, and parental support generally inhibited offending (except that self-control did not inhibit group violence; and parental monitoring and support did not predict illegal phone use while driving). Parental incarceration was associated with increased offending for all offense types. Age was negatively associated with group violence, theft, and property damage, but positively associated with marijuana use and illegal phone use while driving. Speaking a non-Icelandic language at home was negatively associated with illegal phone use while driving in both sets of models, while perceived wealth was positively associated with illegal phone use while driving in the individualizing/binding models only. Parental education was not associated with offending in any model. Overall, the pattern of results for these variables is consistent with other offending research, providing confidence in the generalizability of the findings.

## Discussion

This study assessed the utility of using Moral Foundations Theory (MFT) as a framework for examining the nature and role of morality in offending. Drawing on decades of criminological research, we derived a

conceptualization of morality as being intuition-based, pluralistic in content, and capable of both inhibiting and motivating offending, and we showed how this conceptualization shares much in common with moral psychology and, in particular, MFT. We then used the Moral Foundations Questionnaire (MFQ; Graham et al. 2011) designed for use with MFT to measure a range of moral intuitions that, according to MFT encompass the core areas of moral concern found in human societies around the world, including individualizing moral intuitions (i.e., centered on the rights and autonomy of individuals), binding moral intuitions (i.e., centered on the order and cohesion of groups), and the five intuition-based moral foundations featured within MFT (i.e., Care/harm, Fairness/cheating, Loyalty/betrayal, Authority/subversion, and Sanctity/degradation). We then examined the degree to which these moral intuitions predicted a range of offenses, including self-reported violence, group violence, theft, property damage, marijuana use, and illegal phone use while driving—using a large national sample of youth from Iceland.

Our results suggest that MFT holds considerable promise as a framework for conducting criminological research on the relationship between morality and offending. Most notably, we found discriminating effects for the various moral intuitions provided by MFT, supporting the pluralistic conceptualization of morality found in criminological research and theory. We also found that moral intuitions not only inhibit offending but also *motivate* it in understandable ways. The latter is especially noteworthy since motivating effects have been theorized (Anderson 1999; Black 1983; Wikström 2017) but seldom tested using survey data. Specifically, our results revealed that individualizing moral intuitions (emphasizing individual rights and autonomy) inhibit offenses that harm or threaten others (i.e., any violence, group violence, theft, and illegal phone use while driving) but do not inhibit marijuana use, an offense that has no immediate victim; while binding moral intuitions (emphasizing group-based norms and traditions) inhibit only marijuana use, the only offense in our study that did not involve a personal victim. We also found that binding moral intuitions *motivate* group violence and illegal phone use while driving, offenses that arguably reveal a tendency to prioritize ingroup concerns over the welfare of strangers; but that binding moral intuitions are *not* associated with offenses that harm or threaten others. These results suggest that the presence or absence of harm (or risk of harm) to others is key in determining whether individualizing or binding moral intuitions are activated during the decision to offend. It is also important to note, however, that in the exploratory analyses four of the five moral foundations (Care/harm, Fairness/cheating, Loyalty/betrayal,

and Sanctity/degradation) had effects on the offenses included in the study, indicating that future research may benefit from taking a more fine grained view of offending within each domain suggested by MFT (see Durrant, 2020).

Our results also show that despite measuring moral intuitions independently of the disapproval of offending, their effects on offending were strong and comparable in magnitude to self-control, one of the most well-established correlates of offending (Antonaccio and Tittle 2008; Brauer and Tittle 2017). Explaining variation in offending using a measurement instrument (i.e., the MFQ) developed within another field and amid a strong lineup of controls, including self-control, was a high bar for the moral intuition measures to have cleared. Our results thus provide compelling though preliminary evidence that MFT is a useful framework for conceptualizing and measuring morality in criminology.

