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# Beyond Norms: The Roles of Anticipated Moral Emotions and Peer Approval in Intentions to Steal

## Jenseits von Normen: Die Rolle antizipierter moralischer Emotionen und der Zustimmung von Gleichaltrigen bei der Diebstahlsabsicht

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**Abstract:** Moral commitment problems, conflicts between self-interest and moral norms, are central to understanding antisocial decision-making. Although negative moral emotions such as anticipated guilt are well-established deterrents of deviance, positive moral emotions such as anticipated pride and their interaction with guilt and normative influences have received less attention. This study uses a visual scenario-based survey to investigate how anticipated pride influences intentions to steal among a large sample of adolescents and young adults. The results indicate that anticipated pride is associated with *higher* intentions to steal, particularly when personal moral norms are permissive or when peer approval is perceived as high. Furthermore, anticipated pride weakens the deterrent effect of anticipated guilt, revealing complex competing influences of moral emotions. These findings suggest that anticipated pride can function as a »double-edged sword«, potentially undermining moral self-regulation when stealing confers social rewards. This highlights the nuanced and context-dependent role of anticipated moral emotions in antisocial decision-making.

**Keywords:** intention to steal – anticipated pride – anticipated guilt – personal moral norm – perceived peer approval – visual scenario – interaction

**Zusammenfassung:** Probleme der moralischen Verpflichtung, also Konflikte zwischen Eigeninteresse und moralischen Normen, sind für das Verständnis antisozialer Entscheidungsfindung von zentraler Bedeutung. Negative moralische Emotionen wie antizipierte Schuld gelten als etablierte Abschreckungsfaktoren für deviante Verhaltensweisen. Positiven moralischen Emotionen wie antizipiertem Stolz und deren Interaktion mit Schuldgefühlen und normativen Einflüssen wurde bisher hingegen weniger Aufmerksamkeit geschenkt. In dieser Studie wird mithilfe einer visuellen, szenariobasierten Umfrage untersucht, wie sich antizipierter Stolz auf die Diebstahlsabsicht einer großen Stichprobe von Jugendlichen und jungen Erwachsenen auswirkt. Die Ergebnisse zeigen, dass antizipierter Stolz mit einer höheren Diebstahlsabsicht verbunden ist, insbesondere, wenn persönliche moralische Normen permissiv sind oder die Zustimmung von Gleichaltrigen als hoch wahrgenommen wird. Darüber hinaus schwächt antizipierter Stolz die abschreckende Wirkung von antizipierter Schuld, wodurch die komplexen, sich gegenseitig beeinflussenden Effekte moralischer Emotionen offengelegt werden. Diese Ergebnisse deuten darauf hin, dass antizipierter Stolz ein »zweischneidiges Schwert« sein kann und die moralische Selbstkontrolle untergräbt, wenn Diebstahl mit sozialen Belohnungen einhergeht. Dies unterstreicht die nuancierte und kontextabhängige Rolle antizipierter moralischer Emotionen in antisozialen Entscheidungsprozessen.

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## 1 Introduction

Human social life frequently presents situations in which individuals must decide whether to act in accordance with moral norms – shared expectations of what is right

or wrong, fair or unfair (Coleman 1990; Homans 1974; Opp 2001) – even when this conflicts with their immediate self-interest.<sup>1</sup> These moral decisions, such as resisting the temptation to steal, telling the truth at personal cost, and standing up to peer pressure, illustrate the classic moral commitment problem (Frank 1988, 2001, 2011)<sup>2</sup>: the tension between short-term self-interest and longer-term social or moral expectations.<sup>3</sup>

Given the prevalence of this problem, a key question arises: how can individuals consistently adhere to moral norms despite the potential personal costs? Addressing this question is important for understanding why people follow moral norms even when it conflicts with short-term gain (Schelling 1960). Economist Robert Frank (1988) has proposed that certain moral emotions, such as guilt, moral indignation, and sympathy, might have evolved as emotional commitment devices. These internal psychological mechanisms motivate individuals to fulfil their moral commitments by making them feel uncomfortable at the prospect of violating a norm or satisfaction when they comply with one, thereby steering decision-making toward socially desirable choices (Frank 2001; Haidt 2003; Nesse 1990; Nesse and Ellsworth 2009).

Although this framework is well established in evolutionary theory, its explicit application to criminological

theorizing remains limited. This study addresses this gap by focusing on the motivational role of anticipated moral emotions in antisocial decision making. It highlights that these anticipated moral emotions can act as double-edged swords: depending on context, they may restrain antisocial choices or, paradoxically, encourage them. Traditionally, empirical criminological research has emphasized negative moral emotions such as anticipated guilt and shame, which are typically viewed as deterrents to rule breaking. By contrast, positive moral emotions have been largely overlooked.<sup>4</sup> (Durrant and Ward 2015; Tibbetts, 2014).

While emotions such as thrill, excitement, and joy have long been recognized as factors that drive decisions to engage in rule-violating behavior (Katz 1988; Presdee 2000), the role of positive moral emotions in motivating antisocial behavior remains unclear. Among these, *anticipated pride* – the expectation of feeling pride subsequent to an action – has been framed as a protective force supporting moral restraint and prosocial behavior (e.g., Hart and Matsuba 2007). However, it is unclear whether anticipated pride invariably promotes moral restraint and prosocial choices. In certain contexts, it may instead enhance the appeal of antisocial choices (e.g., Tibbetts 2014), especially when such actions promise social rewards such as peer approval or elevated status.

By exploring this nuance, the current study expands the scope of criminological theories of offender decision-making, challenging the conventional view that anticipated moral emotions primarily discourage offending. Instead, it suggests that the effect of these anticipated moral emotions on antisocial choices is heavily context-dependent and potentially ambivalent: under some conditions, the same emotions that typically inhibit wrongdoing may actually encourage it.

To investigate this, the study has three aims: (1) To establish whether anticipated pride, guilt, personal moral norms, and perceived peer approval each uniquely predict intentions to make antisocial choices; (2) to determine whether anticipated pride interacts with these factors to influence antisocial decision-making; and (3) to ascertain whether these interactions remain robust when tested against alternative explanations.

1 »Self-interest« refers to the broad set of dispositions, motives, or behaviors that ultimately promote an individual's biological, social, or material welfare – such as survival, reproduction, status, or well-being, regardless of whether these benefits are consciously intended. This notion of self-interest does not imply psychological egoism (the claim that individuals always act from consciously selfish motives). Instead, it acknowledges that genuinely altruistic or morally motivated behaviors can also contribute to one's long-term welfare by fostering cooperation, trust, or reputation (Krebs 2022; Trivers 1971). Similarly, Dawkins ([1976] 2016) described genes as »selfish« in the sense of promoting their replication, without implying that organisms must be consciously selfish.

2 Although Frank (1988) does not explicitly use the term »moral commitment,« his analysis of the commitment model – particularly about the evolutionary motives for moral behavior and their relationship with moral sentiments – closely aligns with this concept (see Nesse [2001] for an evolutionary perspective on commitment).

3 Commitment problems are known by different names in different fields. For example, economists and political scientists refer to them as commitment or collective action problems (e.g., Camerer 2003; Frank 1988; Ostrom 1990), while other social scientists refer to them as social dilemmas (Dawes 1980) or social problems (Hoffman 2014). In evolutionary biology, they are known as the problem of altruism or reciprocity (Trivers 1971). Dawes (1980: 169–170) defined social dilemmas by two key features: individuals gain more by defecting, regardless of the actions of others, but everyone benefits most if all cooperate. This means that collective payoffs drop when everyone defects (see also Van Lange et al. [2013]).

4 The terms »negative« and »positive« moral emotions refer to their affective valence – that is, whether the emotions are experienced as unpleasant (negative) or pleasant (positive) – rather than indicating the direction of their influence on antisocial behavior. This distinction is consistent with Panksepp's (1998) affective neuroscience framework, which identifies fundamental emotional systems characterized by positive and negative affective states.

