AGE AND CHRONIC AND TEMPORARY CRIMINALITY

Associations With Implicit and Explicit Criminal Identities

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This cross-disciplinary study investigates how and why age may be related to explicit and implicit criminal identity (ICI). The current study replicates previous research and investigates the effect of an experimental manipulation of making criminality temporarily salient on implicit and explicit identity, and whether this effect is moderated by the age of the participant. Study 1 replicated the results of the original study. Study 2 found that, among those in the control condition, older participants had a stronger ICI than younger participants. However, younger participants in the experimental condition had a significantly stronger ICI compared to younger participants in the control condition (and older participants in the experimental and control conditions did not differ). When criminality was made salient, the strength of the ICI among younger participants was similar to that of older participants. These findings add to the discussion of the criminality onset, persistence, and desistance across age groups.

Keywords: criminal behavior; psychology; criminal thinking; memory; criminal justice system

What we know about age-graded criminality focuses largely on offending rates by age and on age-related activities and roles. Studies consistently demonstrate two findings: (a) crime rates increase dramatically from late childhood through adolescence, peak in late teens (between 15 and 19), and decline precipitously in the early 20s (Farrington, 1986; see also Le Blanc, 2020; Loeber et al., 2012), and (b) for a small subset of individuals, crime begins at an early age and persists across the life course (Moffitt, 1993; see also Piquero

et al., 2012). Criminologists have investigated both the consistency of the age-crime curve over time and place and suggested various explanations for its persistent pattern as well as the deviations from the pattern (for a full discussion, see Laub & Sampson, 2003).

At the heart of the age-crime relation is the transition from adolescence to adulthood. In one of the most comprehensive reviews, Thornberry and colleagues (2013) discuss the many theoretical explanations for the onset of juvenile offending/delinquency, desistance from offending (general and age-related), and late-onset offending. The steep increase in juvenile offending during adolescence and the precipitous drop in offending in early adulthood are variously explained by biological, developmental, cognitive, and social processes (Thornberry et al., 2013). Among these explanations is also a subset of cognitions focused on identity and self-perception. Criminal identity, in particular, has emerged as one important construct in both the explanation of criminal behavior (Asencio & Burke, 2011; Boduszek et al., 2013; Brezina & Topalli, 2012; Shover, 1996; Walters, 2003) and desistance (Christian et al., 2009; Giordano et al., 2002; Maruna, 2001; Paternoster & Bushway, 2009).

The definitions and measures of criminal identity vary and include: perspectives on self and self-descriptions (Christian et al., 2009; Fielding & Fielding, 2000; Paternoster & Bushway, 2009), role as criminal (Brezina & Topalli, 2012; Shover, 1996), criminal self-concept with responses to specific roles (e.g., booster, robber, player; Hochstetler et al., 2007), criminal self-view (e.g., scale of law-abiding to unlawful; Asencio & Burke, 2011; Asencio, 2011; also see Veysey & Rivera, 2017), and social criminal identity measured using an adaptation of Cameron's (2004) 12-item social identity scale (Boduszek et al., 2012; Walters, 2003; Walters & Geyer, 2004). It is important to note that these measures have been collected on people who are actively involved in criminal behavior or have been or are currently under correctional supervision.

Because these measures of criminal identity explain criminal behavior and experience, criminal identity should theoretically parallel the age-crime curve. While individuals are actively engaged in criminal behavior, spend time with criminal peers, and/or have been under correctional supervision, they are likely to acknowledge a criminal identity (for a theoretical model, see Boduszek & Hyland, 2011; Cameron, 2004). When these same individuals desist from active participation and take on pro-social identities, they are more likely to explicitly reject criminal labels and self-definitions (Paternoster & Bushway, 2009). What is not well understood, however, is how and under what circumstances criminal identity is manifested implicitly (i.e., automatically, with no or minimal awareness)[1] and how this might be related to age (Veysey & Rivera, 2017). The main goal of the present research is to test the roles of explicit criminal identity (ECI) versus implicit criminal identity (ICI) in age–crime relations. Replicating and extending our earlier study (Veysey & Rivera, 2017), this research, comprised of two studies, investigates (a) if and how the relation between personal criminal behavior experience and ECI and ICI is moderated by age in a nationally representative sample, and (b) if and how the relation between experimentally manipulated criminality salience and ECI and ICI is moderated by age in a criminal justice involved sample.

SOCIAL IDENTITY

Identity is comprised of the emotional, cognitive, and behavioral attachments to social groups (i.e., social identity) and the idiosyncratic differences that create a unique sense of

self (i.e., personal identity; Burke & Stets, 2009). In addition to the characteristics and attributes associated with personal identity,[2] individuals possess multiple social identities. For example, a given individual can associate the self with the social groups of women, parents, educators, and athletes; all of them central to the self to a greater or lesser degree (Stets & Burke, 2000). Further, these multiple social identities are arrayed in a hierarchy in which the prominence or salience of any given identity may vary by the context or situation or by repeated enactment of the associated role (Stryker & Serpe, 1994). Some identities rise and remain at or near the pinnacle of this hierarchy, because they are cognitively and emotionally important to an individual, are activated more frequently, or become salient in frequently experienced contexts (Oakes, 1987). Others may only be prominent within certain contexts or situations (Stets & Burke, 2000).

