

RESEARCH ARTICLE**PEERS AND OFFENDER DECISION-MAKING****Peers and offender decision-making****E. M. Hoeben¹ | K. J. Thomas²**¹University at Albany, SUNY²University of Colorado—Boulder**Correspondence**E.M. Hoeben, School of Criminal Justice,
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Research Summary: Offender decision-making generally occurs in social context. In this article, we discuss the potential for integrating insights on peer processes and decision-making processes to advance our understanding on the decision to engage in crime. In particular, we address the developmental and situational influence of peers on perceptions, preferences, and dual-systems processing. We contribute to this literature by elaborating on situational peer processes and discuss the ways in which peers can affect decision-making through their mere presence as well as through their active involvement as instigators, conversational partners, and co-offenders.

Policy Implications: Programs to effectively reduce crime and delinquency require a holistic approach that takes into account the interdependency between internal and external factors that impact behavior. The purpose of this article was to detail how our understanding of two prominent explanations of crime —peer influence and rational choice—can mutually benefit from such integration.

KEYWORDS

offender decision-making, peer influence

When adolescents engage in delinquent conduct, they generally do so in the presence of peers (Bernasco, Ruiters, Bruinsma, Pauwels, & Weerman, 2013; Reiss, 1988; Van der Laan, Blom, & Kleemans, 2009; Warr, 1996; Weerman, Bernasco, Bruinsma, & Pauwels, 2015). There is increasing evidence that these peers impact delinquency in part by affecting an actor's decision calculus concerning the anticipated consequences of crime. For example, research has shown that the presence of peers both lowers one's expectations about the risks associated with crime (McGloin & Thomas, 2016a) and makes individuals more tolerant of such risk (Chein, Albert, O'Brien, Uckert, & Steinberg, 2011; Defoe, Dubas, Figner, & Van Aken, 2015; Gardner & Steinberg, 2005; O'Brien, Albert, Chein,

& Steinberg, 2011; Vinokur, 1971). Still, despite the growing attention to this topic, work on the interdependence of offender decision-making remains both theoretically and empirically underdeveloped. Generally, the peer literature tends to concentrate on group processes external to the decision-maker, whereas the decision-making literature tends to concentrate on internal cognitive processes—that is, the perceptions and weighing of the benefits, costs, and risks associated with crime. To date, these two prominent areas of criminological inquiry have developed relatively independent of one another.

The aim here is to provide an integrative—albeit not exhaustive—account of various ways in which peers can affect offending decisions. We first begin with a brief discussion of the literatures on offender decision-making and peer influence that have developed independently of one another. We then discuss three prominent examples in which peers and decision-making have been combined in the extant literature: (1) the interdependency of human choice, (2) differential susceptibility to peer influence, and (3) social influences on perceptual updating of risks, costs, and rewards. Throughout this discussion, we highlight how these three perspectives have served to advance our understanding of both peer influence and offender decision-making. In the remainder of the article, we discuss how integrating insights from the decision-making literature can help advance both normative (Akers, 1998; Sutherland, 1947) and situational theories of peer influence (Osgood, Wilson, O'Malley, Bachman, & Johnston, 1996; Warr, 2002) and, further, how such insights can be used to help integrate these mechanisms that are often viewed as competing (Haynie & Osgood, 2005; Hoeben & Weerman, 2016; Thomas & McGloin, 2013). Put simply, we argue that peers can affect perceptions and preferences through socialization in the long term as well as through situational factors in the short term.

1 | OFFENDER DECISION-MAKING

The literature on offender decision-making is predominantly situated in rational choice theory (Becker, 1968; Smith, 1976/1761) and has emphasized cost–benefit analysis as a core mechanism for explaining crime. Traditionally, offending decisions are viewed as a function of two distinct, yet interdependent, components.

The first component comprises the perceptions of the anticipated risks, costs, and benefits of the act under consideration. Risk of crime is generally conceptualized as the probability of detection (i.e., certainty of arrest). The costs of crime can include the formal costs imposed through legal sanctions from the criminal justice system (i.e., severity of punishment), self-imposed costs such as feelings of shame and guilt, and socially imposed costs such as embarrassment or disapproval by family and friends (Grasmick & Bursik, 1990; Paternoster, 1989). The benefits of crime include material elements obtained when the act is completed without detection (e.g., stolen goods, monetary returns), psychic benefits, such as the thrill derived from engaging in the act of crime (Becker, 1968; Katz, 1988), and “social benefits” such as status among peers (Matsueda, Kreager, & Huizinga, 2006).

The second component of decision-making is the weight that individuals place on these anticipated risks, costs, and benefits (i.e., the marginal (dis)utilities, preferences). Not all risks, costs, and benefits carry equal weight in the decision-making process for different individuals (i.e., between individual) or for the same individual over time (i.e., within individual; Paternoster & Bushway, 2009). In this way, two individuals who both believe there is a 40% chance of arrest risk may act differently if one views 40% as acceptable and the other as too precarious. Thus, individuals will have preferences regarding which rewards they value over others, or regarding which costs are more important to avoid compared with other costs. Part of the differences in weights placed on specific costs and rewards can be a function of individual preferences for various factors, such as time and risk. Time preferences, in classic economic terms, capture the trade-off between immediate consumption and consumption in the

future. Some individuals tend to focus on immediate gratification rather than on fulfillment of long-term goals (Hofmann, Friese, & Wiers, 2008; Kahneman, 2011). Risk preferences reflect the extent to which individuals are impacted by increases in risk: Those who are risk averse are highly influenced by small increases in risk, whereas those who are risk tolerant are more apt to discount such increases. In sum, then, expectations concerning the risks, costs, and rewards of crime and the weight placed on such expectations are conceptually distinct. It is the combination of the two that determines the subjective expected utility of crime. Individuals are predicted to offend when the utility of engaging in the act is larger than the disutility. The extant research has provided support for the notion that individuals are responsive to rational incentives for offending (Loughran, Paternoster, Chalfin, & Wilson, 2016; Matsueda et al., 2006).

2 | PEER INFLUENCE AND OFFENDING

The potential influence from peers on offending is often viewed from either the normative influence perspective or the opportunity perspective (Haynie & Osgood, 2005; McGloin & Thomas, 2019). Under the normative perspective, peers socialize individuals to internalize norms, values, and motives that are conducive to delinquency and, thereby, shape behavior developmentally over a longer period of time (Akers, 1998; Burgess & Akers, 1966; Sutherland, 1947). Such socialization, or transference of norms and values among peers, can occur through direct reinforcement or through vicarious reinforcement, by observing others' behaviors and the consequences of those behaviors (Akers, 1998). Under the opportunity perspective, peers can affect individuals' immediate behavior by making delinquency easier (e.g., a competent accomplice) and more rewarding to commit (e.g., an appreciative audience; Osgood et al., 1996; Warr, 2002). Such situational influence is theorized to operate in the short term, affecting behavior in the immediate situation without necessarily being reflective of some developmental risk factor for offending. Thus, individuals need not hold a deviant normative system to engage in deviance as the motivation for crime can be temporary and situational.

These two perspectives of peer influence are often viewed as competing. As a result, in much of the existing literature, scholars have treated the potential influence of peers as the outcome of *either* situational or normative processes, even though empirical work suggests that both contribute to delinquent behavior (Haynie & Osgood, 2005; Hoeben & Weerman, 2016; Megens & Weerman, 2012; Ragan, 2014; Thomas & McGloin, 2013; Warr & Stafford, 1991).