## 2 Theoretical Background

This section outlines the theoretical background on anticipated moral emotions and their influence on antisocial choices, setting the stage for understanding their complex interplay with personal moral norms and social context, particularly peer approval.

### 2.1 Emotions and Moral Emotions

Emotions have been conceptualized from two complementary perspectives. Some scholars emphasize their biological basis as brain states that trigger specific behavioral and physiological responses (Adolphs and Anderson 2018), while others highlight the role of experience, cultural knowledge, and social learning in constructing emotions (L. Barrett 2011; L. F. Barrett 2017).<sup>5</sup> Together, these perspectives suggest that emotions are both biologically grounded and influenced by environmental and social factors.

Within this broader framework, moral emotions represent a specific subset as affective responses that arise in situations involving moral evaluations, such as concerns about fairness, harm, rights, or social norms. These include negatively valenced moral emotions such as guilt, shame, and moral outrage, as well as positively valenced moral emotions such as pride and gratitude (Haidt 2003; Turner and Stets 2006). Moral emotions are distinguished from other affective experiences by their role in regulating behavior within the context of shared moral expectations. They can support adherence to these moral expectations and influence responses to perceived violations.

From an evolutionary perspective, one influential view is that moral emotions evolved to promote long-term cooperation within interdependent social groups (Tomasello 2016). According to this view, moral emotions such as anticipated guilt can prompt individuals to forego immediate rewards, such as refraining from stealing, in favor of longer-term benefits such as reputation, trust, and reciprocity<sup>6</sup> (Alexander 1987; Nowak and Sigmund 1998; Trivers

<sup>5</sup> There are different views on the nature of emotions. Some scholars conceptualize them as biologically hardwired brain states that produce consistent behavioral and physiological responses (e.g., Adolphs and Anderson 2018; Panksepp 1998; Panksepp and Biven 2012), while others argue that they are psychologically constructed based on individual experiences and cultural contexts (e.g., L. F. Barrett 2017; von Maur 2021) or that they emerge from embodied interactions with the environment (e.g., L. Barrett 2011).

<sup>6</sup> Other perspectives emphasize that moral emotions can also serve strategic, self-interested, or even exploitative functions – for example, by manipulating others' perceptions or enforcing dominance hierar-

1971; Turner 2021). Moral emotions are believed to have roots in evolutionary mechanisms, including kin selection (Hamilton 1964), direct reciprocity (Trivers 1971), indirect reciprocity (Alexander 1987), and the enforcement of social norms and hierarchies (Boehm 2012; Wrangham 2019; see Pauwels and De Buck, 2026, for an overview).

### 2.2 Moral Emotions and Personal Moral Norms

There has been growing attention across various disciplines to the influence of moral emotions on antisocial decision-making (e.g., Agnew 2014; van Gelder and de Vries 2012; Walsh 2019, 2024; Wikström, Treiber, and Roman 2024). Within criminology, much of this focus has been on negative moral emotions – particularly anticipated guilt and shame – which are often considered important in reinforcing personal moral norms and discouraging rule-breaking.

Social theorists have long argued that moral norms are mainly learned in the socialization process (Opp, 2017), and that internalized norms regulate daily social interactions (e.g., Campbell, 1964; Coleman, 1990; Durkheim, 1950; Elster, 1989, 2015; Etzioni, 1988; Hechter & Opp, 2001). Moral norms about whether a certain behavior is right or wrong play (and have played) a major role in many theories of offending: contemporary social learning theory (Jennings & Akers, 2012); contemporary control theories (Britt & Costello, 2017; Cullen, 1994; Gottfredson & Hirschi, 2019); situational action theory (Wikström et al., 2012, Wikström, 2019); social concern theory (Agnew, 2011, 2014). Many (cross-national) empirical studies show that conformity to conventional moral norms is negatively related to offending (e.g., Kroneberg, Heintze & Mehlkop, 2010; Marshall & Marshall, 2018; Sattler, van Veen, Hasselhorn, Mehlkop & Sauer, 2022; Timmer, Antonaccio, Botchkovar, Regalado & Hughes, 2024; Walters et al., 2021).

Within wide versions of rational choice frameworks, moral emotions can be conceptualized as internalized costs that inhibit wrongdoing by activating self-sanctions (e.g., Elster 1989, 2015; Opp 2014; Paternoster 2010). Empirical research generally supports the view that anticipated guilt and shame are associated with a reduced likelihood of antisocial intentions (e.g., De Boeck 2022; De Buck & Pauwels, 2022; Spruit et al. 2016; Svensson et al. 2013, 2017; van Gelder, de Vries, and van der Pligt 2009; Walters 2022).

While negative moral emotions have been extensively studied, positive moral emotions have historically received

chies (e.g., Lieberman and Patrick 2018). From this angle, moral emotions may not always promote cooperation but can also be harnessed to assert status or deflect blame.

less attention in criminological research, despite an increasing acknowledgment of their potential importance in social and evolutionary psychology (Tracy, Shariff, and Cheng, 2010; Tracy et al., 2020). Recent research highlights that emotions such as empathy (Agnew, 2014; Jolliffe & Farrington, 2021; Trivedi-Bateman, 2015; Walsh, 2024) and, more recently, altruistic tendencies (Botchkovar et al., 2025; Pauwels and De Buck, 2026) may also significantly influence antisocial behavior. Their impact appears to be complex and heavily context-dependent (Bloom, 2017; Cuff et al., 2016; De Buck and Pauwels, 2022a; Ward & Durrant, 2013), particularly when interacting with personal moral norms and perceived social incentives such as peer approval.

### 2.3 Anticipated Pride in Moral Contexts

Among positive moral emotions, anticipated pride stands out as one that has so far been largely overlooked in criminological studies. Evolutionary psychological research shows that pride is a universal and socially functional emotion (Tracy et al. 2020). It motivates individuals to strive for status, provides psychological rewards for achievement, and signals social standing to others (Cheng, Tracy, and Henrich, 2010; Tracy, Shariff, and Cheng 2010). Feelings of pride are typically pleasant, enhancing self-confidence and reinforcing further status-oriented behavior (Tracy et al. 2020). As an emotion tied to reputation management, anticipated pride can motivate behavior that helps individuals to achieve, maintain, and communicate their social rank. This can potentially improve their long-term social value and reproductive success, especially among men (Sznycer and Lukaszewski 2019; von Rueden, Gurven, and Kaplan 2011).

This issue is criminologically relevant because the motivation to gain status and peer recognition can, under certain conditions, encourage antisocial behavior – particularly when individuals anticipate feeling pride for violating social norms that are endorsed by their social environment. Preliminary findings, such as those by Tibbetts (2014), suggest that anticipated pride may sometimes increase, rather than decrease, intentions to steal. This apparent paradox points to a possible interaction: pride may facilitate norm violations when personal moral norms are weak or anticipated guilt is low, yet reinforce prosocial behavior when anticipated guilt and personal moral norms are strong. Despite this, these hypotheses remain largely unexplored. Anticipated pride may not function solely as a deterrent; under specific normative or social conditions, it could amplify motivation for antisocial choices. Its limited presence in criminological models appears to stem not from conceptual problems, but from a lack of empirical attention.

## 2.4 Anticipated Pride & Perceived Peer Approval

Perceived peer approval is a robust predictor of antisocial behavior. Even in the absence of peers, it shapes behavior through social influence mechanisms (Beier, 2018; Fishbein and Ajzen 2011; Hoeben and Thomas 2019; Matsueda, O’Neill, and Kreager 2020; McGloin and Thomas 2017; Warr 2002). Adolescence, in particular, is characterized by an increased focus on peer approval and sensitivity to social standing (Blakemore 2012; Casey, Cohen, and Galvan 2025), making it a crucial life stage for studying how moral emotions and social influence interact.

Since anticipated pride acts as a mechanism for managing one’s reputation, it is reasonable to assume that it interacts with peer approval. For example, pride could amplify the effect of peer approval on norm violations if individuals anticipate gaining admiration by breaking rules. Conversely, pride may encourage prosocial behavior if the peer group values rule-following. Despite its theoretical significance, this interaction remains empirically unexplored in criminological research. Investigating this interaction could clarify how positive moral emotions, personal moral norms, and social context jointly influence antisocial choices.