Identities that are easily and frequently activated for an individual across time and situations are considered chronically accessible (Roccas & Brewer, 2002). They are central to an individual and a frequent driver of cognition, affect, and behavior. For example, gender-based identities (i.e., woman, man) are chronically accessible, because gender cues are present in many, if not most, social contexts (e.g., Deaux & Major, 1987; Kühnen & Oyserman, 2002). Identities that are temporarily accessible, on the other hand, are momentarily activated by one's context or social surroundings (Roccas & Brewer, 2002). The momentary accessibility of an identity is dependent upon whether a particular identity is central to one's self-concept, the identity has been activated recently, including when interacting with a perceiver or when immediate contextual cues make the identity accessible (Deaux & Major, 1987).

It is not clear whether and under what circumstances criminal identity is chronically accessible or whether it is only temporarily accessible, activated by contexts, interpersonal interactions, or other cues. Research suggests that, at the explicit level, a criminal identity may be temporarily accessible by the presence of others with similar criminal experiences or when reminded of this identity even in the absence of criminal peers (see Boduszek & Hyland, 2011, for a discussion of the theoretical model). For example, experience with and exposure to prison environments and other "criminals" reinforce and strengthen criminal identity (Asencio & Burke, 2011; Walters, 2003; Walters & Geyer, 2004) as does individuals' perceptions of others' attitudes and beliefs toward their "criminal" identities (Asencio, 2011).

Criminal identity may also be chronically accessible. Boduszek and colleagues (2013) suggest that a criminal identity is formed through a complex developmental process that results in the increased probability of association with deviant (i.e., criminal/delinquent) peers. It is in this association that members of a criminal group "achieve a sense of self-consistency through a manifestation of their new identity in terms of criminal behavior" (p. 16). This suggests that, for a sub-group of individuals, a criminal identity, broadly speaking, is a conscious and significant aspect of the self and may be more likely to persist as opportunities for other identities and roles are truncated.

IDENTITY AND AGE

Aging is not only a biological process but also a developmental one in which much of the intense and focused development happens between birth and early adulthood with adolescence and early adulthood being one of the most critical times of identity formation (Meeus et al., 2010). From a psychosocial perspective, the primary task of adolescence is the

development of a stable sense of self (i.e., identity formation), and this follows a predictable developmental process (Erikson, 1968; Marcia, 1966). During this time, adolescents "try on" different identities, eliminate some, retain others, explore new options, and ultimately commit to a specific identity[3] (Klimstra et al., 2010; Meeus et al., 2010). That is, development into a more stable identity in adulthood is a process of exploration and paring down with progressive movement away from identity statuses that are not functional to achieving a more successful identity in early adulthood. Importantly, a stable identity is not necessarily achieved by early adulthood (Kroger et al., 2010).

It is also important to note that identity exploration and commitment covary with life domains and experiences with one's environment across the life course (Becht et al., 2021; Fadjukoff et al., 2016; Louden, 2005). Some identity experiences, such as gender, start at birth and persist across the lifetime, yielding a fairly stable social identity (Deaux & Major, 1987). For other social identities, such as criminal, their importance to the individual is flexible and changing depending on contexts (c.f., Gaither, 2015). Theoretically, adolescents who are experimenting with criminal behavior may only perceive themselves as a "criminal" in those moments when they are behaving in a criminal manner, while at other times, they may identify more as a student, sibling, or friend. On the other hand, adults whose identity partially or wholly revolves around criminal behavior may, in fact, persistently perceive themselves as criminals.

IMPLICIT AND EXPLICIT CRIMINAL IDENTITIES

As noted above, most empirical research on criminal identity has focused on research participants' explicit perceptions of self. Social psychologists have also proposed implicit social cognition theories as a framework for understanding the cognitive processes that are activated automatically and with little to no conscious awareness and motivational control (Nosek et al., 2011). As applied to identities, implicit social cognition theories argue that individuals have both explicit and implicit identities (Devos & Banaji, 2003). Explicit identities align with the standing identity literature and the methodological use of self-report measures (see above) that reflect thoughtful and deliberative responses and are vulnerable to concerns about self-presentation (Fazio & Olson, 2003). ICIs are the automatic associations between the self and the group criminal and are assessed indirectly with an unobtrusive measure that does not rely on introspection and can even bypass self-presentation motives. Only recently have studies of ICI emerged (Rivera & Veysey, 2015; Rivera & Veysey, 2018; Veysey & Rivera, 2017). These studies (a) adapted the methodology from other implicit social cognition studies to measure ICI and ECI, (b) demonstrated the existence of an ICI, and (c) suggested that ICI and ECI might be related to other identity processes, such as age, and predict different outcomes.