We consider our results preliminary for two reasons. First, the data available to us included no offending outcomes that could reasonably be hypothesized to be *motivated by* individualizing moral intuitions, and only included two outcomes that could reasonably be hypothesized to be *motivated by* binding moral intuitions (i.e., marijuana use and illegal phone use while driving). Therefore, an important part of our proposed MFT-based framework could only partially be examined. Although the results were supportive (i.e., binding moral intuitions positively predicted group violence and illegal phone use while driving) future research using additional outcome measures tapping a wider range of offenses that might be morally motivated would be valuable. For example, individuals with strong individualizing moral intuitions may be more likely to use violence in defense of an innocent victim (Black 1983) or more likely to engage in pleasurable but illegal acts that cause no direct harm to others (Silver and Abell 2016). With regard to the latter, we note that in our results (Table 2, model 5), individualizing moral intuitions are positively (though not significantly) associated with marijuana use.

The second reason to consider our results preliminary is that the scale properties of the moral intuitions measures did not behave as expected. Although we followed prior research in administering the 30-item Moral Foundations Questionnaire (MFQ-30), we found that in our Iceland data—consistent with other studies conducted outside of the U.S. (Schreurs, Kerstholt, de Vries, and Giebels 2018)—the Part 1 items lacked discriminant validity. We therefore used only the Part 2 items. Although our supplemental analyses using both parts of the MFQ-30 yielded comparable results (available on request), future research should explore whether the

high correlations among Part 1 items was a function of the Icelandic cultural context and whether similar results are obtained using samples drawn from different locales.

Despite being preliminary, our results suggest several intriguing implications for future research and theorizing in criminology. First, our proposed MFT-based framework holds great promise for systematizing the conceptualization and measurement of morality in criminology. Whether one is working within differential association theory, control theory, rational choice theory, situational action theory, or social concern theory, an intuition-based, pluralistic moral framework supported by a validated measurement instrument that distinguishes the measurement of morality from that of offending is a valuable tool. We therefore urge researchers to incorporate the MFQ (Graham et al. 2011) into their studies so that a *next generation* of morality research may emerge that better supports both the conceptualization of morality in criminological theories and the comparison and accumulation of findings across studies.

Second, we recognize that in recent years, Situational Action Theory (SAT) has emerged as an influential theory of offending emphasizing the role of morality. It is therefore important for us to emphasize that we see our MFT-based approach as not only consistent with SAT but also as a means for improving the measurement of morality within SAT. Put in terms of SAT's Person-Environment-Act framework (i.e.,  $P \times E \rightarrow A$ ; Wikström 2019)—which depicts acts of offending (A) as resulting from a perception-choice process ( $\rightarrow$ ) initiated and guided by the interaction ( $\times$ ) between an offender's crime propensities (P) and the immediate environment's criminogenic inducements (E)—our study is best viewed as an attempt to clarify the relationship between P (i.e., measured here as moral intuitions, plus self-control) and A (i.e., acts of offending). We should also point out that by focusing on the effects of moral intuitions, we do not argue that the *interaction* between persons and environments (E) is unimportant. Instead, our aim is to suggest MFT as a promising criminological framework for conceptualizing and measuring morality, which we hope will be explored and perhaps incorporated into future studies of SAT's person-environment-act (PEA) model.

Another important idea that has emerged from within criminology in recent years and for which our study has implications is “moral filtering” (Brauer and Tittle 2017; Herman and Pogarsky 2020; Wikström 2019). As discussed above, Wikström et al. (2012) argues that “... the main reason why most people, most of the time, do not engage in most acts of crime is that they generally do not perceive crime as an action alternative” (2012,