## 3 Aim and Relevance of the Study

### 3.1 Aim of the Study

This study has three main aims: *Firstly*, it aims to replicate and establish the independent effects of four key variables – anticipated pride, anticipated guilt, personal moral norms, and perceived peer approval – on intentions to make antisocial choices, specifically, intentions to steal. By controlling for other relevant predictors (such as deterrence, social learning constructs, personal traits, and demographics), it will evaluate whether each variable explains unique variance in antisocial decision-making beyond well-established factors.

*Secondly*, it will explore whether anticipated pride interacts with the other three key variables – anticipated guilt, personal moral norms, and perceived peer approval – to shape antisocial decision-making. This tests whether the influence of anticipated pride on antisocial choices depends on the level of anticipated guilt, personal moral norm, or perceived peer approval, reflecting the complex interplay between positive and negative moral emotions, normative beliefs, and social context.

*Thirdly*, it seeks to examine the robustness of these interaction effects by comparing them to alternative, theo-

retically grounded interactions, such as those involving deterrence variables (e.g., the perceived risk of punishment) and self-control-related traits (e.g., impulsivity). This will establish whether the predicted pride interactions remain significant when tested against alternative explanations for antisocial choices.

### 3.2 Relevance of the study

This study contributes to criminological and social science research by applying the concept of emotional commitment devices – originally developed in evolutionary theory – to understand antisocial decision-making. While previous studies have mainly focused on negative moral emotions such as anticipated guilt and shame as deterrents, this research highlights the neglected role of positive moral emotions, such as anticipated pride. By exploring whether anticipated pride always promotes moral restraint or if it can sometimes increase the appeal of antisocial choices that promise social rewards (e.g., peer approval), the study clarifies the nuanced ways in which moral emotions influence decision-making. Addressing this gap broadens existing theories of moral motivation, recognizing that moral emotions may not always discourage rule-breaking, but may also motivate it under certain conditions.

## 4 The Present Study

### 4.1 Independent Effects

The first aim of the study is to replicate and confirm the well-documented, direct effects of four key variables – anticipated pride, anticipated guilt, personal moral norms, and perceived peer approval – on intentions to steal. By controlling for relevant alternative predictors (e.g., deterrence, social learning, demographics), the analysis will examine whether each variable explains unique variance in antisocial intentions beyond the established factors.

H1: Anticipated pride and perceived peer approval positively predict intentions to steal, while anticipated guilt and personal moral norms negatively predict intentions to steal.

### 4.2 Combined Effects

The second aim of the study is to examine whether the effect of anticipated pride on intentions to steal varies depending

on other well-established moral and social factors, such as anticipated guilt, personal moral norms, and perceived peer approval. Anticipated pride is expected to increase intentions to steal by making theft appear status-enhancing, whereas anticipated guilt typically inhibits such behavior by imposing emotional costs. These opposing moral emotions may interact, with the influence of anticipated pride depending on the level of anticipated guilt, and vice versa. Specifically, when anticipated guilt is low, pride may more strongly motivate theft, whereas high anticipated guilt may weaken the motivating effect of pride. This interaction reflects a complex, ambivalent dynamic in which the motivational push of pride and the emotional restraint of guilt jointly influence antisocial choices. Depending on their relative strength, this interaction may either attenuate or amplify intentions to steal.

H2a: The effect of anticipated pride on intentions to steal and the negative effect of anticipated guilt will interact such that the presence of one emotion may weaken the influence of the other.

Personal moral norms reflect internalized beliefs about the acceptability of stealing. When these norms are strong, stealing is seen as morally unacceptable, and the effect of pride on intentions may be weaker because the act feels less legitimate or more tainted. Conversely, when personal moral norms are permissive, anticipated pride may have a stronger effect on intentions to steal, and the act can be more easily reframed as bold, resourceful, or status-enhancing.

H2b: The positive effect of anticipated pride on stealing intentions will be stronger when personal moral norms are more permissive of stealing.

Perceived peer approval represents the social environment's attitude towards stealing. When peers approve of stealing, the motivating effect of anticipated pride may be amplified, as stealing is likely to bring real social recognition or admiration, increasing its appeal. When peers disapprove, however, the motivating effect of pride is likely to be weaker, as the expected social reward is absent or negative.

H2c: The positive effect of anticipated pride on stealing intentions will be stronger when perceived peer approval of stealing is high.

Together, these hypotheses conceptualize anticipated pride as a motivational force that can increase antisocial choices. Its strength depends on the emotional context (anticipated guilt), normative context (personal moral norm), and social context (peer approval).

### 4.3 Robustness of the Interaction Effects

The third aim of the study is to critically evaluate the robustness of the hypothesized interaction effects. Due to the complexity of these interactions, it is essential to confirm that they reflect genuine psychological mechanisms rather than statistical artifacts. To this end, the analyses control for other relevant moral emotions – such as empathic concern – as well as individual differences, such as impulsivity, risk-seeking, and prior stealing. Additionally, variables related to deterrence, such as perceived risk and anticipated fear, are included as controls.

## 5 Methodology

### 5.1 Sample

The Data for this study were collected in 2019 via an online survey administered to a large convenience sample of adolescents and young adults living in the Dutch-speaking region of Belgium. All 300 municipal and city governments in Flanders, along with affiliated youth organizations and school boards, were emailed an invitation to participate, requesting their cooperation in distributing the survey. The study was presented as an investigation into the decision-making processes of adolescents and young adults in social and moral contexts. Local youth council leaders and school officials were asked to share the invitation with young people, youth group members, and students via social media and other local online platforms.

The target demographic was individuals aged 10–24. Those who were interested could follow a link in the invitation email to access the online survey. The survey began with an informed consent form, and participation was entirely anonymous and voluntary. Participants were required to complete the full questionnaire in a single session, which took approximately 15–20 minutes. To ensure accessibility, both the questions and answer options were kept brief and straightforward.

Participants also had the opportunity to enter a prize draw for a €30 voucher or an iPad via a separate link. A total of 3,591 individuals completed the survey. Of these, 32.2% were male, and the average age of participants was 18 years ( $SD = 5.15$ ).

## 6 Research design

A visual vignette approach was selected, featuring a hypothetical scenario set in a coffee bar.<sup>7</sup> The visual vignette depicts a situation that adolescents and young adults might encounter: the opportunity to keep a small amount of found money (€50).<sup>8</sup> The aim of using a visual presentation of a hypothetical scenario was to create a more dynamic and more accurate representation that captures the complexity and social dynamics of real-life situations more effectively than text-only narratives do. This enhanced realism is intended to elicit more authentic responses from participants, thereby increasing the ecological validity of the scenario (van Gelder et al. 2018).

The scenario visualizes the opportunity to keep money that does not belong to the protagonist and is presented as follows: *The protagonist is sitting at a table in a coffee shop somewhere in the city, drinking coffee and reading a magazine. A woman walking by stops at the table and says, »Here, this was lying on the ground.« She then places a €50 bill on the table and leaves the coffee shop. A moment later, a young man enters. He appears to be looking for something, walks to the table where the protagonist is seated, and asks, »Sorry, I was just sitting here and I lost a €50 bill. Have you seen it?«*

The scenario was presented in two versions, which were assigned at random: one in which a witness was visibly present during the interaction, and one in which the protagonist was alone when the situation unfolded. A full description of the manipulation is available in De Buck, Hardyns, and Pauwels, 2023. Immediately after reading the scenario, participants answered questions about their intention to keep the found money, their perception of risk, fear, and peer approval, and their anticipated feelings of pride and guilt.

## 7 Measures

In this study, all central constructs – intentions to keep the found money (hereafter also referred to as intentions to steal), anticipated pride, anticipated guilt, personal moral norms, and perceived peer approval – are treated as state variables. These are measured in response to the visual sce-

<sup>7</sup> We gratefully acknowledge Prof. Dr. Jean-Louis van Gelder, director of the Department of Criminology at the Max Planck Institute for the Study of Crime, Security, and Law in Freiburg, Germany, for kindly providing the visual vignette.