OVERVIEW OF THE PRESENT RESEARCH

This research is comprised of two studies. Both examine whether age moderates the relation between past criminal experience and ICI and ECIs. Study 1 replicates our earlier study (Veysey & Rivera, 2017), evaluating whether one or more events are sufficient to create a self-criminal association (i.e., criminal identity) and whether this relation is moderated by age. This is a critical advancement because (a) it is based on a nationally representative

sample and (b) it extends the definition of "criminal experience" (i.e., arrest, conviction, and/or incarceration) to also include those who "have ever done anything so bad that they could have been arrested." As noted earlier, studies of criminal identity rely on samples of "criminals." Even our study (Veysey & Rivera, 2017) asks participants to report whether they had been arrested, convicted, and/or incarcerated. Study 1, therefore, is an important theoretical leap that hypothesizes that one or more actions that could have resulted in an arrest are sufficient to create an implicit self-criminal link similar to those who have been formally processed. Similar to the analysis used in our earlier study (Veysey & Rivera, 2017), Study 1 contrasts persons with "criminal behavior experience" (i.e., expanded definition) with those who do not.

Study 1 was also an important step toward validating the recall writing task manipulation that was then used in Study 2; specifically, asking participants to, "imagine when you did something so bad that it was illegal." This manipulation theoretically activates a temporarily accessible ICI. Study 2, using a sample of people who had been arrested, convicted, and/or incarcerated, tested whether this reminder of a personal criminal behavior temporarily strengthened ICI and whether this relation was moderated by age. Since the sample included only those with criminal justice experience, the manipulation is not predicted to affect ECI.

STUDY 1: REPLICATION AND EXTENSION

METHOD

Hypotheses

Consistent with the arguments above, the hypotheses are as follows:

H_1: Age moderates the relation between criminal experience and ECI such that younger persons are predicted to have stronger ECIs than older people.
H_2: Age moderates the relation between criminal experience and ICI such that older persons are predicted to have stronger ICIs than younger people.

Participants and Design

We recruited 116 adults from across the United States through Amazon Mechanical Turk, an online workforce of more than 100,000 people who receive nominal monetary remuneration for completing tasks posted online such as research studies (Pontin, 2007). Mechanical Turk participants are more representative of a national sample than convenience samples, reliable in their responses to measurements, and behave similarly to in-person experimental participants in laboratory settings (Berinsky et al., 2012; Buhrmester et al., 2011). Since the lab-based data collection was also conducted via computer, the platform was expected to create a substantially similar experience across participants. Mechanical Turk participants were required to live in the United States and that their approval rating (ratio of accepted hits to completed and approved hits) be equal to or greater than 85.

Table 1 reports the participants' demographics. Participants' average age was 38.2 years ($SD = 12.1$), most identified as female[4] (52.5%) and White (80.6%), 31.4% reported an employment status of 31 to 40 hr/week, and most frequently (22%) came from households with a family income in the $50,001 to 60,000 range. Finally, 54 (46.6%) participants reported a criminal behavior experience (listed below under *Measured Variables*). The

TABLE 1: Study 1 Sample Demographics (*N* = 116)

Variable	
Age (mean years)	38.2 (12.1)
Gender	
Male	47.5
Female	52.5
Ethnicity/race	
African American/Black	8.1
Asian or Pacific Islander	5.6
Hispanic/Latino	4.0
Multiracial	0.8
Native American	0.8
White	80.6
Employment status	
Unemployed	23.7
20 hr or less	11.0
21–30 hr	5.1
31–40 hr	31.4
41 hr or more	28.8
Household/family income	
$0–$10,000	6.8
$10,001–$20,000	13.6
$20,001–$30,000	11.0
$30,001–$40,000	11.9
$40,001–$50,000	11.9
$50,001–$60,000	22.0
$60,001–$70,000	0.0
$70,001–$80,000	9.3
$80,001–$90,000	2.5
$90,001–$100,000	4.2
$100,001 or more	6.8

Note. Figures represent percentages unless otherwise noted in parentheses after a variable. For means, standard deviations are in parentheses.

study adopted an Age (continuous variable) × Criminal Behavior Experience (categorical variable: yes vs. no) between-participants design. A sensitivity power analysis using G*Power 3.1 (Faul et al., 2009) indicated that the sample size provides 80% power (α = .05) to detect a mid-range small effect size, f^2 = .09.