p. 19). Our finding that individualizing and binding moral intuitions influence person- and non-person offenses differently suggests an expansion of the moral filtering concept. That is, depending on the strength and salience of one's individualizing or binding moral intuitions in situations during which a criminal decision must be made, some types of offenses but not others may be filtered out of awareness. For example, a person with strong individualizing moral intuitions may not perceive hitting or robbing another person in response to an insult or slight as an option, but he or she may be strongly tempted by an opportunity to use illegal drugs; while a person with strong binding moral intuitions may not perceive engaging in prostitution (as a sex worker or john) in response to financial or sexual need as an option, but he or she may be perfectly willing to respond to a personal slight with violence. Our suggestion that an individual may possess multiple moral filters is consistent with results recently reported by Herman and Pogarsky (2020) in which respondents' disapproval of stealing, fighting, or damaging property was uniquely associated with their "acute conformity" regarding those specific offense types (that is, their anticipated abstention from committing each offense despite a perceived lack of sanctions). Specifically, Herman and Pogarsky found that acute conformists with respect to stealing (or fighting or damaging property) were less likely to be tempted to steal (or fight or damage property) even when they were sure there would be no penalty for doing so. Together with our results, their findings suggest that the criminal "action alternatives" available to consciousness may depend on the *unique configuration of moral intuitions* present within the individual. Examining the notion of multiple intuition-based moral filters seems to us an intriguing avenue for future research.

Our study has several noteworthy limitations. First, the sample was cross-sectional and only contained measures of *current* morality and *past* offending, ranging from "a typical drive" (for illegal phone use) to 30 days (for marijuana use) to 12 months (for violence, theft, and property damage). Thus, we were unable to rule out the possibility that previous offending may have influenced respondents' answers to the morality questions. While this concern is less worrisome than it would have been had we measured morality based on ratings of the disapproval of our dependent variables, it nonetheless remains a weakness that we hope future research will seek to overcome. Second, given the youthfulness of our sample (ages 16–19), the stability over time of our MFT-based measures of morality is a potential concern. While we follow MFT in assuming stability (Graham et al. 2011; Haidt 2012), recent research by Smith et al. (2017) questions this

assumption. The degree to which the moral intuitions provided by MFT change over time and the degree to which such changes might influence offending should therefore be examined in future studies.

A third limitation is that our data did not permit us to measure the moral norms present within the social contexts in which our respondents' offending choices occurred. For example, in settings where fighting is discouraged and likely to be detected and punished (e.g., in a classroom) we would expect individualizing moral intuitions to have less of an effect on fighting; whereas, in less structured settings where fighting is more acceptable and less likely to be detected and punished (e.g., in a public park after hours where teens congregate), we might expect individualizing moral intuitions to have more of an effect. While everyone in the second setting is more at risk for fighting, because it is less structured, we would expect a person's individualizing moral intuitions to have a greater influence on their behavior than in the first setting. This of course, may also work in reverse. If the norms of a setting *require* individuals to fight (e.g., for status or group membership), then the effects of their individualizing moral intuitions should be weaker (Rai 2019). Relatedly, we were unable to measure the extent to which respondents identified particular social groups (e.g., family, delinquent peers, the nation) as important, which is relevant insofar as binding moral intuitions are ingroup-specific (Haidt 2012). Thus, it is plausible that the effects of binding moral intuitions may vary depending on the particular social groups to which individuals feel most attached.

A fourth limitation is that we were unable to measure religious beliefs, religiosity, or religious involvement, factors that clearly are relevant to the study of morality and offending. Paralleling research on morality and offending, research on religion and offending finds that religiosity tends to inhibit offending (e.g., Brauer, Tittle, and Antonaccio 2013; for a review, see Adamczyk, Freilich, and Kim 2017), although it can also motivate it under some circumstances as in some acts of terrorism (Hamm 2009). Moreover, given that religion may foster moral intuitions, and that people with strong moral intuitions may be especially attracted to religion (Graham and Haidt 2010; McKay and Whitehouse 2015), future researchers should attempt to incorporate measures of moral intuitions into studies of religion and offending. Doing so would enable us to better understand how religion and moral intuitions operate in tandem to inhibit or motivate offending.