<sup>8</sup> €50 is approximately equivalent to USD 59.

nario depicting stealing. They are not measured as stable personality traits, but rather as situation-specific judgments about how one *would* feel or act in that context. The exact wording of all items can be found in the supplementary materials.

## 7.1 Endogenous variable

The endogenous variable is participants' intentions to steal, i.e., their self-reported likelihood of keeping the found money in the visual vignette scenario. After watching the video, participants rated the likelihood that they would keep the €50 on a 7-point Likert scale (1 = very unlikely, 4 = neutral, 7 = very likely). Responses were reverse-coded so that higher scores reflected stronger intentions to steal. Descriptive statistics showed that intentions to steal were generally low, with a mean of 2.24 (SD = 1.69) and a median of 1.00, with over half of the participants showing the lowest possible scores. The distribution was positively skewed (skewness = 1.34; SE = 0.04) and moderately leptokurtic (kurtosis = 0.75; SE = 0.08). Nevertheless, around 13.7% of participants selected higher points on the scale (scores of 5, 6, or 7), showing that a non-negligible minority reported a higher likelihood of keeping the money.

## 7.2 Exogenous variables

Anticipated pride and anticipated guilt were assessed using five items each, adapted from the *State Shame and Guilt Scale* (SSGS; Marschall, Sanftner, & Tangney, 1994; Tangney & Dearing, 2002). This scale uses brief phenomenological descriptions to distinguish between shame-about-self and guilt-about-behavior experiences in response to hypothetical scenarios. The SSGS is well described in Tangney and Dearing (2002), and its psychometric properties have been further supported in recent research (Tzelepi et al., 2023). Following Tangney and Dearing (2002), brief phenomenological statements were used to capture specific emotional experiences, circumventing the limitations of adjective checklist-type measures. Items for anticipated pride included: »I would feel good about myself,« »I would feel capable, useful,« »I would feel proud,« »I would feel valuable,« and »I would feel pleased about something I have done.« Items for anticipated guilt included: »I would feel remorse,« »I would feel tension about something I have done,« »I cannot stop thinking about something bad I have done,« »I would feel like apologizing/confessing,« and »I would feel bad about something I have done.«

Although the SSGS was originally developed for state-based emotions, the items were modified to measure an-

tipated emotions in the hypothetical decision-making context: participants were asked, »Imagine you decided to keep the money. How do you think you would feel afterward?« Responses were recorded on a 5-point Likert scale (1 = strongly disagree, 3 = neither agree nor disagree, 5 = strongly agree). Internal consistency was high for pride ( $\alpha = .90$ ) and excellent for guilt ( $\alpha = .91$ ).

Their correlation supported the empirical distinctiveness of the constructs: anticipated pride and anticipated guilt were moderately negatively correlated ( $r = -0.572$ ), indicating that they are related but conceptually distinct emotional experiences.

Both *personal moral norms* and *perceived peer approval* were assessed using single items carefully designed to match the scenario context and capture situation-specific judgments. Personal moral norm was assessed with a single item: »If people are careless where they leave their things, it is their fault if they get stolen,« rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores on this scale indicate a stronger approval of stealing.<sup>9</sup>

Perceived peer approval was assessed using a single item. After viewing the scenario, participants were asked: »Regardless of your earlier responses, how would your best friend(s) react if you decided to keep the €50?« Responses were recorded on a 7-point scale ranging from 1 (*they would admire me*) to 7 (*they would criticize me*) and were reverse-coded so that higher scores indicate greater perceived peer approval of the theft.

## 7.3 Control Variables

To account for alternative explanatory mechanisms, several control variables that were both theoretically and empirically grounded were included. Following critiques by Spector and Brannick (2011), only those variables with clear

<sup>9</sup> Personal moral norms help individuals align their behavior with internalized moral standards. A longstanding challenge in understanding moral behavior is how individuals reconcile their actions with these standards, especially when engaging in norm violations. Several theoretical perspectives offer contrasting explanations of moral justifications and rationalizations. There is an ongoing debate about whether moral justifications primarily reflect post hoc neutralizations, psychological strategies to bypass relatively stable moral standards, or whether they represent authentic, context-dependent moral norms that people sincerely apply in specific situations. In this study, we conceptualize personal moral norms as the latter: context-dependent moral standards that guide behavior in specific situations, rather than as neutralization strategies. For a more detailed discussion, see Pauwels & De Buck, 2026.

theoretical relevance and prior empirical support in adolescent antisocial behavior were considered.

Empathic concern was assessed using the Dutch version of the Interpersonal Reactivity Index (IRI; Davis 1983, 1994), subscale Empathic Concern (seven items; e.g., »I often have tender, concerned feelings for people less fortunate than me«). Items were rated on a 5-point Likert scale (1 = strongly agree to 5 = strongly disagree) and reverse-coded where applicable, meaning that higher scores reflect higher empathic capacity ( $\alpha = .73$ ).<sup>10</sup>

Prior stealing was controlled through a self-report measure indicating whether the respondent had committed theft in the previous 12 months.

Self-control was measured using items adapted from the Capacity for Self-Control scale developed by Hoyle and Davison (2016), which was based on the Low Self-Control scale derived from the General Theory of Crime (Grasmick et al. 1993) and the Self-Control Scale by Tangney, Baumeister, and Boone (2004). For this study, only items reflecting self-control by inhibition were included. This dimension captures the capacity required when people are confronted with impulses, desires, or situational demands that conflict with their current goals – for example, the goal to live according to moral standards, like always being honest, when faced with moral temptation. Self-control by inhibition items focus specifically on inhibiting the desire to act on temptations, cravings, impulses, wants, and bad habits. Participants rated their agreement with eight items on a five-point Likert scale (1 = strongly agree to 5 = strongly disagree). Example items are: »I am able to resist temptations« and »I have trouble resisting my cravings.« Items were reverse scored so that higher scores indicate higher levels of self-control. The internal consistency for this scale was moderate ( $\alpha = .636$ ).

Impulsivity is measured as low impulse control, defined as the tendency to act without foresight or contemplation and to being concerned only with the immediate pleasures of gratification (Mamayek, Loughran, and Paternoster 2015). Participants were asked to indicate their (dis)agreement with four items on a five-point Likert scale (1 = strongly agree to 5 = strongly disagree). Responses were

reverse-coded so that high scores refer to high impulsivity. The internal consistency was acceptable ( $\alpha = .77$ ).

The willingness to take risks was measured using four items adapted from the UPPS Impulsive Behavior Scale (short version; Whiteside and Lynam 2001), capturing the willingness to take risks for excitement or new experiences (e.g., »I like to take risks.«) While risk-taking itself does not necessarily imply impulsivity, it reflects a strong sensitivity to reward, which can increase the likelihood of impulsive actions. Participants responded on a five-point Likert scale (1 = strongly agree to 5 = strongly disagree). Responses were reverse-coded so that higher scores indicate a greater risk-taking propensity ( $\alpha = .69$ ).

Perceived risk was measured as a composite of the perceived probability of being caught and the perceived severity of consequences (Nagin and Paternoster 1993; van Gelder and de Vries 2012). Perceived probability (»How likely is it that you will get caught?«) and perceived severity (»How severe do you think the consequences would be if you got caught?«) were each rated on 7-point scales and reverse-coded so that higher scores reflect greater perceived risk. The composite score was calculated by multiplying the reverse-coded probability and severity scores and then rescaling them to a 7-point scale.

Fear sensitivity was assessed via the item: »Suppose you kept the €50 to yourself; how afraid would you be of getting caught?« Responses were recorded on a 7-point Likert scale and reverse-coded so that higher scores indicate greater fear sensitivity.

Age was treated as a continuous variable, calculated from birth year. Biological sex was coded as a binary variable (0 = male, 1 = female). The scenario condition was included as a binary variable, coded as 0 (no witness) and 1 (witness present).