3 | INTEGRATIVE PERSPECTIVES ON PEERS AND DECISION-MAKING

Although theories of choice and peer influence are often viewed from different paradigms, there have been notable efforts to integrate insights from both lines of research. In the following sections, we review three of such prominent bodies of literature and outline how these integrations have advanced our understanding of crime and delinquency.

3.1 | Interdependency of human choice

Individuals' decision-making—that is, their perceptions of the risks, costs, and rewards of crime—can be affected by the decisions, actions, and comments of others. Ideas on such “interdependency” are rooted in the shared principles of three theories that were formulated more or less contemporaneously:

interdependency theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959), social exchange theory (Blau, 1964; Homans, 1961), and game theory (Buchanan, 1971; Luce & Raiffa, 1957). These theories are reliant on the notion that human behavior, traits, cognitions, and decisions develop or occur in the context of group interaction. Interaction is broadly interpreted and refers to individuals' simultaneous or sequential actions that have implications for other individuals' choices in immediate and future situations (Rusbult & Van Lange, 1996). In such interaction, each individual is treated as a strategic actor trying to maximize his or her utility. Also, individuals are assumed to be aware of the effect of their actions on others and of the effect of others' actions on them. Four key properties of interdependence patterns can be distinguished (Rusbult & Van Lange, 1996). *Degree of dependence* refers to the extent to which each individual is dependent on the others' actions and their joint activities for obtaining optimal outcomes. *Mutuality of dependence* refers to the extent to which individuals are mutually rather than unilaterally dependent on each other to reach their optimal outcomes (i.e., do they need each other to the same degree?). *Correspondence of outcomes* refers to the extent to which joint outcomes are in line with individuals' optimal outcomes. Situations of perfect correspondence can include similar behaviors (e.g., going to the movies together) or complementary behaviors (e.g., division of labor where one runs analyses and the other drafts the paper) where the joint outcome is optimal for multiple individuals involved. In situations of perfect noncorrespondence, it is not possible for multiple individuals to reach their optimal outcome simultaneously (e.g., in a tennis game, if one wins, the other loses). Situations such as the Prisoner's Dilemma entail moderate correspondence; none of the joint outcomes will correspond with the optimal outcome for the individual. Finally, the *basis for dependence* refers to the degree to which dependence is controlled jointly (i.e., behavior control) versus individually (i.e., fate control). When interactions rely on fate control, trust is key since individuals' willingness to coordinate depends on their belief that the other will reciprocate.

These insights have not frequently been applied to the role of peers in offender decision-making (McCarthy, 2002). In fact, one criticism of peer influence explanations is that they tend to treat one individual as the influencer and another individual as the one being influenced, thereby assuming a unidirectional rather than a bidirectional relationship (McGloin, 2009). However, four particularly noteworthy applications overcome this criticism. First is the game theoretical approach on co-offending described by McCarthy, Hagan, and Cohen (1998). McCarthy and colleagues (1998) drew on social dilemma theories to argue that structural conditions may make cooperation the optimal choice for certain individuals, despite the fact that it may result in a lower "take" and in a higher objective risk of being caught. They found that homeless youth facing adversity were more likely to co-offend and would co-offend at a higher frequency than non-homeless youth. (See also Nguyen & McGloin, 2013.) The second application is the social exchange theory of co-offending from Weerman (2003). The core of this theory is that co-offenders exchange goods, which can be divided into six categories: services, payment, "catch," appreciation, acceptance, and information. Both the decision to co-offend and the selection of co-offenders are determined by the assessment of the costs and rewards of these exchanges. The third application is the balance theory on behavior similarity from McGloin (2009, 2012). McGloin (2009, 2012) theorized that friends will try to find balance in their behavior to avoid tension and maintain their friendship, which explains why friends tend to become more similar in their engagement in delinquency over time. The larger the discrepancies in behavior between two individuals are, the more likely that they will alter their behavior. The key is that peers may affect individuals' behaviors in either direction: toward or away from delinquency. The fourth and most recent application concerns the threshold model for collective behavior (Granovetter, 1978; McGloin & Rowan, 2015; McGloin & Thomas, 2016a). Following this model, individuals differ in their "threshold" for taking part in collective (criminal) activity. This threshold concerns the equilibrium at which individuals view the action as eliciting more benefits than costs, which is determined by the number of people who are already

engaging in the behavior. At the core of all these applications lies the emphasis on the dependency of individual choice on the actions of others.

3.2 | Differential susceptibility to peer influence

A growing interest among peer scholars is the idea that individuals may be differentially susceptible to influence from peers. Decision-making processes have been applied to account for such differences (Allen, Chango, Szwedo, Schad, & Marston, 2012; Allen, Porter, & McFarland, 2006; Brechwald & Prinstein, 2011; Meldrum, Young, & Weerman, 2009; Steinberg & Monahan, 2007; Thomas & McGloin, 2013). Specifically, the influence of peers may vary (a) between-individuals based on individual characteristics, (b) within individuals across the life span, and (c) within individuals across situations.

Between-individual variation in susceptibility to peer influence might be explained by differences in time preferences and social preferences. Individuals differ in the weight they attribute to immediate versus long-term consequences of action. In particular, impulsive individuals tend to discount or fail to consider the value of delayed rewards and costs and, in turn, overvalue the immediate rewards associated with behavior (Wittmann & Paulus, 2008). Therefore, impulsive individuals may be more impacted by immediate influences of peers, whereas others may be more impacted by long-term considerations concerning, for example, their reputation in the larger peer group (Meldrum et al., 2009; Meldrum, Miller, & Flexon, 2013; Thomas & McGloin, 2013). Furthermore, regarding social preferences, scholars have noted that some individuals care considerably more about the opinions, responses, and perceptions of their friends than do others (Chakrabarti, Haffey, Canzano, Taylor, & McSorley, 2017; Cohen & Prinstein, 2006; Fairbairn et al., 2015; Perrine & Aloise-Young, 2004; Van Schoor, Bot, & Engels, 2008). This, too, would likely moderate the influence that peers have on any behavior, including crime and delinquency, in that individuals who place less weight on social rewards should logically be less influenced by the desires of the peer group.¹

Adolescents are more affected by peers in their risky decision-making than are children or adults (Berndt, 1979; Blakemore & Mills, 2014; Gardner & Steinberg, 2005; Steinberg & Monahan, 2007). Researchers have shown that this age patterning in susceptibility to peer influence can be explained by heightened sensation seeking (i.e., risk preference; Steinberg et al., 2008), social reward-sensitivity (i.e., social preference; Chein et al., 2011; Thomas & Vogel, forthcoming), and reliance on the “hot” affective system (i.e., time preference; Casey, Jones, & Hare, 2008; Cauffman et al., 2010) during adolescence, combined with immature capacities for self-control (Steinberg et al., 2008). There is even an indication of within-individual change in the *type* of social preferences, in that adolescents prioritize popularity goals over other social goals such as friendship and romantic involvement (LaFontana & Cillessen, 2010).