Measured Variables

Implicit criminal identity. ICI is the automatic association between the mental representations of the self-concept and criminality (Rivera & Veysey, 2015, 2018; Veysey & Rivera, 2017). Consistent with this past research, a Single Category Implicit Association Test (SC-IAT; Karpinski & Steinman, 2006) was administered to measure individual differences in response time to pairing the self (vs. others) with the group criminals. The SC-IAT, modified from the original IAT (Greenwald et al., 1998), is particularly useful when a single mental concept has no clear comparison, such as is the case with the group criminals. Procedurally, semantic stimuli representing the self (I, me, my, mine, self), others (they, them, their,

theirs, others), and criminal (criminal, felon, lawbreaker, offender, convict, delinquent, prisoner) randomly appeared one after the other centered on the computer screen. The seven criminality words were pretested with a separate adult sample (see Rivera & Veysey, 2018).

On the computer screen, category labels were appropriately and randomly positioned on the top left and top right sides of the screen. For one block of trials, participants were instructed to use the "A" key to classify "self" and "criminal" words and the "K" key to classify "other" words (i.e., "self + criminal trials"). In the other block of trials, the key assignment was reversed—participants used the "A" key to classify "self" and the "K" key to classify "other" and criminal words (i.e., "other + criminal trials"). The order of the two tasks was counterbalanced between participants. For each block, participants first read a set of instructions and then completed 17 practice trials followed by 68 critical trials. For each trial, the target word remained on the screen until participants responded but not longer than 1,500 ms. If participants failed to respond within 1,500 ms, a reminder to "Please respond more quickly!" appeared for 500 ms. Following each response, participants were given feedback regarding the accuracy of their responses. A green O in the center of the screen for 150 ms followed correct responses (e.g., classified "I" as a "self" word); a red X in the center of the screen for 150 ms followed incorrect responses (e.g., classified "them" as a "self" word).

The SC-IAT was scored in accordance with past procedures (Greenwald et al., 2003; Karpinski & Steinman, 2006), including the fact that participants are required to correctly categorize at least 80% of the IAT stimuli (i.e., participants are required to attend carefully and not to respond randomly). The IAT in general is a measure of relative associations (presently, self-criminal associations relative to other criminal associations), so its scoring is a function of the difference between reaction times (RTs) to categories simultaneously paired on the computer screen. The SC-IAT score in the present research is the difference in standardized RTs between the self + criminal trials and other + criminal trials. Therefore, higher SC-IAT scores indicate faster RTs when self stimuli were paired with criminal stimuli than when other stimuli were paired with criminal stimuli, or relatively strong ICIs ($\alpha = .71$).

Explicit criminal identity. Participants reported the extent to which they associated themselves with the seven criminal words in the SC-IAT on a 7-point scale ranging from "not all characteristic of me" to "extremely characteristic of me." Higher scores indicate relatively strong ECIs ($\alpha = .91$).

Criminal behavior experience. Criminal behavior is defined as an act prohibited by law and can be punished by the state (Andrews & Bonta, 2015). Consistent with this definition and past research (Rivera & Veysey, 2015, 2018; Veysey & Rivera, 2017), criminal behavior experience was measured as committing an act at any time for which an individual could have been arrested or was actually arrested, convicted, and/or incarcerated. Participants who responded affirmatively to any of these categories proceeded to describe their past experience; participants who did not respond affirmatively were identified as having no past experience.

Demographics. Participants completed a demographics and background questionnaire that included variables age, gender, ethnicity/race, employment status, and household/family income. Age (continuous) was an open-ended question and measured in years. The remaining variables were categorial and each of their response options and values are described in
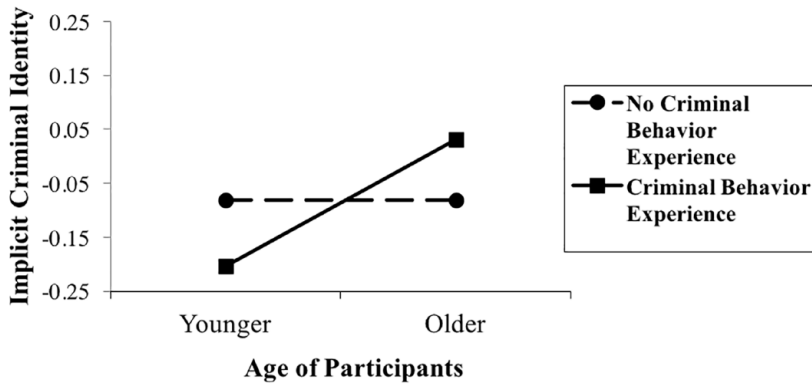
Figure 1:   Study 1: Effect of Age and Criminal Behavior Experience on Implicit Criminal Identity

Table 1 (e.g., participants' options to indicate their "gender" were male, female, or other). Although two of the "gender" options were male and female (i.e., biological sex assigned at birth), participants were provided with a third open-ended option (other) to specify an identity other than male or female.

Procedure

Participants completed the measures of ICI and ECI, a demographics questionnaire, and the measure of criminal behavior experience (in this order).