## 8 Analysis plan

We used Hierarchical Generalized Linear Modeling (HGLM) to examine the effects of anticipated pride, anticipated guilt, personal moral norms, and perceived peer approval on intentions to steal. HGLM is well-suited to modeling continuous predictors and testing both main and interaction effects within a unified framework. To address potential violations of normality and heteroscedasticity, we used robust standard errors, which improve the accuracy of parameter estimates without requiring data transformations (Hannon & Knapp, 2003). All continuous predictors were standardized (z-scores) to facilitate interpretation and comparison (Aiken, West, & Reno, 1991). Standardization also ensures

<sup>10</sup> The psychometric properties of the Dutch version of the *Interpersonal Reactivity Index* (IRI) were examined by De Corte et al. (2007). The results supported the psychometric adequacy of the scores in terms of factor structure and scale reliability, construct validity as reflected in scale inter-correlations and gender differences, discriminant and convergent validity as evidenced by correlations with other related measures although no other existing empathy measures were taken into account. In short, the study gave evidence for the reliability and validity of the Dutch version of the IRI.

that the main effects in interaction models remain interpretable even when variables do not have an empirically meaningful zero point (Hayes, 2018). Categorical variables (sex, scenario condition) were entered unstandardized.

Model building proceeded as follows:

- Model 1 included control variables only (perceived risk, fear sensitivity, empathy, self-control, prior stealing, age, sex, scenario condition).
- Model 2 added the main effects of anticipated pride, anticipated guilt, personal moral norms, and perceived peer approval.
- Model 3 included the interaction between anticipated pride and anticipated guilt.
- Model 4 added the interaction between anticipated pride and personal moral norms.
- Model 5 introduced the interaction between anticipated pride and perceived peer approval.
- Model 6 simultaneously included all three interaction terms to assess combined effects.

To facilitate interpretation of significant interactions, moderators were visualized by categorizing them into low, medium, and high groups ( $\pm 1$  SD), while the statistical analyses retained continuous variables to preserve power.

Robustness checks were conducted to ensure that the interaction effects were not confounded: all interactions remained significant after controlling for covariates (prior offending, self-control, fear sensitivity, and perceived risk), alternative interaction specifications were tested, and logistic regression analyses with a dichotomous dependent variable largely confirmed the main effects, with only the anticipated pride  $\times$  anticipated guilt interaction remaining significant (Ai & Norton, 2003).

Multicollinearity was assessed using bivariate correlations. The strongest correlation was observed between anticipated pride and guilt ( $r = -0.572, p < .001$ ), consistent with theoretical expectations and reflecting that these moral emotions are related but conceptually distinct. All other correlations were below  $|0.4|$ , indicating minimal risk of multicollinearity (full correlation matrix in Supplementary Materials).

Additionally, a confirmatory factor analysis (CFA) confirmed the empirical distinctiveness of anticipated pride and guilt: all pride items loaded strongly on the latent pride factor (0.77–0.84), all guilt items loaded on the latent guilt factor (0.73–0.90), and the latent correlation was  $-0.624$  (Figure 1 in Supplementary Materials).

## 9 Results

### 9.1 Model 1 – Control variables only

The baseline model included the control variables (age, sex, scenario condition (witness/no witness), prior stealing, perceived risk, fear sensitivity, self-control, impulsivity, risk-taking, and empathic concern). Significant predictors of lower likelihood of stealing were higher perceived risk ( $B = -0.179, SE = 0.032, p < .001$ ), greater fear sensitivity ( $B = -0.247, SE = 0.040, p < .001$ ), higher self-control ( $B = -0.175, SE = 0.032, p < .001$ ), and greater empathic concern ( $B = -0.232, SE = 0.031, p < .001$ ). Conversely, more frequent prior stealing ( $B = 0.196, SE = 0.035, p < .001$ ) and higher impulsivity ( $B = 0.114, SE = 0.036, p = .001$ ) predicted higher likelihood of stealing. Risk-taking, age, sex, and scenario condition did not significantly predict stealing likelihood.

### 9.2 Model 2 – Adding anticipated emotions, personal moral norms, and peer approval

For Model 2, Anticipated pride, anticipated guilt<sup>11</sup>, personal moral norm, and perceived peer approval were added. Anticipated pride ( $B = 0.388, SE = 0.041, p < .001$ ), personal moral norm ( $B = 0.244, SE = 0.027, p < .001$ ), and perceived peer approval ( $B = 0.146, SE = 0.024, p < .001$ ) were positively associated with intentions to keep found money, whereas anticipated guilt ( $B = -0.481, SE = 0.044, p < .001$ ) was negatively related. Among controls, prior stealing ( $B = 0.095, SE = 0.031, p = .002$ ), perceived risk ( $B = -0.109, SE = 0.028, p < .001$ ), impulsivity ( $B = 0.065, SE = 0.030, p = .030$ ), and higher self-control ( $B = -0.093, SE = 0.027, p < .001$ ) remained significant. Age, sex, scenario condition, fear sensitivity, risk-taking, and empathic concern were non-significant.

<sup>11</sup> Although this study focused on anticipated guilt, we also measured anticipated shame, which is another well-established moral emotion. However, the correlation between anticipated guilt and shame was very high ( $r = .824$ ), making it difficult to separate their effects empirically. Additional analyses substituting anticipated guilt for anticipated shame yielded similar results: anticipated shame was a strong predictor of intentions to steal, with effects in the same direction but slightly smaller in magnitude – roughly comparable to anticipated pride. Due to this overlap, we retained anticipated guilt as the primary variable for clarity and theoretical alignment.

### 9.3 Models 3, 4, and 5 – Interaction effects of anticipated pride

To examine how anticipated pride moderates other key concepts, three interaction terms were tested:

- *Model 3* tested the interaction between anticipated pride and anticipated guilt. Both main effects were significant (anticipated pride:  $B = 0.397$ ,  $SE = 0.040$ ,  $p < .001$ ; anticipated guilt:  $B = -0.501$ ,  $SE = 0.040$ ,  $p < .001$ ), but their interaction was not ( $B = 0.042$ ,  $SE = 0.030$ ,  $p = .180$ ).
- *Model 4* introduced the interaction between anticipated pride and personal moral norm. Both main effects remained significant (anticipated pride:  $B = 0.341$ ,  $SE = 0.040$ ,  $p < .001$ ; personal moral norm:  $B = 0.240$ ,  $SE = 0.030$ ,  $p < .001$ ). The interaction was significant and positive ( $B = 0.129$ ,  $SE = 0.030$ ,  $p < .001$ ), indicating that anticipated pride amplifies the influence of personal moral norm on stealing likelihood.
- *Model 5* tested the interaction between anticipated pride and perceived peer approval (peer admiration). Both predictors showed significant main effects (anticipated pride:  $B = 0.342$ ,  $SE = 0.040$ ,  $p < .001$ ; peer approval:  $B = 0.160$ ,  $SE = 0.030$ ,  $p < .001$ ), and their interaction was significant and positive ( $B = 0.089$ ,  $SE = 0.030$ ,  $p = .004$ ), indicating that anticipated pride strengthens the effect of peer approval on the likelihood of stealing.

Control variables such as sex (with males showing lower likelihood), perceived risk (negative effect), and prior stealing frequency (positive effect) remained consistent predictors. Age and experimental condition were not significant. These models suggest that anticipated pride interacts with cognitive and social factors – context-specific personal moral norm and peer approval – to increase the likelihood of stealing.

### 9.4 Model 6 – Full model with all interactions

The full model incorporated all main effects and interaction terms. Sex predicted stealing likelihood, with females less likely to report stealing behavior ( $B = -0.188$ ,  $SE = 0.055$ ,  $p < .001$ ). Prior stealing frequency ( $B = 0.081$ ,  $SE = 0.030$ ,  $p = .007$ ) and perceived risk ( $B = -0.113$ ,  $SE = 0.028$ ,  $p < .001$ ) also remained significant.