A fifth limitation is that the survey did not measure participants' willingness to rationalize, neutralize, drift into, or otherwise (situationally) approve of various types of offending (Matsueda 1988; Matza 1964; Sutherland and Cressey 1978; Sykes and Matza 1957; for a review, see Thomas 2018). We

would speculate, however, that such willingness would depend in part on the strength or weakness of one's moral intuitions in different domains. Consider for example two people with equally strong individualizing moral intuitions but with different intensities of binding moral intuitions. The person who possesses strong binding moral intuitions may find it easier to rationalize harming a disloyal outgroup member than the person who possesses weak binding moral intuitions. In addition, we would expect that individuals may be more able to rationalize offending in one moral domain by drawing on justifications rooted in another domain, as when individuals are able to justify violent or property offending (violating individualizing moral intuitions) through an "appeal to higher loyalties" (Sykes and Matza 1957), a neutralization technique that rests on binding moral intuitions. Examining the relationship between a person's unique configuration of moral intuitions and the neutralizations he or she is willing to endorse would seem a fruitful avenue for further research on the relationship between morality and offending.

Finally, as discussed at the outset, research in moral psychology suggests that moral judgments are strongly influenced by intuitive processes. And yet the most widely used instrument for measuring moral intuitions (i.e., the MFQ used here) is based on self-report responses to Likert items. The degree to which Likert responses capture intuitions is debatable (Miles, Charron-Chenier, and Schleifer 2019). Thus, to examine the influence of moral *intuitions* per se it would be helpful for future researchers to adopt measurement strategies specifically designed for that purpose, such as the Brief Implicit Associations Test or the Affect Misattribution Procedure, both of which have shown promise as measures of intuitive mental processes involved in moral cognition (Miles et al. 2019).

## Conclusion

Research examining the nature and role of morality in offending has grown in recent years and while this research shows that morality is inversely related to offending, the measures of morality used (i.e., disapproval of acts of offending) have been too closely linked to the measures of offending used (i.e., self-reported involvement or projected involvement in offending) (Agnew 2014; Gottfredson and Hirschi 2020). In addition, while the idea that morality may *motivate* offending has been theorized (Black 1983; Katz 1988; Wikström 2017), it has received little empirical assessment in survey based studies. To improve criminological inquiry into the relationship between morality and offending, therefore, we proposed using Moral

Foundations Theory (MFT). MFT is grounded in assumptions that align remarkably well with decades of criminological theorizing on the nature and role of morality in offending, and is supported by a validated measurement instrument—the Moral Foundations Questionnaire—that measures morality consistent with core insights from criminology. Results using a large, national sample of Icelandic upper youth ( $n = 10,717$ ) offered compelling though preliminary evidence that the MFT-based approach is useful, and worthy of continued examination.

### **Appendix A. Moral Foundations Questionnaire.**

MFAQ Item	Moral Intuition	Moral Foundation
Part I: How relevant/irrelevant?*		
Whether or not someone conformed to the traditions of society	Binding	Authority/subversion
Whether or not someone showed a lack of respect for authority	Binding	Authority/subversion
Whether or not an action caused chaos or disorder	Binding	Authority/subversion
Whether or not someone did something to betray his or her group	Binding	Loyalty/betrayal
Whether or not someone's action showed love for his or her country	Binding	Loyalty/betrayal
Whether or not someone showed a lack of loyalty	Binding	Loyalty/betrayal
Whether or not someone did something disgusting	Binding	Sanctity/degradation
Whether or not someone violated standards of purity and decency	Binding	Sanctity/degradation
Whether or not someone acted in a way that God would approve of	Binding	Sanctity/degradation
Whether or not someone suffered emotionally	Individualizing	Care/harm
Whether or not someone cared for someone weak or vulnerable	Individualizing	Care/harm
Whether or not someone was cruel	Individualizing	Care/harm
Whether or not someone acted unfairly	Individualizing	Fairness/cheating
Whether or not some people were treated differently than others	Individualizing	Fairness/cheating

(continued)