A less studied area is the extent at which susceptibility to peer influence varies within individuals in temporally short timeframes. That is, whether individuals may be susceptible to peers in some situations but not in others. Situational factors—internal to the decision-maker—that could potentially affect this process are the decision-makers’ attitude toward the crime type and the decision-makers’ emotional state. With regard to crime type, although individuals may follow the peer group when committing some crimes, they are unlikely to engage in crimes for which they anticipate high levels of guilt, and may therefore resist the peer group (Matza, 1969). Thomas and McCuddy (forthcoming) indeed found evidence that anticipated guilt moderated the influence of peers in a given time period within individuals across crime types. With regard to internal states, researchers have triggered “hot” affective decision-making processes (i.e., affecting time preference) by manipulating emotional arousal (Figner, Mackinlay, Wilkening, & Weber, 2009). When individuals are in such a “hot” decision-making

state, they draw more on the immediate, emotional, and visceral influences of the situation (Loewenstein, Weber, Hsee, & Welch, 2001). This implies that exposure to specific situational factors can affect individuals' time preferences and, thereby, potentially their preference for immediate social rewards or avoidance of immediate social costs over long-term social rewards and cost avoidance.

3.3 | Updating perceptions in response to information from peers

In the decision-making literature, there is general agreement that the social environment helps shape individuals' perceptions about risk, costs, and benefits (Kreager, Ragan, Nguyen, & Staff, 2016; Pogarsky, Piquero, & Paternoster, 2004; Stafford & Warr, 1993). In fact, deterrence has been described as a "theory of communication" (Zimring & Hawkins, 1986) in which effective communication of legal sanctions will affect would-be offenders' perceptions about the certainty and severity of punishment (Nagin, 2013). Research indicates that individuals "update" their perceptions in response to new information (Anwar & Loughran, 2011; Matsueda et al., 2006). New information, factoring in on individuals' perceptions, can come from individuals' own experiences after committing a crime (Lochner, 2007; Saltzman, Paternoster, Waldo, & Chiricos, 1982), or from family members (Wilson, Paternoster, & Loughran, 2017) or peers who share their experiences (Pogarsky et al., 2004; Stafford & Warr, 1993). Empirical research has suggested that peers' experiences of punishment or punishment avoidance can affect perceptions of certainty of punishment net of individuals' own experiences (Piquero & Paternoster, 1998; Piquero & Pogarsky, 2002²). Therefore, knowledge about peers' getting away with crime can affect individuals' anticipated risk of detection because it signals that engaging in that offense is unlikely to result in arrest. Alternatively, when individuals observe that their peers are caught and punished, it may increase their perceived sanction risk (Pogarsky et al., 2004; Stafford & Warr, 1993). Despite explicit suggestions that new external information can affect immediate decision-making as well as establish long-term changes in individuals' perceptual frameworks (Kreager et al., 2016; Matthews & Agnew, 2008; Stafford & Warr, 1993; Wikström, 2007), the literature on this topic generally has not differentiated between socialization and situational influence.

4 | ADVANCING THE INTEGRATION OF PEER INFLUENCE AND DECISION-MAKING: DIFFERENTIATING BETWEEN SOCIALIZATION AND SITUATION

To date, then, various efforts have been undertaken to integrate knowledge of decision-making with that of peer influence to advance our understanding of crime. In these bodies of literature, researchers have illustrated how insights from the decision-making literature can help explain the influence peers have on delinquency (e.g., differential susceptibility) as well as how insights on group processes can improve our assessment of offending decisions (e.g., interdependency of choice).

In this article, we turn our attention to one of the core debates in contemporary peer research in criminology, which regards the role of opportunity versus that of normative influence (Haynie & Osgood, 2005). Thus, we are "moving choice to center stage" of the peer research agenda (Nagin, 2007) to advance our understanding of both socialization and situational perspectives of peer influence. Specifically, we argue that, through socialization, peers can establish long-term changes in individuals' perceptions of and preferences for risks, costs, and rewards in a manner that is consistent with learning theories of crime and perceptual updating (e.g., Sutherland, 1947; see Pogarsky et al., 2004; Stafford & Warr, 1993). In the immediate situation, decision-making insights can assist in the "black box" of how peers can situationally make deviance more rewarding and easier to commit. That is, peers can

affect perceptions and preferences through their mere presence (passive influence; Asch, 1955; Chou & Nordgren, 2017; Festinger, Pepitone, & Newcomb, 1952), as well as through communication with the decision-maker (active influence; Alarid, Burton, & Hochstetler, 2009; Hochstetler, 2001; Osgood et al., 1996; Warr, 2002).

Our approach draws on the interdependency of human decision-making. When considering the interdependency of the individual decision-maker and his or her peers, we refer to a situation of multiple interacting, utility-maximizing agents. This perspective differs from most of the peer research in criminology in that the primary emphasis is on the individual actor as well as on the peer group. Thus, the focus is on how the individual considers and weighs information from peers when making decisions about offending, and how that can vary with external input from peers (i.e., their mere presence, comments, and actions). This is different from, although related to, the literature on differential susceptibility to peer influence, in that we are not solely concerned with the states and traits of the individual decision-maker. Comments and actions from peers can also affect the “susceptibility” of the decision-maker. Thus, we take the stand that both internal and external aspects will determine the decision outcome. In sum, peers will influence behavior, but human agency remains important (Matza, 1969; Nagin, 2007; Wikström, Oberwittler, Treiber, & Hardie, 2012).

5 | SOCIALIZATION IN A CHAIN OF SITUATIONS

One of the core principles of social learning theory is that individuals learn attitudes through processes of direct and vicarious reinforcement. Reinforcement occurs when the individual experiences, observes, or anticipates positive or negative consequences of specific behavior. Depending on the nature of these consequences, the individual is more or less likely to engage in the behavior in the future (Akers, 1998; Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Burgess & Akers, 1966; Krohn, Skinner, Massey, & Akers, 1985; Skinner, 2014/1953). These ideas have strong overlap with the notion of “updating” perceptions based on new information, especially to the extent that this new information comes from one’s own experiences as well as from the observed experiences of others (Matsueda et al., 2006; Rees & Winfree, 2017; Stafford & Warr, 1993). Despite their different focus on the type of consequences—social learning theories emphasize social responses, whereas research on deterrence (and to a lesser extent rational choice) concentrates on the role of formal sanctions—both perspectives entail that perceptions (or attitudes) are the result of individuals’ actions, experienced consequences, observations of others’ actions, and observations of consequences experienced by others. The individual will adjust his or her perceptions about risk, costs, and rewards based on these experienced or observed consequences. If individuals experience that acts of crime do not result in legal punishment, social disapproval, or feelings of shame or guilt, they may, over time, internalize the idea that such acts are acceptable or justifiable, thus, adjusting their perceptions about risks and costs (Akers, 1998; Pearson & Weiner, 1985; Stafford & Warr, 1993). If the consequences of the action were overall positive, individuals would adjust their perceptions of rewards accordingly and would be more likely to engage in similar actions in the future. Vice versa, when individuals feel that an experience does not meet their expectations about the potential “thrill” or increased social status, they may internalize this and readjust their perceptions of benefits (Kreager et al., 2016; Matsueda et al., 2006)³. Thus, both perspectives are focused on rational evaluation as the central mechanism for understanding behavior as well as on developmental changes in perceptions and attitudes (Agnew, 1995).