Key psychological variables showed strong and significant effects: anticipated pride positively predicted stealing likelihood ( $B = 0.316$ ,  $SE = 0.040$ ,  $p < .001$ ), anticipated guilt was negatively associated ( $B = -0.542$ ,  $SE = 0.043$ ,  $p < .001$ ), personal moral norm ( $B = 0.236$ ,  $SE = 0.027$ ,  $p < .001$ ), and

perceived peer approval ( $B = 0.157$ ,  $SE = 0.026$ ,  $p < .001$ ) were positively related.

All two-way interactions involving anticipated pride were positive and significant: anticipated pride  $\times$  anticipated guilt ( $B = 0.092$ ,  $SE = 0.033$ ,  $p = .006$ ), anticipated pride  $\times$  personal moral norms ( $B = 0.127$ ,  $SE = 0.033$ ,  $p < .001$ ), and anticipated pride  $\times$  peer approval ( $B = 0.089$ ,  $SE = 0.034$ ,  $p = .009$ ). These interactions indicate that anticipated pride amplifies the effects of anticipated guilt, personal moral norms, and peer approval on intentions to keep found money, highlighting that the motivational impact of pride depends on the broader moral and social context.

Including the interaction terms in Model 6 increases the adjusted  $R^2$  from 34.9% in Model 2 to 36.0%, indicating a modest gain in explanatory power. While all interaction effects are statistically significant and substantively meaningful, the majority of variance in intentions to keep found money is accounted for by the main effects of anticipated pride, anticipated guilt, personal moral norms, and perceived peer approval.

## 10 Model 6a – Robustness check without control variables

To examine whether the observed interactions were robust to the inclusion of control variables, Model 6a was estimated, including only the key variables (anticipated pride, anticipated guilt, personal moral norms, perceived peer approval) and their interactions. All main effects and two-way interactions remained significant and consistent with Model 6 (see Table 1, Model 6a). These results indicate that the effects of anticipated pride and its moderating role on intentions to keep found money are robust and not dependent on the inclusion of control variables.

Overall, the findings demonstrate robust and independent contributions of anticipated pride, anticipated guilt, personal moral norms, and perceived peer approval to the likelihood of stealing, with anticipated pride consistently enhancing the influence of other moral and social factors through significant interactions.<sup>12</sup>

<sup>12</sup> As a robustness check, the analyses were also conducted using logistic regression with a dichotomous dependent variable. Although effect sizes differed somewhat, the main effects showed consistent directions. Only the interaction between anticipated pride and anticipated guilt was significant in the logistic models; the other interaction terms were not. Modeling interactions in non-linear models such as logistic regression is methodologically complex and subject to ongoing debate in the literature (e.g., Ai and Norton 2003). Moreover, dichotomizing

**Table 1:** Generalized linear models of intentions to steal for the full sample (N = 3591). Independent variables are z-standardized, except biological sex and Scenario condition. Parameter estimates with robust standard errors

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 6a
	<i>b</i> ( <i>S.E.</i> )						
Anticipated pride		.388*** (.04)	.397*** (.04)	.341*** (.04)	.342*** (.04)	.316*** (.04)	.329*** (.04)
Anticipated guilt		-.481*** (.04)	-.501*** (.04)	-.494*** (.04)	-.484*** (.04)	-.542*** (.04)	-.562*** (.04)
Personal moral norm		.244*** (.03)	.243*** (.03)	.240*** (.03)	.241*** (.03)	.236*** (.03)	.235*** (.03)
Perceived peer approval		.146*** (.02)	.146*** (.02)	.145*** (.02)	.160*** (.03)	.157*** (.03)	.161*** (.03)
Anticipated pride * anticipated guilt			.042 (ns) (.03)			.092** (.03)	.097** (.03)
Anticipated pride * personal moral norm				.129*** (.03)		.127*** (.03)	.128*** (.03)
Anticipated pride * Perceived peer approval					.089** (.03)	.089* (.03)	.088** (.03)
<b>Control variables</b>							
Biological sex (ref: females)	-.030 (ns) (.06)	-.165** (.06)	-.167*** (.06)	-.178*** (.06)	-.170** (.06)	-.188*** (.06)	
Age	.017 (ns) (.03)	.014 (ns) (.02)	.011 (ns) (.02)	.018 (ns) (.02)	.019 (ns) (.02)	.015 (ns) (.02)	
Prior stealing (ref: yes)	.196*** (.04)	.095** (.03)	.097** (.03)	.085** (.03)	.088** (.03)	.081** (.03)	
Scenario condition (ref: NO witness)	.013 (ns) (.05)	.026 (ns) (.05)	.025 (ns) (.05)	.028 (ns) (.05)	.022 (ns) (.05)	.022 (ns) (.05)	
Perceived risk	-.179*** (.03)	-.109*** (.03)	-.104*** (.03)	-.118*** (.03)	-.116*** (.03)	-.113*** (.03)	
Fear sensitivity	-.247*** (.04)	.045 (ns) (.04)	.045 (ns) (.04)	.054 (ns) (.04)	.049 (ns) (.04)	.056 (ns) (.04)	
High self-control	-.175*** (.03)	-.093*** (.03)	-.092*** (.03)	-.094*** (.03)	-.097*** (.03)	-.097*** (.03)	
Impulsivity	.114*** (.04)	.065* (.03)	.064* (.03)	.059* (.03)	.060* (.03)	.052 (ns) (.03)	
Risk-taking	.009(ns) (.03)	-.022 (ns) (.03)	-.023 (ns) (.03)	-.018 (ns) (.03)	-.020 (ns) (.03)	-.018 (ns) (.03)	
Empathic concern	-.232*** (.03)	-.003 (ns) (.03)	-.001 (ns) (.03)	-.004 (ns) (.03)	-.010 (ns) (.03)	-.007 (ns) (.03)	
Adjusted R <sup>2</sup> (x100)	14.7%	34.9%	35.0%	35.5%	35.2%	36.0%	33.1%

Note: Independent variables are z-standardized to facilitate interpretation and comparison. Categorical variables (Sex and Scenario Condition) were not standardized.

The interaction term is the product of the standardized independent variables

b = unstandardized regression coefficient

\*\*\*p<.001 \*\*p<.01 \*p<.05 NS = not significant

Note: Model 6a shows Model 6 without control variables as a robustness check.