**Appendix A.** (continued)

MFQ Item	Moral Intuition	Moral Foundation
Whether or not someone was denied his or her rights	Individualizing	Fairness/cheating
Part 2: Agree/Disagree		
Respect for authority is something all children need to learn.	Binding	Authority/subversion
Men and women each have different roles to play in society.	Binding	Authority/subversion
If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.	Binding	Authority/subversion
I am proud of my country's history.	Binding	Loyalty/betrayal
People should be loyal to their family members, even when they have done something wrong.	Binding	Loyalty/betrayal
It is more important to be a team player than to express oneself.	Binding	Loyalty/betrayal
People should not do things that are disgusting, even if no one is harmed.	Binding	Sanctity/degradation
I would call some acts wrong on the grounds that they are unnatural.	Binding	Sanctity/degradation
Chastity is an important and valuable virtue.	Binding	Sanctity/degradation
Compassion for those who are suffering is the most crucial virtue.	Individualizing	Care/harm
One of the worst things a person could do is hurt a defenseless animal.	Individualizing	Care/harm
It can never be right to kill a human being.	Individualizing	Care/harm
When the government makes laws, the number one principle should be ensuring that everyone is treated fairly	Individualizing	Fairness/cheating
Justice is the most important requirement for a society.	Individualizing	Fairness/cheating
I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.	Individualizing	Fairness/cheating

\*Part 1 items are not included in the main analyses but are included in supplemental sensitivity analyses (available on request).