RESULTS

To test the hypothesized relations between participants' age and their ICIs versus ECIs as a function of criminal behavior experience, two hierarchical regression analyses were run in which ICI and ECI were entered as the criterion. Because individuals who identify as African American/Black and Hispanic are from low socio-economic status, and/or are men have a higher likelihood of engaging in criminal behavior, and/or being involved in the criminal justice system (for a review, see South & Messner, 2000), we statistically controlled for ethnicity/race (1 = African American/Black and Hispanics; 0 = all others), employment status, income, and gender (1 = male; 0 = female, other) in the first model. Then, criminal behavior experience (1 = experience; 0 = no experience) and age (standardized scores) were entered in the second model, and the experience by age two-way interaction term in the third model.

As displayed in Figure 1, when ICI was the criterion, the regression yielded a nonsignificant Criminal Behavior Experience × Age interaction, $\Delta F(1, 110) = 3.45$, $R^2 = .03$, $p = .06$. Replicating our previous study (2017), however, older participants with past criminal behavior experience had stronger ICIs[5] than younger participants with past criminal behavior experience, $\beta = .38$, $p = .005$, but among participants with no past criminal behavior experience, the relation between age and ICI was not statistically significant, $\beta = .01$, $p = .91$.

As displayed in Figure 2, when ECI was the criterion, the regression yielded a significant Criminal Behavior × Age interaction, $\Delta F(1, 110) = 4.11$, $R^2 = .03$, $p = .04$. Again,
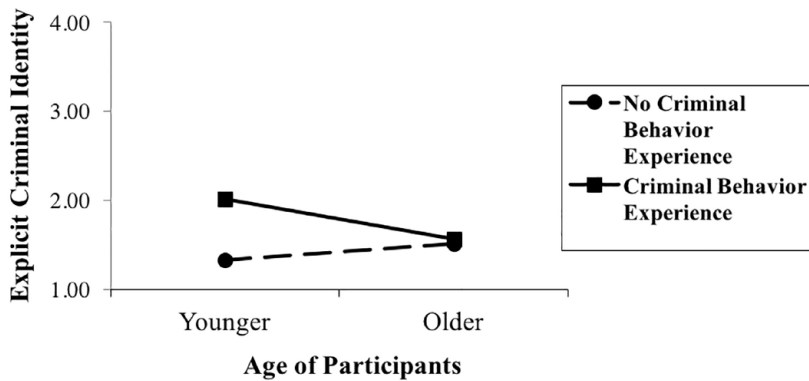
Figure 2:   Study 1: Effect of Age and Criminal Behavior Experience on Explicit Criminal Identity

replicating our previous study (2017), older participants with past criminal behavior experience had weaker ECIs than younger participants with past criminal behavior experience, $\beta = -.28$, $p = .04$. However, among participants with no past criminal behavior experience, the relation between age and ICI was not statistically significant, $\beta = .09$, $p = .46$.

DISCUSSION

Replication is an important step toward building knowledge. Replicating results using similar samples has merit and replicating results using a very different sample increases confidence in the generalizability of data. In Study 1, findings using a sample from a large Northeastern urban area (Veysey & Rivera, 2017) were replicated using a national sample; specifically, among participants with a criminal behavior experience, older participants had stronger ICIs than younger participants, while at the same time, older participants had weaker ECIs than younger participants. By comparison, among participants with no criminal behavior experience, there were no relations between age and either ICI or ECI.

This study suggests that criminal behavior experience is the driver for the relation between age and explicit and implicit cognition (and we will discuss these implications in the General Discussion section). Experience is event-based, and it is not clear the degree to which experience is directly linked to immediate cognition. This led us to consider a different question; specifically, whether making criminality salient in the moment might have a similar or different effect on the relation between age and ICI versus ECI from what was observed in Study 1.

STUDY 2: CRIMINALITY SALIENCE MANIPULATION

Unlike Study 1, Study 2's sample included only persons who had a criminal justice experience (i.e., arrested, convicted, and/or incarcerated). In this study, participants were randomly assigned to a criminal salience experimental condition that involved the recall of an autobiographical memory about the participant committing a criminal act or to a no-criminal salience control condition. All other measures were the same as those in Study 1.

METHOD

Hypotheses

The hypotheses are as follows:

H_1: Criminal salience is related to ICI such that participants in the experimental condition are predicted to have stronger ICIs than participants in the control condition.

H_2: Age moderates the relation between criminal salience and ICI such that younger participants in the experimental condition are predicted to have stronger ICIs than younger participants in the control condition.

No predictions were made for ECI as this sample is comprised solely of participants with criminal justice experience.