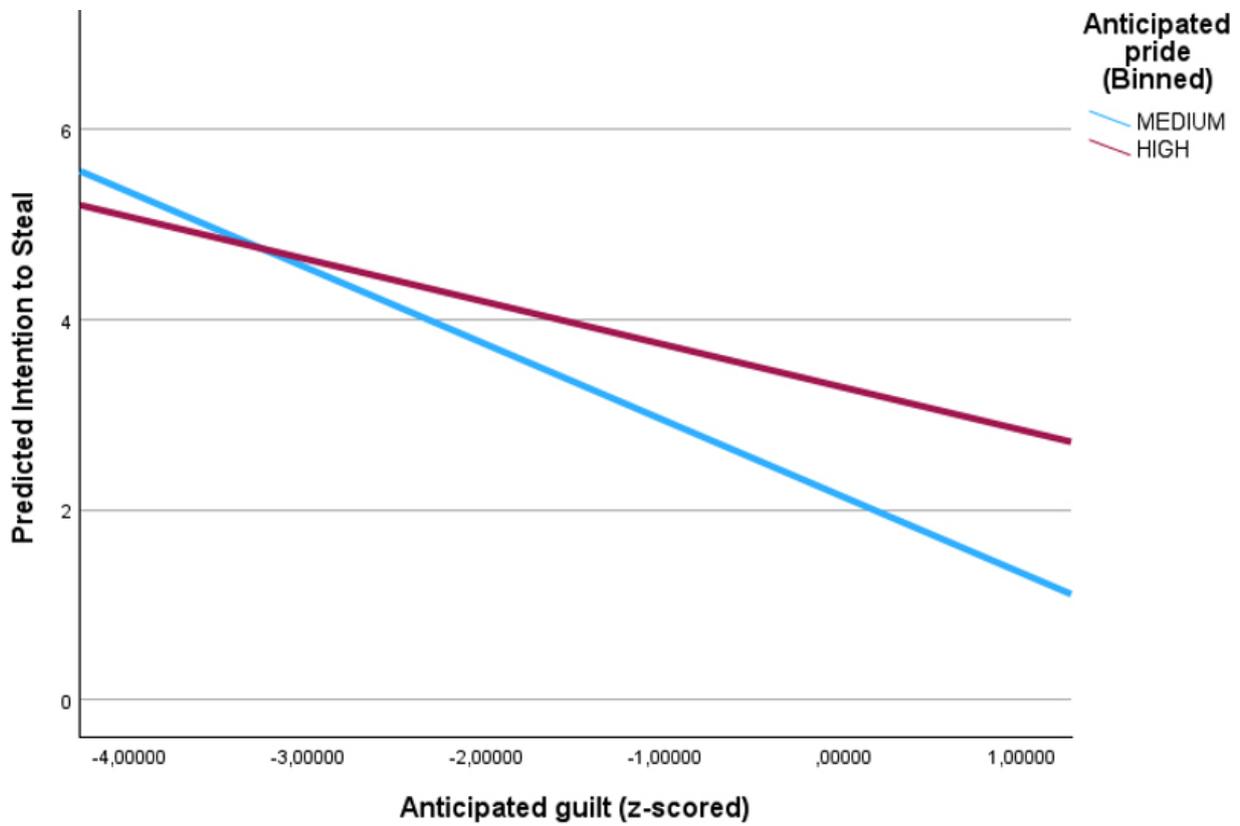


Figure 1: Interaction between anticipated guilt and anticipated pride (medium vs. high) on intentions to steal (N= 3591)

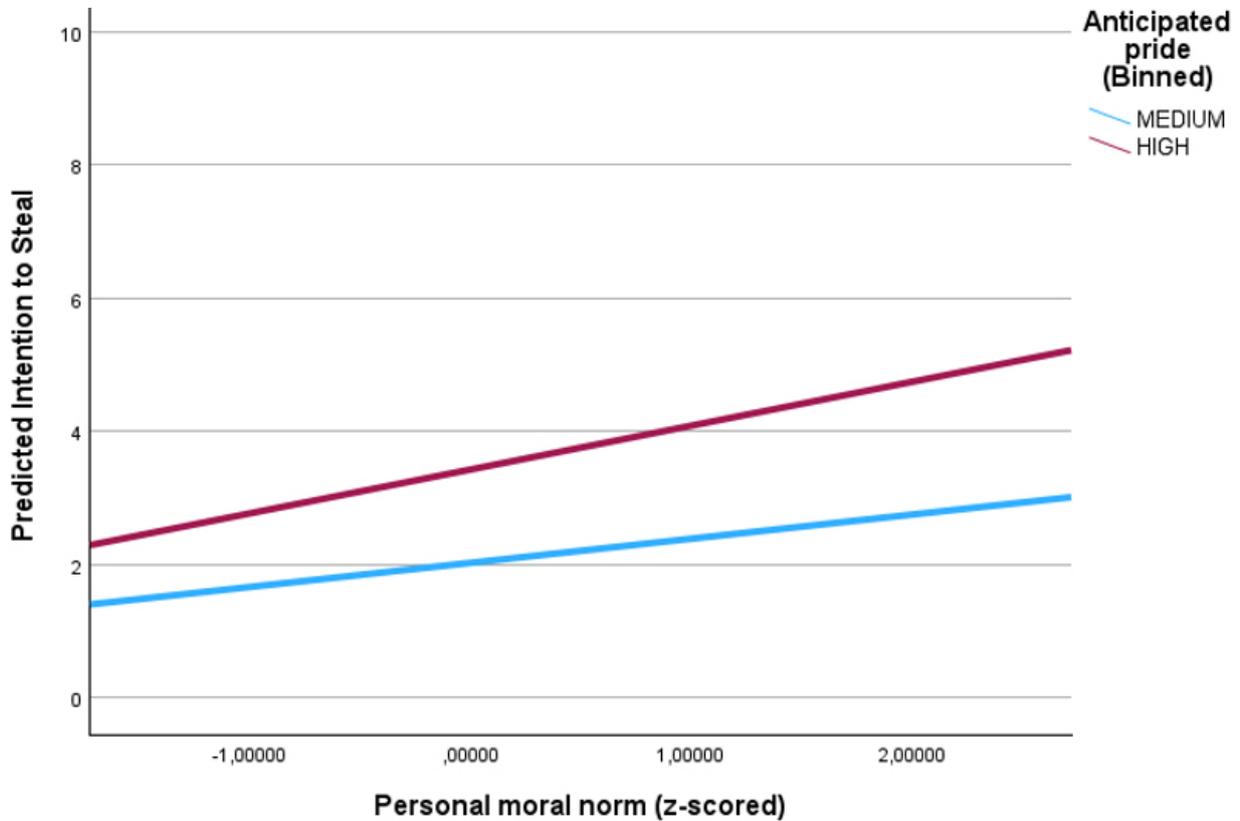


Figure 2: Interaction between personal moral norm and anticipated pride (medium vs. high) on intentions to steal (N= 3591)

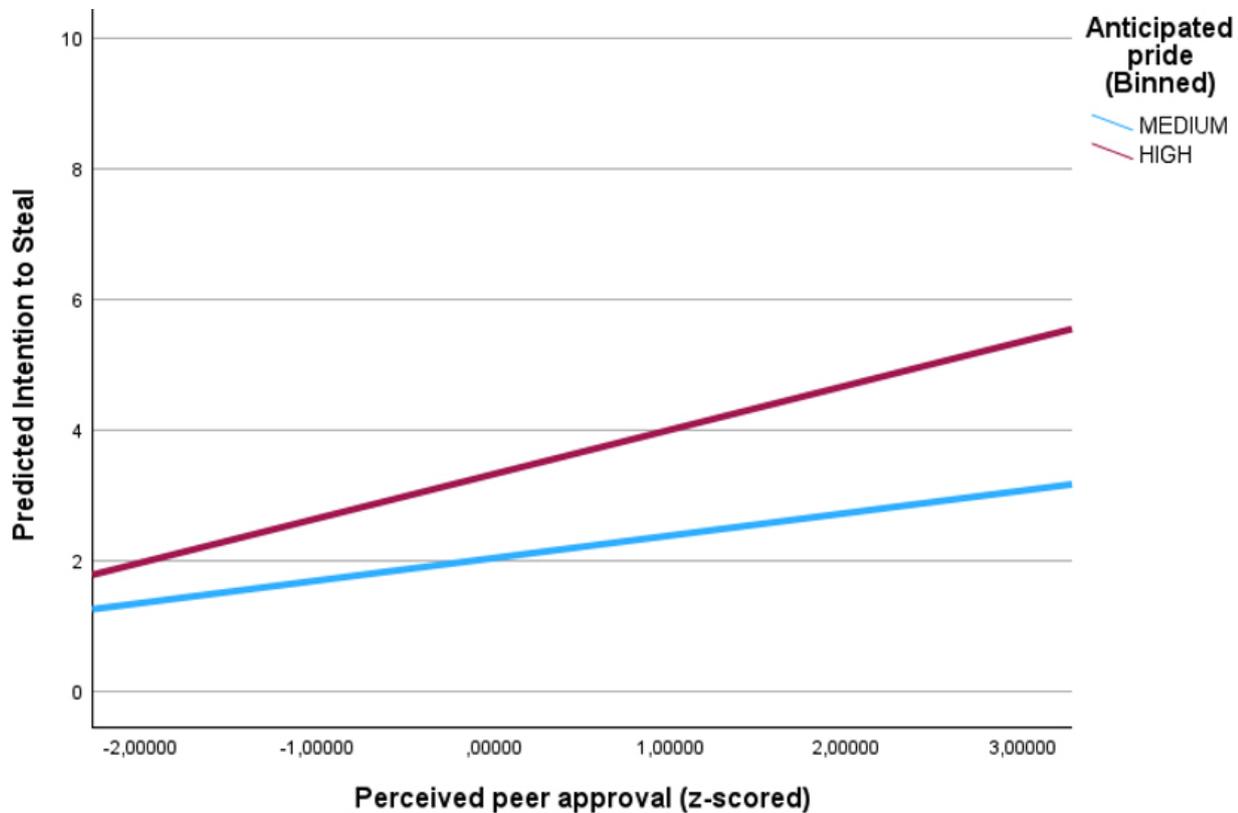


Figure 3: Interaction between perceived peer approval and anticipated pride (medium vs. high) on intentions to steal (N= 3591)

### 10.1 Interaction Effects: Visualization and Interpretation

To better understand the significant interaction effects involving anticipated pride, we visualized these interactions by categorizing anticipated pride into three levels (low, medium, high) based on  $\pm 1$  standard deviation. As no participants fell into the low anticipated pride category, the figures only display the medium and high anticipated pride groups.<sup>13</sup>

the dependent variable results in a loss of information and reduced statistical power. Therefore, the use of Generalized Linear Modeling (GLM) with robust standard errors, retaining the original seven-point Likert scale of the dependent variable, is methodologically preferred for more accurate estimation and interpretation of effects.