This rational evaluation perspective on socialization helps to address the difference between situational peer influence and socialization by peers. In a nutshell, situational peer influence affects only one experience: the decision made in the immediate presence of peers. Socialization, on the other hand,

occurs in a chain of situations and affects long-term “updating”—or internalization—of attitudes and perceptions. To explain this a little further, any new experience with crime in the presence of peers will likely be affected by those peers’ mere presence or their active involvement. Thus, in this situation, peers will affect individuals’ decision on whether to commit the criminal act. Then, depending on the consequences of this act—which can regard legal, social, and self-imposed consequences (i.e., costs, rewards, cost avoidance, or insufficient rewards)—this new experience will work to adjust the individuals’ perceptions of risk, costs, and benefits of crime. If the experience was really bad, the individual may never engage in that type of behavior again, creating a situation in which “onset meets desistance” (Kreager et al., 2016).⁴ The level of impact of any particular experience on the updated perceptions will depend on the individuals’ overall experience with crime, such that new information will have less of an effect on experienced offenders than on novices (Anwar & Loughran, 2011; Matsueda et al., 2006; Wilson et al., 2017). Thus, new experiences work to “update,” rather than to “replace,” existing perceptions. This notion implies that there are long-lasting perceptions or rationalizations that individuals carry with them from situation to situation. These long-lasting perceptions are the result of an *accumulation* of experiences. In other words, they are the result of socialization.

Although we are unaware of work in this area, peers’ socialization may also contribute to individual *preferences* for risks, costs, and rewards. Traditional economists are typically uninterested in normative values and their impact on preferences, but according to Weberian rationality, many of our choices are indeed value laden rather than simply instrumental. This notion is widely accepted by sociological rational choice theorists (Coleman, 1990; Hechter & Kanazawa, 1997; Hedstrom & Swedberg, 1996). Values—and the preferences that derive from these values—are often culturally prescribed (Hechter & Kanazawa, 1997), so it is likely that peer groups play a role in this process. This could be interpreted as consistent with Sutherland’s (1947) differential association theory, since it states that primary reference groups influence delinquency by affecting “motives, drives, attitudes and rationalizations” conducive to offending (Matsueda, 1988; Sykes & Matza, 1957). The concepts of “motives and drives” remain underdeveloped in this theory, but we believe that they could include values affecting preferences for risks, costs, and rewards.

In summary, we argue that socialization by peers is the result of individuals’ cumulative experience with exposure to situational peer influence. Just as lives are built one day at a time, perceptions and preferences develop gradually from responses to daily social interactions. Therefore, to unravel processes of socialization, one has to understand processes of situational influence. We explore various situational peer processes in the following sections.

6 | SITUATIONAL PEER INFLUENCE AND DECISION-MAKING

Peers can affect immediate decision-making passively and actively (Borsari & Carey, 2001; Bot, Engels, Knibbe, & Meeus, 2007; Brown, Clasen, & Eicher, 1986; Harakeh & Vollebergh, 2012; Santor, Messervey, & Kusumakar, 2000). Peers play a passive role if they affect the decision-making process by merely being present or by functioning as a role model (Asch, 1955; Bandura, 1977; Chartrand & Bargh, 1999; Kiesler & Kiesler, 1969; Le Bon, 1995/1895). In such situations, peers may be unaware of their influence and are not actively trying to affect others’ decisions to engage in certain acts. In contrast, peers can play an active role if they affect the decision-making process because of something they do or say (Bohns, Roghaniziad, & Xu, 2014; Dishion, Spracklen, Andrews, & Patterson, 1996; Gallupe et al., 2016). Active peer influence includes, for example, making explicit suggestions for criminal acts, challenging someone into a criminal act, or attempting to persuade someone into

engaging in a criminal act (Gass & Seiter, 2014; Kellermann & Cole, 1994). In this definition, some intentionality on the part of the influencer can reasonably be assumed.

6.1 | Passive peer influence

We distinguish five ways in which peers can affect decision-making by merely being present. First, the presence of peers may bring about (perceived) social costs and rewards that are not part of the equation when a decision-maker is by himself or herself. Maslow (1943, 1970) distinguished two types of needs that are inherently social, meaning that they can only be fulfilled through interaction with others. “Belonging and love needs” include needs for affection, contact, intimacy, and acceptance, as well as for being part of a group. When these needs are unsatisfied, the individual experiences feelings of loneliness and alienation. “Needs for esteem from others” includes needs for attention, recognition, status, reputation, prestige, and appreciation. When these needs are unsatisfied, the individual experiences feelings of inferiority and weakness. Social needs drive human behavior through corresponding social costs and rewards: Social rewards help to fulfill social needs, whereas social costs threaten the fulfillment of social needs. Unlike some “nonsocial” costs and rewards from crime, such as monetary gain or psychic benefits, most social rewards and costs are only relevant if people other than the decision-maker are aware of the behavior. This means that, for social costs and rewards to carry weight in the decision-making process, others have to be present or the decision-maker has to consider it likely that others will learn about the behavior afterward (Jacquin, Harrison, & Alford, 2006; Osgood et al., 1996).^{5,6}

Second, the presence of peers may *increase the weight attributed to social costs and rewards*. In other words, the presence of peers may affect social preferences. Scholars have illustrated the situational nature of social preference through experimentally induced social anxiety (Peake, Dishion, Stormshak, Moore, & Pfeifer, 2013; Sebastian et al., 2011). Using functional magnetic resonance imaging (fMRI) scanners, these researchers have showed that social rejection-manipulation—evoking social anxiety—activated brain regions that have been previously related to social evaluation and negative affective processing. Greater activation of these brain regions has been related to self-reported susceptibility to peer influence (Sebastian et al., 2011) and to increased risk-taking in a lab-task in the presence of those peers that just “rejected” the participant (Peake et al., 2013). The findings from these studies indicate that enhanced feelings of social rejection can strengthen the weight attributed to social costs and rewards in decision-making. It is unclear whether just the presence of peers—without induced social anxiety—will have a similar impact on social preferences. However, as Warr (2002, p. 46) pointed out, “the mere *risk* of ridicule may be sufficient to provoke participation in behavior that is undeniably dangerous, illegal, and morally reprehensible.” Warr (2002) also emphasized the widespread nature of fear of rejection among adolescents, implying that, in general, the presence of peers brings along a risk of ridicule for adolescent decision-makers. Therefore, it is possible that the mere presence of peers can induce social anxiety and, thereby, affect social preference.

Third, the presence of others may *reduce the (perceived) risk of detection*. Consider a riot involving tens to hundreds of people. In this scenario, the probability of getting arrested for one person is much smaller than in the scenario of a riot committed alone or with two to three others (Granovetter, 1978). Research in social psychology has shown that the presence of others decreases individual’s (public) self-awareness and enhances feelings of anonymity (Diener, 1976; Festinger et al., 1952; Postmes & Spears, 1998; Prentice-Dunn & Rogers, 1982). Within criminology, McGloin and Thomas (2016a) illustrated that the number of co-offenders was related to individuals’ anticipated sanction risk (see also Matthews & Agnew, 2008).

Fourth, the presence of others may *reduce (perceived) informal costs* such as feelings of responsibility, shame, or guilt. Scholars have argued that these feelings should be considered as internal costs

or “self-imposed punishments” in the offender decision-making process (Grasmick & Bursik, 1990; McGloin & Thomas, 2016a; Nagin & Paternoster, 1993). When acting in a group, individuals are said to experience a psychological state in which an individual becomes one with the group, also referred to as “deindividuation” (Diener, 1976; Festinger et al., 1952; Postmes & Spears, 1998; Prentice-Dunn & Rogers, 1982). This state entails enhanced feelings of anonymity, as we discussed previously, but also fosters *diffusion of responsibility* (Warr, 2002). Thus, decreased self-awareness (i.e., deindividuation) not only leads to individuals feeling “unidentified” (anonymous), but it also makes them feel unaccountable. Inner restraints become less important as the moral responsibilities for an act are divided among multiple parties. This allows the individual to transfer a portion of the blame to others (“He did it too”; Sykes & Matza, 1957; Warr, 2002). Feeling less responsible may reduce the burden of moral prohibitions, thereby reducing possible feelings of shame and guilt (McGloin & Thomas, 2016a).