Participants and Design

We recruited 83 justice-involved adults, defined as having an arrest, conviction, and/or incarceration, from the Newark, New Jersey community to participate in the experiment. Participants were recruited through flyers posted at local businesses and colleges to participate in a study on "identity and experiences" in exchange for $20. Table 2 reports the participants' demographics. Participants' average age was 43.3 years ($SD =$ 11.6), most identified as male (69.4%) and African American or Black (76.5%), 70.6% were unemployed, and most frequently (47.1%) came from households with a family income in the $1 to $10,001 range. The experiment adopted an Age (continuous variable) × Criminality Salience (manipulated variable: yes vs. no) between-participants design. A sensitivity power analysis using G*Power 3.1 (Faul et al., 2009) indicated that the sample size provides 80% power ($\alpha = .05$) to detect a mid-range small effect size, $f^2 = .13$.

Manipulated Variable: Criminality Salience

Participants who were randomly assigned to the criminality salience condition completed a procedure designed to recall an autobiographical memory related to a criminal behavior they personally committed. Specifically, they were first asked to read the following general statement:

> Sometimes in life a person does something that is so bad that it was illegal. A person may even get caught, arrested, and put in prison. Please take a few moments to go back to that time in your mind and imagine when you did something so bad that it was illegal. Think about what you did, how you felt, why you did it, and if you were arrested or put in jail for it.

Immediately after, participants were asked to close their eyes and think about their responses to the following specific prompts: "What did you do in your past that may have been illegal? If you were arrested or put in jail, what was that experience like? How did you feel about that experience? Why did you do it?" Finally, they were asked to respond to the following three questions on 11-point scale: (a) "How bad was the experience?" from 0 (What I did was not bad at all) to 10 (What I did was extremely bad); (b) "How illegal do

TABLE 2:   Study 2 Sample Demographics (*N* = 83)

Variable	
Age (mean years)	43.3 (11.6)
Gender	
Female	28.2
Male	69.4
Other	2.4
Ethnicity/race	
African American/Black	76.5
Asian or Pacific Islander	2.4
Hispanic/Latino	14.1
Multiracial	1.2
White	2.4
Other	3.5
Employment status	
Unemployed	70.6
20 hr or less	11.8
21–30 hr	4.7
31–40 hr	7.1
41 hr or more	5.9
Household/family income	
$0–$10,000	47.1
$10,001–$20,000	23.5
$20,001–$30,000	16.5
$30,001–$40,000	0.0
$40,001–$50,000	1.2
$50,001–$60,000	2.4
$60,001–$70,000	2.4
$70,001–$80,000	3.5
$80,001–$90,000	1.2
$90,001–$100,000	1.2
$100,001 or more	1.2

Note. Figures represent percentages unless otherwise noted in parentheses after a variable. For means, standard deviations are in parentheses.

you think the experience was?" from 0 (What I did was not at all illegal) to 10 (What I did was extremely illegal); and (c) "How bad did the experience make you feel?" from 0 (I did not feel bad at all) to 10 (I felt extremely bad). Three one-sample *t*-tests (all test values = 6) showed that participants' scores were statistically equivalent to the midpoint. That is, they reported their criminal behavior to be somewhat bad, $M = 4.57$, $SD = 2.98$, $t(82) = -1.36$, $p = .17$, and somewhat illegal, $M = 5.33$, $SD = 3.33$, $t(82) = .93$, $p = .35$, and to have made them feel somewhat bad, $M = 5.38$, $SD = 3.24$, $t(82) = 1.08$, $p = .28$. Participants in the control condition did not complete the memory recall task and proceeded directly to the measured variables listed below.

Procedure

A female research assistant informed participants that the study was examining "people's identity and experiences." In a private room, participants were first randomly assigned to
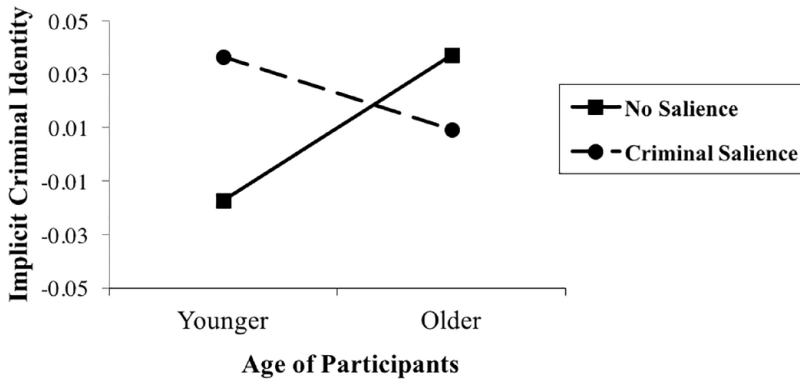
Figure 3:   Study 2: Effect of Age and Criminality Salience on Implicit Criminal Identity
Note. Higher scores on the *y*-axis indicate stronger implicit criminal identities.

either the criminality salience (experimental) or no criminality salience (control) condition. Then, they completed the measures of ICI and ECI, the demographics questionnaire, and a measure of criminal justice involvement (in this order). Finally, they were fully debriefed and remunerated.