## Appendix B. Bivariate Correlations.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1.Any violence	—																				
2.Group violence	.46 <sup>a</sup>	—																			
3.Theft	.30 <sup>a</sup>	.28 <sup>a</sup>	—																		
4.Property damage	.34 <sup>a</sup>	.36 <sup>a</sup>	.49 <sup>a</sup>	—																	
5.Marijuana use	.21 <sup>a</sup>	.23 <sup>a</sup>	.25 <sup>a</sup>	.24 <sup>a</sup>	—																
6.Illegal phone use	.18 <sup>a</sup>	.19 <sup>a</sup>	.20 <sup>a</sup>	.17 <sup>a</sup>	.17 <sup>a</sup>	—															
7.Individualizing MIs	-.12 <sup>a</sup>	-.10 <sup>a</sup>	-.11 <sup>a</sup>	-.09 <sup>a</sup>	-.06 <sup>a</sup>	-.13 <sup>a</sup>	—														
8.Binding MIs	-.06 <sup>a</sup>	-.04 <sup>a</sup>	-.05 <sup>a</sup>	-.04 <sup>a</sup>	-.07 <sup>a</sup>	-.01	.61 <sup>a</sup>	—													
9.Care/harm	-.12 <sup>a</sup>	-.10 <sup>a</sup>	-.11 <sup>a</sup>	-.10 <sup>a</sup>	-.07 <sup>a</sup>	-.11 <sup>a</sup>	na	na	—												
10. Fairness/cheating	-.09 <sup>a</sup>	-.08 <sup>a</sup>	-.08 <sup>a</sup>	-.07 <sup>a</sup>	-.05 <sup>a</sup>	-.13 <sup>a</sup>	na	na	.71 <sup>a</sup>	—											
11.Authority/subvers.	-.02	-.00	-.01	-.01	-.05 <sup>a</sup>	.02	na	na	.32 <sup>a</sup>	.34 <sup>a</sup>	—										
12.Loyalty/betrayal	-.06 <sup>a</sup>	-.03 <sup>b</sup>	-.05 <sup>a</sup>	-.03 <sup>a</sup>	-.05 <sup>a</sup>	-.01	na	na	.54 <sup>a</sup>	.55 <sup>a</sup>	.61 <sup>a</sup>	—									
13.Sanctity/degradation	-.07 <sup>a</sup>	-.06 <sup>a</sup>	-.07 <sup>a</sup>	-.07 <sup>a</sup>	-.09 <sup>a</sup>	-.03 <sup>c</sup>	na	na	.61 <sup>a</sup>	.59 <sup>a</sup>	.55 <sup>a</sup>	.62 <sup>a</sup>	—								
14.Self-control	-.05 <sup>a</sup>	-.03 <sup>a</sup>	-.09 <sup>a</sup>	-.05 <sup>a</sup>	-.08 <sup>a</sup>	-.11 <sup>a</sup>	.18 <sup>a</sup>	.10 <sup>a</sup>	.18 <sup>a</sup>	.15 <sup>a</sup>	.03 <sup>a</sup>	.10 <sup>a</sup>	.14 <sup>a</sup>	—							
15.Parent incarceration	.12 <sup>a</sup>	.16 <sup>a</sup>	.13 <sup>a</sup>	.17 <sup>a</sup>	.09 <sup>a</sup>	.05 <sup>a</sup>	-.13 <sup>a</sup>	-.09 <sup>a</sup>	-.13 <sup>a</sup>	-.10 <sup>a</sup>	-.05 <sup>a</sup>	-.10 <sup>a</sup>	-.09 <sup>a</sup>	-.06 <sup>a</sup>	—						
16.Parental monitoring	-.10 <sup>a</sup>	-.07 <sup>a</sup>	-.11 <sup>a</sup>	-.11 <sup>a</sup>	-.15 <sup>a</sup>	-.04 <sup>b</sup>	.14 <sup>a</sup>	.17 <sup>a</sup>	.15 <sup>a</sup>	.11 <sup>a</sup>	.10 <sup>a</sup>	.17 <sup>a</sup>	.12 <sup>a</sup>	.12 <sup>a</sup>	.15 <sup>a</sup>	.36 <sup>a</sup>	—				
17.Parent support	-.09 <sup>a</sup>	-.10 <sup>a</sup>	-.09 <sup>a</sup>	-.11 <sup>a</sup>	-.11 <sup>a</sup>	-.02	.15 <sup>a</sup>	.16 <sup>a</sup>	.17 <sup>a</sup>	.10 <sup>a</sup>	.09 <sup>a</sup>	.17 <sup>a</sup>	.16 <sup>a</sup>	.12 <sup>a</sup>	.15 <sup>a</sup>	.17 <sup>a</sup>	.17 <sup>a</sup>	—			
18.Perceived wealth	-.01	-.01	-.01	-.01	-.04 <sup>b</sup>	.04 <sup>b</sup>	-.09 <sup>a</sup>	.03 <sup>b</sup>	-.05 <sup>b</sup>	-.11 <sup>a</sup>	.05 <sup>a</sup>	.04 <sup>a</sup>	-.00	.03 <sup>b</sup>	.00	.11 <sup>a</sup>	.17 <sup>a</sup>	.20 <sup>a</sup>	—		
19.Parent education	-.03 <sup>b</sup>	-.03 <sup>a</sup>	-.01	-.03 <sup>b</sup>	-.03 <sup>a</sup>	-.05 <sup>a</sup>	.04 <sup>a</sup>	-.02	.04 <sup>a</sup>	.04 <sup>a</sup>	-.04 <sup>a</sup>	-.00	-.00	.05 <sup>a</sup>	-.06 <sup>a</sup>	.08 <sup>a</sup>	.17 <sup>a</sup>	.17 <sup>a</sup>	.20 <sup>a</sup>	—	
20.Female	-.13 <sup>a</sup>	-.10 <sup>a</sup>	-.12 <sup>a</sup>	-.12 <sup>a</sup>	-.10 <sup>a</sup>	-.13 <sup>a</sup>	.27 <sup>a</sup>	.02 <sup>c</sup>	.27 <sup>a</sup>	.22 <sup>a</sup>	.11 <sup>a</sup>	.03 <sup>b</sup>	.14 <sup>a</sup>	.10 <sup>a</sup>	-.09 <sup>a</sup>	.17 <sup>a</sup>	.04 <sup>a</sup>	-.10 <sup>a</sup>	-.04 <sup>a</sup>	—	
21.Other language	-.00	.02	-.01	-.00	.03 <sup>b</sup>	-.03 <sup>c</sup>	-.06 <sup>a</sup>	-.04 <sup>a</sup>	-.07 <sup>a</sup>	.05 <sup>a</sup>	-.02	.03 <sup>b</sup>	-.06 <sup>a</sup>	-.03 <sup>c</sup>	.07 <sup>a</sup>	.03 <sup>b</sup>	-.13 <sup>a</sup>	-.01	-.06 <sup>a</sup>	.02	—
22.Age	.02	-.02 <sup>c</sup>	-.05 <sup>a</sup>	-.03 <sup>b</sup>	.06 <sup>a</sup>	.13 <sup>a</sup>	.04 <sup>a</sup>	-.01	.05 <sup>a</sup>	.03 <sup>b</sup>	.04 <sup>a</sup>	-.03 <sup>c</sup>	.03 <sup>b</sup>	.00	-.03 <sup>b</sup>	-.18 <sup>a</sup>	-.01	.00	-.03 <sup>a</sup>	-.03 <sup>b</sup>	-.00

a =  $p < .001$ , b =  $p < .01$ , c =  $p < .05$ .