Fifth, the presence of peers may *amplify the psychic benefits of an offense such as the experienced excitement, fun, pleasure, or thrill* (Brezina & Piquero, 2003). Scholars have shown that the presence of others (“peer-related stimuli”) sensitizes individuals’ reward system, especially in adolescence (Albert, Chein, & Steinberg, 2013; Chein et al., 2011; Klapwijk, Van den Bos, & Guroglu, 2017). This can affect decision-making in two ways. First, individuals may anticipate stronger feelings of pleasure and excitement when in the presence of peers as compared with when being alone (i.e., reward perception; McGloin & Thomas, 2016a). Second, individuals may place greater weight on the anticipated rewards of pleasure and excitement than on the anticipated costs when in the presence of peers as compared with when being alone (i.e., reward preferences; O’Brien et al., 2011). Both explanations indicate that the psychic benefits may become more important in the decision-making process when individuals are in the presence of others.

6.2 | Active peer influence

6.2.1 | Peers as instigators

In the decision-making literature, scholars generally start from the notion that there is a decision to make, for example, “Should I commit this criminal act or not?” Further insight into the elements *leading up to the decision* seems relevant as these elements are likely to affect the decision outcome as well as the decision-making process. The initial “spark” for the start of a decision-making process can come from instigations within the person—internal needs, desires, or other motivations derived from traits or states—or from instigations outside of the person—external incentives or confrontations that alert the potential offender to this opportunity (Apel, 2013; Thibaut & Kelley, 1959; Wikström et al., 2012). The interesting aspect of external instigation is that it can make individuals aware of opportunities for crime—and even “force” them to consider engaging in crime—regardless of whether their moral framework is favorable to crime. Thus, external instigation can start decision-making on engagement in crime even for those individuals who would usually immediately discard the opportunity.

Peers may play an important role in providing external instigations for adolescents’ involvement in offending. Warr (1996) showed that in approximately 87% of the group offenses committed by adolescents, the offenders can pinpoint one peer who instigated this crime.⁷ He also showed that individuals were more likely to instigate an offense if their relative position in the group allowed them to take the lead, for example, because they are the oldest or most experienced among the group members. This study inspired many other works on the characteristics of instigators in varying situations, for example, on relative age, criminal experience, and economic adversity (e.g., McCarthy et al., 1998; McGloin & Nguyen, 2012; Morselli, Tremblay, & McCarthy, 2006; Nguyen & McGloin, 2013; Sarnecki, 2001; Van Mastrigt & Farrington, 2011). In most of these studies, researchers addressed

exclusively the person of the instigator rather than the form in which the instigation manifest itself, or the role of instigation in the decision-making process.

Over the past decade, several experimental studies have been conducted to examine whether peers' instigation affects decision outcomes relating to deviant behavior (Gallupe et al., 2016; Gino, Ayal, & Ariely, 2009; Harakeh & Vollebergh, 2012; Mercer, Crocetti, Meeus, & Branje, 2017; Paternoster, McGloin, Nguyen, & Thomas, 2013). Most of these studies are characterized by a similar research design: Respondents are asked to complete a task for monetary reward. In the experimental condition, one or more confederates point out the opportunity to cheat. In the control condition, the confederate is present in the room but does nothing. The findings of these studies have confirmed that respondents are more likely to cheat for monetary gain (i.e., theft) in the experimental condition than in the control condition. Some of the studies also shed light on the relevance of the instigation being verbal or nonverbal (Gallupe et al., 2016; Harakeh & Vollebergh, 2012), on whether the instigation came from one or two confederates (Gallupe et al., 2016), and on whether these confederates had an in-group or out-group status (Gino et al., 2009). This growing line of work is promising in exploring the role of peers' instigation as the external "spark" starting the offender's decision-making process.

6.2.2 | Peers as conversational partners

People talk about decisions. Sometimes this occurs in the form of unsolicited criticism or advice. On other occasions, the decision-maker actively seeks advice or reassurance from others prior to (or after) making a decision. It is possible, if not likely, that such dialogue would affect the decision-making process. Thus, decisions may be affected by external input from interpersonal communication. Various scholars have emphasized this role of communication on offender decision-making (Alarid et al., 2009; Brown, Bakken, Ameringer, & Mahon, 2008; Costello & Hope, 2016; Hochstetler, 2001).

Communication with peers can potentially alter decision-makers' *perceptions* of risks, costs, and benefits by adding considerations they had not thought of yet. In practice, people often do not have all possible information available to them when making their decisions (Higgins, 1996; McCarthy, 2002). Therefore, others can make them aware of possible outcomes: "What will your father think?" (social cost) or "It will be a thrill" (psychic benefit). Additionally, in conversation, individual decision-makers can update their perceptions of risks, costs, and benefits based on the information provided by their peers (Kreager et al., 2016; Matthews & Agnew, 2008; Pogarsky et al., 2004; Stafford & Warr, 1993; Wikström, 2007). Thus, an individual may consider the risk of detection unlikely, until he or she hears a story about a peer getting in trouble for a similar offense. In contrast, an individual may consider the risk of detection high, but be reassured by a story of a peer who did not experience any negative consequences after engaging in a similar offense. Such "access to the collective experiences of their companions" is precisely the conceptualization of indirect experiences with punishment and punishment avoidance offered in Stafford and Warr's (1993, p. 132) description of deterrence theory.

Further, peers can potentially affect decision-makers' *preferences* for risks, costs, or benefits by the way they convey their message about the decision at hand. The underlying assumption is that peers' verbal input can affect the *salience* of specific costs and rewards (Higgins, 1996; Taylor & Fiske, 1978). Some costs and benefits will be more on someone's mind in general as they relate to prior experiences and individual traits, but costs and benefits can also be made salient ("primed") by external stimuli in the situation, and thereby carry more weight in that situation as compared with in other situations.⁸ Scholars have showed that people are more likely to engage in certain behaviors after being primed with descriptive or injunctive norms (Cialdini, Kallgren, & Reno, 1991; Keizer, Lindenberg, & Steg, 2008; Teunissen et al., 2012). The role of the content, direction, and style of peers' message may be relevant for such "priming" of costs and benefits in conversation.

First, pertaining to style, research has shown that messages have more impact on attitudes and behavioral intention if they are communicated through profanity, intense language, or vivid language (Blondé & Girandola, 2016; Bowers, 1963; Bradac, Bowers, & Courtright, 1979; Scherer & Sagarin, 2006). What these language features have in common is that they evoke emotional arousal and, therefore, are encoded more effectively at both deep and shallow levels of processing. Scholars have argued that the emotions experienced at the moment of decision-making can activate one of two modes of information processing that is more focused on the here and now, and less able to consider probabilities of certain outcomes⁹ (Loewenstein et al., 2001; Van Gelder & De Vries, 2012, 2014). O'Brien et al. (2011) showed that the presence of peers can function as socioemotional stimulus that activates this affective mode of information processing. Granted, in their study, it remained unclear whether the processes operated through peers' mere presence or through their use of "vivid" language. Nevertheless, their work provides tentative evidence that peers can affect decision-makers' time preference.