RESULTS

To test the hypothesized relations between participants' age and their implicit versus explicit self-criminal associations as a function of experimentally manipulating the salience of a past criminal experience, we ran two hierarchical regression analyses,[6] in which we entered ICI or ECI as criteria, criminality salience (1 = salience; 0 = no salience) and age (standardized) in the first model, and the age by salience two-way interaction term in the second model. When ICI was the criterion, analyses yielded no main effects of age, $b = 0.001$, $SE = 0.001$, $p = .57$ or criminality salience, $b = -0.003$, $SE = 0.03$, $p = .89$, but there was a significant Age $\times$ Criminal Salience interaction effect, $b = -0.006$, $SE = 0.002$, $p = .006$. Consistent with Study 1 and replicating our previous study (2017), in the no salience condition, older justice-involved participants had stronger ICIs than younger justice-involved participants, $b = 0.004$, $SE = 0.002$, $p = .04$ (see Figure 3). Most relevant to the main prediction, among younger justice-involved participants, criminality salience increased their ICIs when compared to the no salience condition, $b = 0.07$, $SE = 0.04$, $p = .04$. Moreover, both younger and older justice-involved participants' ICIs in the criminal salience condition did not differ significantly, $b = -0.002$, $SE = 0.002$, $p = .19$.

Finally, when ECI was the criterion, analyses yielded no main effect of age, $b = 0.01$, $SE = 0.01$, $p = .49$, but yielded a main effect of criminality salience, $b = 0.77$, $SE = 0.35$, $p = .03$, such that all justice-involved participants showed stronger ECIs in the criminal salience condition compared to the no-criminal salience condition. Most relevant, there was no significant Age $\times$ Criminal Salience interaction effect, $b = -0.01$, $SE = 0.03$, $p = .69$.

GENERAL DISCUSSION

These two studies together support the hypotheses that (a) ICI and ECI vary by age in similar ways across two populations and (b) ICI may be strengthened by an autobiographical reminder of criminal behavior and as a function of age. Study 1 replicated the results of our earlier study (Veysey & Rivera, 2017), providing additional support for an ICI and, more specifically, the relation between age and both ECI and ICI. Even with the expanded definition of criminal experience, there was a main effect of criminal behavior experience on ICI and ECI. Further, among participants with a criminal behavior experience, older participants had stronger ICIs than younger participants, while older participants had weaker ECIs than younger participants. There were no significant differences in either ICI or ECI by age among participants with no past criminal behavior experience. Consistent with Study 1, Study 2, using a sample of participants who had been arrested, convicted, and/or incarcerated, found that, among those in the control condition, older participants had a stronger ICI than younger participants. However, younger participants in the experimental condition had a significantly stronger ICI compared to younger participants in the control condition (and older participants in the experimental and control conditions did not differ). In fact, when criminality was made salient, the strength of ICIs among younger participants was not significantly different from that of older participants.

To return to the theoretical foundations, this work has implications for a greater understanding of the age–crime relation. Keeping in mind that these studies only address cognitions, implications for the criminal behavior that is the basis for the age–crime curve must be considered with caution. First, among participants with no criminal behavior experience or criminal justice involvement, neither ECI nor ICI varies by age. However, among participants with criminal behavior experience, ECI generally follows the pattern of the age–crime curve, with younger people reporting stronger ECIs than older people. This leads to a question of whether and how ECI and criminal behavior are linked. First, it is important to note that the age-crime curve is based on the number of crimes committed, not the number of crimes per individual. In our studies, we are investigating the strength of criminal identity, specifically differences in strength of identity by age. These are clearly two different phenomena, and yet the age pattern is similar and might be explained by the close link between explicit identity and behavior.

Age-dependent ICI presents a greater theoretical challenge. In general, our data demonstrate that younger people with criminal behavior experience have weaker ICIs than older people with similar experience, except when reminded of past "criminal" behavior where the ICI is much stronger and resembles the level of older people. These findings support the concept of temporary and chronic identity accessibility. The finding that younger people with criminal justice experience have weaker ICIs than older people suggests that their "criminal" identity is not easily accessible, except when they are reminded (i.e., it is temporarily accessible). On the other hand, for older people with criminal justice experience their ICI may be chronically accessible as they are reminded of their criminal past through crime-related cues and perceived stigma.