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## Notes

1. Conceptualizing self-control and morality as separate distinguishes SAT from self-control theory, which conceptualizes morality as a *component of* self-control (Gottfredson and Hirschi 2020).
2. Notions similar to Sutherland's "definitions" appear in "drift theory" according to which individuals gradually learn to view actions as morally acceptable that previously they viewed as immoral (Matza 1964) and in Becker's (1963) description of the learning process involved in becoming a marijuana user.
3. MFT differs from mind perception theory and moral motives theory on a few key points. Whereas MFT argues that moral intuitions occur in specific domains (e.g., harm, unfairness, disrespect, or disloyalty), mind perception theory argues that all moral violations involve intuitions of harm but that individuals vary in the extent to which they view different types of violations as harmful (Gray et al. 2012). Alternately, moral motives theory argues that the domains in which people experience moral intuitions emphasize either avoiding harm (moral inhibition) or enhancing wellbeing (moral activation) toward the self, other individuals, or ingroups. Given that agreement does not yet exist within moral psychology regarding the appropriate taxonomy for capturing all of human morality, future research in criminology may benefit from examining alternate categorizations of moral intuitions in addition to those suggested by MFT.
4. An analogous distinction between individual- and group-oriented forms of morality is made in the sociological literature on values (e.g., Longest, Hitlin, and Vaisey 2013; Inglehart 1990; Schwartz 2012).

5. Haidt and colleagues suggest the possibility of a sixth foundation, Liberty/oppression, which emphasizes abuses of power, however this new foundation has not yet been integrated into the measurement instrument (Graham et al. 2018; Haidt 2012) and so is not included in the current study.
6. Those interested in a detailed theoretical discussion of the link between MFT's five moral foundations and different crime types should see Durrant (2020).
7. Unfortunately, our offending measures do not enable us to examine individualizing moral intuitions as a motivator of offending.
8. 70% is a conservative estimate since not all of the 15,296 enrolled students were present in school on the day of the survey.
9. As a robustness check, we ran analyses using measures constructed from Parts 1 and 2 of the MFQ. These results (available on request) are comparable to those presented below.
10. Reliabilities in this range are not unusual for the constituent moral foundations (Graham et al. 2011:371) largely because the measures are constructed for breadth by including a range of moral concerns associated with each foundation. Moreover, the reliability coefficients may be further deflated because each foundation scale is based on only three (Part 2) items rather than on the six items found in Parts 1 and 2 of the MFQ. With fewer items, high  $\alpha$  values are difficult to obtain even in the presence of adequate inter-item correlations (Cortina 1993:101).
11. Due to the homogenous nature of the Icelandic population, which is primarily white, respondents were not asked to report their race or ethnicity. We therefore use a measure of whether a language other than Icelandic is spoken at home as a proxy for minority status. As of 2018, the largest immigrant populations in Iceland were from Poland (39% of immigrants), Lithuania (6% of immigrants), and the Philippines (4% of immigrants). Nor were respondents asked about their religious affiliation or church attendance. According to the Association of Religion Data Archives web site, as of 2019, over 75% of the Icelandic population considers itself religious, but only 12% attend religious services at least once per month.
12. Because the response categories for the offending items were binned into different intervals across measures, unit increases in each item correspond to different changes in the frequency of offending. However, supplemental analyses (available from the authors) indicated that the results were similar when the offending measures were coded as binary outcomes (instead of as frequencies) and the models were re-estimated using logistic regression.

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