Second, pertaining to the content and direction of the message, the way in which peers frame their message may affect the decision-makers' risk preferences. "Framing" refers to the process of casting a decision in a positive or a negative light without changing the costs or benefits under consideration (Druckman, 2001, 2004; Kühberger, 1998; Levin, Schneider, & Gaeth, 1998; Tversky & Kahneman, 1981). For applications of framing effects in criminal justice research, see the contribution of Wilson (2019) in this issue. Decision-making studies have repeatedly shown that alternative phrasings of the same issue can significantly change the meaning of that issue for an individual and even lead to preference reversal (Tversky & Kahneman, 1981). Specifically, when a decision is framed as a loss, people tend to become more risk-seeking. When the same decision is framed as a gain, however, people tend to be risk averse (Tversky & Kahneman, 1981). From research into compliance-gaining tactics, we know that individuals tend to emphasize or minimize specific costs and rewards in an attempt to affect others' offending behavior (Costello & Hope, 2016; Kellermann & Cole, 1994; Marwell & Schmitt, 1967). We also know that, when in the presence of peers, both the decision to engage in behavior and the decision *not* to engage in behavior (i.e., not complying with group behavior) will entail risks (McGloin & Thomas, 2016a). It could be possible that loss framed messages from peers—for example, cues in which the social costs of not engaging in delinquency are emphasized—prompt risk-seeking decision-making and that gain framed messages—for example, cues in which the social or psychic benefits of engaging are emphasized—prompt risk-averse decision-making. If that were the case, peers' comments would affect the decision-makers' risk preference by changing the reference point from which the decision is viewed. Given the complexity of such peer interactions, it is difficult to disentangle the potential impact of gain or loss framing from the impact of co-occurring social influences. As a careful conclusion, we suggest that the content and direction of peers' comments can affect the decision-makers' risk perceptions, and possibly their risk preferences.

Research on the role of interpersonal communication in decision-making is scarce. The most promising studies in this regard are studies on the effect of online and offline messages from peers on individual risk-taking in behavioral lab tasks. Thus far, these studies have been mainly focused on decision outcomes rather than on how dialogue could alter perceptions and preferences (Cavalca et al., 2013; De Boer & Harakeh, 2017; MacLean, Geier, Henry, & Wilson, 2014; Pfeffer & Hunter, 2013; Reynolds, MacPherson, Schwartz, Fox, & Lejuez, 2014).

6.2.3 | Peers as co-offenders

A vast amount of the co-offending research has been concerned with the decision on whether the offense should be committed solo versus in collaboration with others (McCarthy et al., 1998; Weerman,

2003), as well as with the decision on whom to select as co-offender from a larger network of potential co-offenders (Sarnecki, 2001). For a recent overview on co-offending and decision-making, see Van Mastrigt (2017). Central elements in this research are practical help and the role of trust. Practical help can come in the form of information or services (Weerman, 2003). Co-offenders can provide inside knowledge (Tremblay, 1993) and knowledge about the trustworthiness of other co-offenders, or they can share their expertise on certain techniques and previous successfully committed crimes (Weerman, 2003). Services can consist of actual help during the act in the form of division of labor: co-offenders can, for example, function as look-out (Osgood et al., 1996), driver, or spokesperson. Services can also consist of providing a van or car, or of providing devices like guns, crowbars, or other weapons. Weerman (2003) pointed out that such practical help of co-offenders may be more relevant to decision-making about criminal acts that require organization or planning, are committed in small groups, and that may comprise a more complex set of activities. Exemplary for such crimes are burglaries or robberies (Weerman, 2003).

As a result of the practical help of co-offenders, engaging in an offense with others may reduce costs such as the offender's investment of *time and energy* (McCarthy et al., 1998; Weerman, 2003). Time can be considered a finite economic "good" that may factor into offender decisions. The help of accomplices can reduce the time necessary to plan crimes such as auto theft, robbery, burglary, and vandalism, but it can also reduce the duration of the commission of the act (Wright & Decker, 1997). Relatedly, co-offenders can make it easier to execute the crime (Osgood et al., 1996), increase the chance of success, and increase the value of the expected catch. Active involvement of co-offenders can also increase the costs of offending as it entails a greater risk of betrayal than solo offending. Co-offenders can rat each other out, take a larger portion of the profit than agreed on, or simply be incompetent (Tillyer & Tillyer, 2015; Weerman, 2003). These elements are central to McCarthy's game theoretical approach of co-offending (McCarthy et al., 1998).

7 | COMBINING INSIGHTS ON SOCIALIZATION, SITUATIONAL PEER INFLUENCE, AND DUAL-SYSTEMS PROCESSING

Up to this point, we have focused on how socialization and situational peer influence could affect the decision-makers' perceptions and preferences. In dual system theories, it is emphasized how these elements of decision-making and other elements of information processing interact in their effect on the decision outcome (Hoffman, Friese, & Strack, 2009; Kahneman, 2011; Van Gelder & De Vries, 2014). Specifically, in dual-system theories, two systems involved in human decision-making are differentiated, in which one system (the "fast" or "hot" system) is reliant primarily on intuitive, affect-based thinking and short-term considerations and the other system (the "slow" or "cold" system) is reliant primarily on deliberate, analytic thinking and long-term future-oriented considerations.¹⁰ "Slow" thinking is often conceptualized as being more purposeful and goal oriented in a manner that is consistent with Paternoster and Pogarsky's (2009) notion of thoughtfully reflective decision-making. In dual-system theories, it is assumed that both systems influence decision-making, but that there are between-individual differences and within-individual differences in the extent to which the decision-maker relies on one system over another. In this section, we will address the interplay between socialization by peers, situational peer influence, and dual-system processing. We identify four types of interrelations that seem worthy of further exploration.

First, individual differences in dual-system processing might moderate the association between situational peer influence and decision outcomes. When peers are present, the individual has to consider

social costs and rewards that may be less relevant if he or she would have been alone: Most social costs and rewards are only relevant if people other than the decision-maker are aware of the behavior (or if the decision-maker considers it likely that they will be made aware). Some social costs and rewards serve to fulfill short-term social needs, whereas others serve to fulfill long-term social needs (Haynie & Osgood, 2005; Thibaut & Kelley, 1959; Thomas & McGloin, 2013). Short-term costs and rewards include the immediate feeling of pleasure brought about by exchanging glances with each other or by someone laughing at the remark made by the actor (Dishion et al., 1996; Fairbairn et al., 2015), as well as, for example, the immediate feeling of pain or rejection brought about by others ridiculing or disapproving of the actor, thereby threatening their need for acceptance and appreciation (Warr, 2002). Long-term costs and rewards serve to fulfill goals or needs that extend past the immediate situation. Such long-term social needs are, for example, needs for friendship and status (Thomas & McGloin, 2013), and social costs include, for example, exclusion or breaking friendship ties and loss in power or status (Gallupe & Bouchard, 2015; Rebellon, 2006). Individuals who rely on the fast mode of information processing are theorized to prioritize short-term rewards and short-term cost avoidance. Thus, they may respond more strongly to potential ridicule or approving laughter from peers even if it entails risks for reaching their long-term goals. Individuals who rely on the slow system are expected to prioritize long-term rewards and long-term cost avoidance regarding friendships and esteem. Those individuals might make more politically savvy choices and could take into consideration, for example, whether instigation or reinforcement comes from peers who are good friends or who have high-status in the larger peer group, as well as the probability that the present peers would tell on them to others. Indeed, Thomas and McGloin (2013) found that highly impulsive individuals—those who are more likely to rely on the fast system—were primarily affected by the situational influences of peers, whereas the long-term incentives of peers had little impact on their behavior. Thus, following from these ideas, decisions will depend on the interaction of the individuals' orientation on long-term or short-term goals (i.e., dual-system processing) as well as on the presence, comments, and actions of the peers in the immediate situation (i.e., situational peer influence).