Just as ECI has been associated with criminal behavior, previous work found that strong ICIs are associated with criminal behavior (Rivera & Veysey, 2018). This past work suggests that criminality and criminal cues strengthen and maintain ICI, and, thus, readies a state of mind, perhaps outside of voluntary control, that drives crime. When made

temporarily accessible, an identity may have a similar effect on related affect, cognition, and behavior as a chronically accessible identity. The fact that making criminality salient, in the moment or consistently over time, increases individuals' ICIs and, therefore, increases the possibility of criminal behavior is troubling. This is particularly troubling since in today's punitive society individuals who have criminal justice experience, especially those with felony convictions, face structural barriers that limit full participation in social life. These include but are not limited to voting disenfranchisement and legislative restrictions on housing, some jobs and certifications, student loans, and public assistance (Chesney-Lind & Mauer, 2002; Travis, 2005). The lack of tangible opportunities for employment, housing, and education, the building blocks of a secure living, forces many individuals to seek other means to support themselves and find meaning.

In addition to structural barriers, individuals with criminal justice experience face widespread discrimination (Pager et al., 2009; Travis, 2005; Westrope, 2018) and stigma (LeBel, 2012; Winnick & Bodkin, 2008) that have concrete consequences on behavioral and affective outcomes, such as withdrawal (Winnick & Bodkin, 2008), self-esteem (LeBel, 2012), and community adjustment (Moore et al., 2016). Like structural barriers, frequent exposure to criminality-related stigma and discrimination also creates real and imagined limits on possible futures. As was found in Study 2, even in the control condition (i.e., no salience), older persons have stronger ICIs than younger persons. It is quite possible that this is due simply to a longer period of exposure to discrimination and stigma among older people.

There are several important limitations to this research. First, there are two methodological issues that could be improved. The sample sizes of these studies, while adequate, could be increased to improve power as well as provide sufficient numbers for more complicated analyses, such as testing the effects of different levels of criminal justice involvement (i.e., arrest, conviction, incarceration) and other moderators (discussed below). In addition, the explicit identity measure uses a set of "criminal" words but does not assess the participants' perceived closeness to the group criminal. In this case, Cameron's (2004) measure of cognitive centrality, in-group affect, and in-group closeness might add to this analysis and discussion.

Second, the findings from these studies underscore the need for a better understanding of the processes and circumstances that might explain the observed relations. Importantly, we do not distinguish between arrest, conviction, incarceration, and even past criminal behavior where no arrest resulted. Among the questions that arise in this regard are (a) do ECI and ICI vary by depth of involvement (e.g., arrest compared to incarceration), (b) do ECI and ICI vary by recency, duration, and/or severity of criminal behavior, and (c) it is possible and, in some cases, likely that developmental stages (i.e., age) covary with depth of justice involvement, or recency, duration, and/or severity of criminal behavior.

Third and relatedly, in these two studies, age was used as a proxy for two possible age-related mechanisms: (a) exposure to criminality-based stigma leading to stronger ICIs and (b) recency of criminal behavior leading to greater ECIs. As noted earlier, younger people are likely to have more recent interactions with the criminal justice system than older people, and older people are likely to have experienced more stigma and discrimination over time than younger people. Data on these constructs were not collected. However, both are theoretically important moderators between criminal justice involvement and ICI and ECI. In fact, these moderators may partially or completely explain the effect of age. Including

stigma and criminal history measures is an important next step to understanding criminal experience, age, and identity relations.

CONCLUSION

This line of study has provided important insights into ICI and how implicit and explicit identities may behave differently in general and by age. The implications for the effect of ICI on persistence in and desistance from criminal behavior are profound, particularly for younger people with criminal justice experiences. At the same time, the ability to attenuate a criminal identity challenges common criminal justice practices and policies. As more becomes known about implicit social cognition in this area, concrete adaptations may be developed for the benefit of people with criminal justice experiences and for society as a whole.

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NOTES

1. The definition of criminal identity, in this case, is the strength of the association between self and criminal-related words using a computer-based reaction time measure described in detail in the *Measures* section.

2. Because personal identity is idiosyncratic, social psychology studies tend to focus solely on social identity and individuals' associations with their relevant social identity groups.

3. Identity from a psychosocial developmental perspective is different and yet related to the notion of identity comprised of personal and social identities. When social and developmental psychologists discuss "identity," it is in terms of a holistic perception of self and the enactment of the roles and behaviors that accompany the individual's daily routines (Amiot et al., 2007; Swann & Bosson, 2010).

4. The sample reflects participants in a general population, not a criminal justice, sample. Thus, the demographics also tend to reflect the U.S. population more than a criminal justice sample with 52.5% female respondents.

5. Some readers may be curious about the meaning of negative ICI scores. Implicit criminal identity studies to date have reported similar findings where ICI score averages tend to hover around 0 (Rivera & Veysey, 2015; Saad et al., 2022). It is not unusual to find these types of effects in implicit social cognition studies in which the target is a highly stigmatized group. Across studies, IAT scores should not be interpreted so much by positive or negative valence, but rather as relative (or individual differences in) implicit or automatic associations.

6. We used 10,000 bootstrapping in the regression models because it offers the advantage of making more accurate inferences when a sample size is not large (Fox, 2015).

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