<sup>13</sup> The interaction plots were generated using predicted values of the dependent variable derived from the GLM models. These values represent the expected level of intentions to steal for each combination of the main predictor and moderator, while holding other covariates at their observed means. This approach allows for a clear visualization of the conditional effects of the independent variable across levels of the moderator and is a standard practice for illustrating interaction effects in multiple regression analyses (Hayes, 2018). The use of predicted values does not alter the underlying regression model; it solely provides a visual representation of the estimated conditional effects.

- Figure 1 (anticipated pride  $\times$  anticipated guilt): The regression slopes for anticipated guilt decrease and cross, indicating that the deterrent effect of anticipated guilt on stealing intentions is weaker when anticipated pride is high. In other words, high anticipated pride dampens the inhibitory effect of anticipated guilt, reducing its usual role as an emotional deterrent.
- Figures 2 and 3 (anticipated pride  $\times$  personal moral norms and anticipated pride  $\times$  perceived peer approval): These plots show steeper and increasing regression slopes for the group with high anticipated pride. This pattern demonstrates that anticipated pride amplifies the motivating influence of both personal moral norms and perceived peer approval on the likelihood of stealing.

Overall, the visualizations reinforce the statistical findings: anticipated pride consistently interacts with key predictors by modifying their effects on stealing intentions. High anticipated pride increases the influence of personal moral norms and peer approval while diminishing the inhibitory effect of anticipated guilt. No significant three-way interactions were observed. Importantly, all main effects remained statistically significant, highlighting the robust and independent contributions of the key constructs.

## 11 Discussion

### 11.1 Summary and theoretical implications

This study examined how anticipated pride and anticipated guilt interact with personal moral norms and perceived peer approval to influence the intentions to steal – a common moral commitment problem involving conflict between short-term self-interest and adherence to social norms. Our findings reinforce the critical role of moral emotions as powerful internal regulators of antisocial choices yet also reveal important nuances in how these moral emotions operate.

Consistent with extensive prior research, anticipated guilt was found to be a strong and reliable inhibitor of intentions to steal, functioning as an emotional barrier that supports moral restraint. However, anticipated pride exhibited a far more complex, double-edged role. Rather than uniformly encouraging compliance with social norms (i.e., not stealing), anticipated pride was associated with stronger intentions to steal, particularly when personal moral norms were lenient or peer approval was perceived as high. In such contexts, anticipated pride acted more as a motivator that amplified the appeal of behaviors that are socially rewarded, even when these behaviors violate moral standards.

Crucially, anticipated pride appeared to moderate the effect of anticipated guilt, thereby reducing the deterrent influence of anticipated guilt on intentions to steal. This interaction highlights that moral emotions may not consistently inhibit antisocial behavior but can instead exert competing and context-dependent motivational effects. Rather than working in unison, anticipated pride and guilt can pull behavior in opposite directions depending on social and normative factors. The double-edged nature of anticipated pride challenges traditional views of moral emotions as primarily prosocial regulators, emphasizing the need to consider the diverse functional roles that moral emotions play. Importantly, robustness checks, including controlling for covariates (e.g., prior stealing, self-control, fear sensitivity, perceived risk), testing alternative interaction specifications, logistic regression analyses with a dichotomous dependent variable, and additional confirmatory factor analysis (CFA) confirming the empirical distinctiveness of anticipated pride and guilt, demonstrated that these interactions are not artifacts of measurement overlap or multicollinearity.

Furthermore, our findings highlight the importance of examining moral emotions not only in isolation but also in interaction with normative influences such as personal

moral standards and perceived peer approval. These factors shape how moral emotions translate into behavioral intentions, demonstrating that moral emotions are embedded within and responsive to social contexts. Anticipated pride, in particular, appears sensitive to status-related social incentives, signaling that moral motivation is often intertwined with desires for social recognition and belonging.

Overall, this study advances the criminological understanding of the nuanced and sometimes contradictory roles that moral emotions play in offender decision-making. By disaggregating the effects of anticipated pride and guilt, and by highlighting their interactive influence with personal moral norms within a social context, our findings move beyond a narrow, simplistic deterrence-focused framework. They advocate for a more nuanced theoretical approach that acknowledges how moral emotions can simultaneously constrain and facilitate antisocial choices depending on social and psychological contexts.

### 11.2 Limitations and recommendations for future research

This study has several limitations that should be considered. Firstly, anticipated pride was measured as a single, undifferentiated construct, without distinguishing between authentic and hubristic pride, which differ notably in their behavioral correlates (Tracy and Robins 2007a, 2007b, 2007c; Tracy et al. 2009; Mercandante and Tracy 2022). Authentic pride is associated with prosocial behavior and internalized moral values, whereas hubristic pride is more self-focused and linked to status-seeking and antisocial tendencies. Given that anticipated pride in this study increased intentions to steal and amplified permissive personal moral norms and perceived peer approval, it likely reflects hubristic aspects. Future research should use multidimensional measures to clarify how these subtypes differentially influence antisocial decision-making.

Secondly, this study examined anticipated pride as a state-level emotion elicited by a hypothetical scenario. It remains unclear how this interacts with trait-level pride sensitivity and whether individuals who are generally prone to feeling pride are more likely to experience it in morally ambiguous contexts. Investigating both the dispositional and situational aspects of pride could provide a more nuanced understanding of its role in deviance.

Thirdly, our findings are limited to petty theft as a type of offense. The emotional and cognitive dynamics may differ for other deviant behaviors, such as aggression, dishonesty, or violence. Expanding the scope of the research to include a broader range of offenses would clarify whether

the effects of anticipated pride and guilt can be generalized across moral domains.

Additionally, although the vignette methodology was designed for psychological realism, scenario-based designs may lack the immediacy and emotional intensity of real-world contexts. Moreover, our reliance on self-reported intentions rather than observed behavior restricts our ability to draw definitive conclusions about actual theft. Nonetheless, intention measures remain a valid and ethically sound approach for investigating the psychological processes underlying deviance.

The analytical models focused on how anticipated pride moderates the effects of other variables but did not test alternative directional or asymmetric interaction models. Future research could explore these complex relationships with more sophisticated methods such as moderated mediation or structural equation modelling.

Finally, it should be noted that the data, like many criminological self-report studies, were not based on a random sample, which restricts the generalizability of the findings. Significance tests should therefore be interpreted with caution and primarily as indicators of the strength and direction of relationships within this specific sample, rather than as population-level estimates. Observed effect sizes provide meaningful information about the magnitude of associations among the studied variables in the context of our sample.

## 12 Conclusion

This study demonstrates that anticipated moral emotions play a nuanced role in antisocial decision-making. While anticipated guilt reliably deters intentions to steal, anticipated pride can both motivate and amplify stealing intentions, especially when personal moral standards are weak or peer approval is high. These findings show that moral emotions are not uniformly inhibitory but interact dynamically with social and internal cues. Integrating anticipated pride into criminological theory offers a more complete understanding of how emotional and social factors jointly shape antisocial choices.

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