Second, individual differences in dual-system processing might moderate the association between *socialization by peers* and decision outcomes. Individuals who tend to rely on the fast system may overweigh information from the current situation at the expense of their experiences in the past, thereby making prior socialization less relevant (Piquero & Pogarsky, 2002; Thomas & McGloin, 2013; Wikström, 2007, see also Thomas, Loughran, & Piquero, 2013 on verbal IQ). It is also possible that those individuals find it difficult to translate vicarious observations to their own situation, which would imply that socialization has less impact on their developing perceptions. Indeed, scholars have found that individuals with low impulse control place more weight on their own experiences than on the experiences of others when forming sanction risk perceptions (Piquero & Pogarsky, 2002; Wilson et al., 2017).

Third, dual-system processing might mediate the association between situational peer influence and decision-making. From this perspective, situational factors might explain within-individual differences in the reliance on one mode of information processing over another and, thereby, explain differences in the decision outcome. In particular, the emotional arousal brought about by the presence of peers and potentially by peers' use of vivid language to sketch potential decision outcomes can activate the "fast" or "hot" system, thereby affecting the immediate decision-making process (Loewenstein et al., 2001; O'Brien et al., 2011; Van Gelder & De Vries, 2012, 2014; Wikström, 2007).

Fourth and finally, it is possible that dual-system processing mediates the association between socialization and decision-making. This idea is more a thought experiment than anything else because we do not know of empirical work that has been done in this area. Such mediation would occur when individuals' tendency to rely on one information processing system over another changes over time in

response to external input from their social environment. We know, for example, that adults rely more on slow thinking than do adolescents when making a decision, which explains part of the decrease in risk-taking behaviors in late adolescence and young adulthood (Shulman et al., 2016; Steinberg et al., 2008). Most explanations for this development focus on neuro-cognitive factors. It is unclear whether and to what extent social context plays a role.

8 | DIRECTIONS FOR FUTURE RESEARCH

Although the findings from prior work have led to important insights into how peers can influence offending choices, there is tremendous potential for further integration of the literatures on peer influence and offender decision-making. In the remainder of this section, we offer some directions for future research that, in our opinion, have the potential to advance criminology substantially.

First, one avenue of future research is the role that peer socialization plays in developing subjective perceptions and preferences for crime. Peers' role in shaping *perceptions* has received some attention, particularly in the context of social learning theory. Prior work in this area was aimed at assessing how associating with delinquent peers would impact anticipated social reinforcements and punishments (Akers et al., 1979). Still, this area remains underdeveloped with regard to other considerations. For example, associating with peers who portray crime as fun and exciting may lead individuals to update their perceptions about the intrinsic rewards associated with crime (Becker, 1968; see also Kreager et al., 2016). Similarly, Stafford and Warr (1993), in their reconceptualized deterrence theory, suggested that peer behavior can impact perceptions of arrest risk (see also Piquero & Paternoster, 1998; Piquero & Pogarksy, 2002). Much less work has been aimed at examining how peer socialization can impact individual *preferences* for risk, costs, and rewards. Mead (1934), who was influential in Sutherland's development of differential association, asserted that reference groups are important, in part, by influencing individual tastes and preferences (see also Giordano, Cernkovich, & Holland, 2003). Furthermore, several scholars have noted that preferences can be shaped by larger cultural factors (e.g., Bowles, 1998). The point is that there are strong theoretical reasons to think that the peer group may play a role in shaping individual preferences. Still, to the extent that this is true with regard to delinquency remains an empirical question.

A second avenue of research is to incorporate insights on the role of potential gains and potential losses into our understanding of peer influence. Much of criminological research on peer influence has comprised an emphasis on potential social rewards for conforming to group offending, but it is possible that individuals are more susceptible to threats of status losses for *not* conforming to the group. This, of course, is consistent with the phenomenon of *loss aversion*, in which potential losses weigh more heavily in decisions than do equal gains. Interestingly, in some qualitative work, scholars have found support for the notion that it may be threats of status loss that impact offending decisions. In their classic study, Short and Strodtbeck (1965) found that individuals often reported fear of losing position in the gang as a reason for engaging in group delinquency. Similarly, Anderson (1999) observed that individuals would engage in violence to maintain levels of respect and, in turn, prevent future victimization. Thus, distinguishing between the role that potential gains and potential losses have in the individual decision to give into peer influences may be particularly informative for understanding how individuals use cues from peers when making offending decisions.

Third, we encourage further research aimed at examining the implications of interdependency theories (i.e., interdependency theory, social exchange theory, and game theory) for understanding co-offending decisions. To date, only a few applications of these theories have been focused on the role of peers or co-offenders (McCarthy et al., 1998; McGloin, 2009; McGloin & Rowan, 2015; McGloin

& Thomas, 2016a; Weerman, 2003). One of the future applications we envision entails a coordination game (like a stag hunt) that can accommodate multiple “actors” with different preferences (Skyrms, 2001). In such a model, rewards and costs of crime can be mutually beneficial or mutually costly. For example, one peer may be particularly concerned about the “rush” or “thrills” from crime, whereas another may be oriented toward the material payoffs (Weerman, 2003). In a stag hunt, these individuals can both achieve their desired goals in the same act, despite holding different preferences. Put simply, cooperation games offer great potential to frame and test hypotheses concerning the group dynamics of offending.

Finally, further research is necessary to examine how external input—particularly aspects of the message (“what is said” and “how it is said”)—interacts with internal perceptions and preferences in the decision-making process. Most of the work on interpersonal communication and decision-making has been focused exclusively on decision outcomes, not on how conversation can alter perceptions and preferences of potential risks, costs, and rewards. Both experimental and observational approaches seem promising to further this line of research. One can think of different scenarios in which peers communicate about the decision under hand from either a gain frame or a loss frame. Additional manipulations could provide insight into the role of language, the nature of the relationship between sender and receiver, and the level of consensus among peers.

9 | CONCLUSION

While the traditions of offender decision-making and peer influence have each received considerable empirical support in criminology, the two perspectives have mostly developed independently of each other. To date, in the literature on offender decision-making, scholars have been predominantly concerned with internal cognitive processes and less with potential external factors that affect perceptions or preferences. In the literature on peer influence, on the other hand, scholars have been predominantly concerned with external socialization and situational inducement provided by peers.¹¹ The current article is an attempt to further integrate both lines of work. Our insights can be summarized into two core arguments.

Our first argument is that insights from the decision-making literature can be used to advance our understanding—and potentially aid the integration—of socialization and situational perspectives of peer influence (see also Wikström, 2007). Socialization refers to individuals’ internalization or “updating” of perceptions in response to new information, which can come in the form of individuals’ own experiences, as well as from observations of others’ experiences (Anwar & Loughran, 2011; Matsueda et al., 2006; Stafford & Warr, 1993). Socialization is a long-term developmental process that occurs through the accumulation of new experiences. We have argued that socialization by peers is essentially the outcome of a chain of situations in which adolescents made decisions in the presence of peers. Each of these experiences with situational peer influence (i.e., the totality of the decision-making process, any external input therein, the decision outcome, and the experienced consequences) contributes to the formation of individuals’ perceptions of risks, costs, and benefits. This implies that, to understand the role of peers in socialization better, we need to gain an understanding of the various ways in which peers exert situational influence on offending decisions. One of the main contributions of this article is the exploration of situational peer processes.

To shed light on the situational role of peers in offender decision-making, we distinguished between passive and active peer influence. We identified how peers can affect decisions through their mere presence, as well as through their active involvement as instigators, conversational partners, and co-offenders. In doing so, we identified three moments in the decision-making process when peers

potentially play a role. Prior to the decision, peers can introduce crime as an action alternative by making the decision-maker aware of opportunities for crime through instigation. Then, in the process of the decision being made, peers can affect the rational evaluation (i.e., perceptions, preferences, and reliance on one of two modes of information processing) by their mere presence as well as in conversation. After the individual has arrived at an initial decision (i.e., behavioral intention), peers can function as a sounding board. The individual may turn to peers to seek advice or to check the course of action and can change his or her decision depending on these peers' reactions. Thus, we have argued that internal processes can be affected by external input, and in turn, external output can arise in response to individual action or behavioral intention. If we accept that peers can affect decision-making in various stages of this process, we have to acknowledge that decision-making is interdependent (Granovetter, 1978; Thibaut & Kelley, 1959).

Our second core argument is that individuals' perceptions and preferences for risks, costs, and rewards are not completely stable and can be affected by external factors in the long term and the short term. Although there is general support for the idea that perceptions can vary across situations (Pogarsky, Roche, & Pickett, 2018), the notion of the stability of preferences has been met with skepticism. To what extent are individuals' preferences stable? In general, there are three possible answers to this question. One, individuals' preferences are completely malleable and, therefore, decision outcomes will depend heavily on external input in any given situation. Two, individuals' preferences are completely stable. This would mean that individuals will always have the same rank ordering of specific costs and rewards regardless of the situation or of their personal experiences. Three, individuals' preferences are relatively stable, but can change somewhat depending on external conditions and previous events. The first option is by definition incompatible with rational choice theory. If preferences are completely malleable, it would be impossible to predict the process and outcome of the rational evaluation (Becker, 1968). The second option is in line with some interpretations of rational choice theory, which follow the notion of exogenous preferences that are immutable to conditions and events (McCarthy, 2002). Such interpretations do not leave much variance to be explained by external input from peers. Specifically, in these interpretations, peers can affect offenders' decisions by affecting perceptions but not preferences. The third option is in line with several interpretations of rational choice theory, which only require that preferences are consistent *in the course of a decision* (McCarthy, 2002). The latter of these three options is most in line with the perspective that we put forward in the current article.

Specifically, we believe that individuals' preferences can change over time as the individual gains maturity and life experience (Steinberg, 2009). As individuals age, brains become further developed and they become more risk averse and better able to resist peer influences (Steinberg, 2008). This may, in part, explain the declines in offending from adolescence to young adulthood (Paternoster & Bushway, 2009). More complicated is the stability in preferences across situations in a given time period. As noted, the idea of completely malleable preferences raises challenges for rational choice theories, and as such, we believe that a more promising notion is that preferences are *relatively stable* across situations. This means that, for example, one individual may have a general strong need for approval from peers in any given situation. In situations where these peers are present, this need for approval may be more at the forefront of the individuals' mind. Thereby, it becomes more likely for the corresponding costs (i.e., threats to fulfillment of need for approval) or benefits (i.e., aids to fulfillment of need for approval) to "win" over other factors, causing the individual to engage in crime. If this would have been a different individual, a person who does not generally care about what other people think, it is unlikely that the presence of peers would elevate the relevance of similar costs and rewards to such an extent that they become decisive for the outcome. Put another way, between-individual differences in the rank ordering of preferences remain mostly stable even if the absolute preferences

can differ within individuals as a result of situational cues. We feel that addressing these and related issues in empirical research will pave the way for further integration of insights on peer influence and decision-making.

We aimed to provide an integrative account of the ways in which peers can affect the offender decision-making process. To accomplish this, we discussed the role of peers in socialization, or “updating” of perceptions, the role of peers in the immediate situation, and the interactions between socialization by peers, situational peer influence, and dual-system processing. We also elaborated on situational peer processes by exploring various ways in which the mere presence of peers and their active involvement as instigators, conversational partners, and co-offenders can affect offender decision-making. Our insights are indicative of the interdependency of external and internal inputs in the offender decision-making process. We hope that this literature overview will serve to inspire future collaborations between peer scholars and decision-making scholars and, thereby, will be used to advance our knowledge on distal and proximal causes of crime.

ENDNOTES

¹ Note, however, a recent study which indicates that risk preferences and time preferences may be more relevant than social preferences for understanding differences between offenders from nonoffenders (Jaynes & Loughran, 2018).

² Several other studies have confirmed that peers’ delinquency affected individuals’ perceptions or that peers’ behavior interacted with individuals’ perceptions in their effect on behavior and behavioral intention, but these studies did not capture peers’ punishment and punishment avoidance specifically (Matsueda, Kreager, & Huizinga, 2006; Matthews & Agnew, 2008; Paternoster & Piquero, 1995; Pogarsky, Kim, & Paternoster, 2005; Pogarsky, Piquero, & Paternoster, 2004).

³ In the same way, individuals can “learn” from which peers they should seek advice. If the advice from specific peers continuously results in undesirable outcomes, the individual learns that advice from those peers on those types of decisions should not be trusted.

⁴ The distinction between “public compliance” and “private internalization” is relevant here (Kiesler & Kiesler, 1969). The result of socialization by peers is that the individual has internalized, or privately accepted, new values that can drive future decisions. Public compliance means the individual goes along with situational peer influence (e.g., to avoid social costs), without necessarily having values supportive of that behavior.

⁵ Of course, it is possible that individuals mislead or lie to their friends about their delinquent behavior. Indeed, researchers have found some evidence that adolescents do lie to their friends about whether they engage in antisocial conduct (McGloin & Thomas, 2016b). Interestingly, this ability to lie about one’s deviance could, in many ways, be an optimal strategy for some adolescents—after all, they may accrue all of the social benefits of engaging in delinquency without taking on any of the risk.

⁶ In considering (social) costs and rewards of behavior, it is important to differentiate between the costs and rewards associated with *action* versus those associated with *inaction* (Matthews & Agnew, 2008; McGloin & Thomas, 2016a). Non-conformation to group crime (i.e., inaction) may evoke social costs such as ridicule, exclusion, and loss of status (Warr, 2002). This notion that individuals are simultaneously exposed to incentives and disincentives from crime in peer groups is consistent with Sutherland’s (1947) assertion that individuals are exposed to definitions both favorable and unfavorable to crime.

⁷ This number is an average across all 12 types of group offenses reported in Table 3 of Warr (1996).

⁸ Note that knowledge cannot be activated unless it is already present in the memory, thereby distinguishing processes of salience and accessibility from processes of information availability (Higgins, 1996).

⁹ Please note the difference between the function of *anticipated* emotions as perceived costs or rewards (e.g., shame and guilt), and the function of emotions experienced *at the moment of decision-making* as stimulants for one of two modes of information processing (Loewenstein, Weber, Hsee, & Welch, 2001; Van Gelder & De Vries, 2012, 2014).

- ¹⁰ Please note that there are several dual-system theories and that these theories have different perspectives on the nature as well as on the interaction of the two modes of information processing.
- ¹¹ This is not to say that learning or unstructured socializing perspectives deny the notion of choice, just that little is specified in terms of the *process* of how offending decisions are made (Akers, 1990).

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