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Self-Perceptions of Attractiveness and Offending During Adolescence

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Abstract

Despite a well-established body of research demonstrating that others' evaluations of a person's physical attractiveness carry significant meaning, researchers have largely ignored how self-perceptions of physical attractiveness relate to offending behaviors. Applying general strain theory and using eight waves of panel data from the Adolescent Academic Context Study, we explore how self-perceptions of attractiveness relate to offending as youth progress through school. Results demonstrate that youth who perceive themselves as more attractive engage in more—not less—offending. Depression, which is treated as a form of negative affect, does not appear to mediate this relationship. We conclude by raising attention to the possibility that being "good-looking" may actually be a key risk factor for crime.

Keywords

general strain theory; attractiveness; crime; deviance

Introduction

As Cullen (2011) highlighted in the 2010 Sutherland Address at the annual meeting of the American Society of Criminology, the field of criminology is replete with studies examining various correlates of offending among adolescents. While the laundry list of factors that relate to offending is too long to list here, many of the factors which are considered to be most theoretically and empirically important circulate around the importance of family ties (Hirschi, 1969), peer relationships (Gallupe et al., 2019), school factors (Na & Gottfredson, 2013), mental health and well-being (Chung et al., 2002), static traits (Hay & Forrest, 2006), sex/gender identity (Steffensmeier & Allan, 1996), and age-graded factors (Sampson & Laub, 1992). While the importance of these central criminological concepts is firmly rooted within the field, there has been an increased call for criminologists to examine a wider variety of risk, protective, and promotive factors for offending (see a discussion of "not-so-apparent risk factors" by Mowen et al., 2020). Several examples of this include research examining the linkages between deviance and "failing at life" (Pratt et al., 2016), cortisol

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levels (Cooke et al., 2020), and poor sleep (Mears et al., 2020). While keeping in mind the sociological and psychological underpinnings of the field of criminology, this study contributes to the research by examining how the 'not so apparent' factor of self-perceptions of physical attractiveness relates to offending as adolescents age.

As Rayburn and Wright (2009) rather bluntly note, "A basic fact, confirmable by the simplest of observations, is that some people are attractive and others are not (p. 347)." Primarily coming from the field of psychology, studies have shown that individuals are often judged by others based on their level of physical attractiveness (e.g., Naumann et al., 2009; Petrican et al., 2014; Zaromatidis et al., 2004). People who are perceived as attractive by others tend to be viewed as possessing more desirable characteristics like higher levels of intelligence and competence (Romano & Bordieri, 1989), greater skill at performing a variety tasks (Wapnick et al., 1998), increased suitability as a romantic partner (Spreadbury & Reeves, 1979), and lowered perceptions of guilt among court-involved defendants (Desantts & Kayson, 1997; Stewart, 1980). People even prefer playing as more attractive video game characters than less attractive characters (Principe & Langlois, 2013). Among adolescents, specifically, extant research shows that youth who are perceived as better looking are viewed as more popular by their peers (Boyatzis et al., 1998) and better students by their teachers (Clifford, 1975; Kenealy et al., 1988).

Despite some notable exceptions (e.g., Gutierres et al., 1999; Mulford et al., 1998), research on the link between attractiveness and social outcomes tends to focus almost exclusively on the evaluations of attractiveness by others. Because physical attractiveness influences how others perceive and evaluate us (Rayburn & Wright 2009: 348), it should not be surprising that self-perceptions of our *own* attractiveness might shape our experiences and behaviors as well. Supporting this possibility which invokes the philosophy of Cooley's looking-glass self (1972), some limited empirical evidence (e.g., Page, 1993) has shown that self-perceptions of a person's physical attractiveness may be intertwined with behavior. Although studies in this area are limited in both scope and number, research demonstrates that lower self-perceptions of attractiveness are significantly linked to greater depressive symptoms (McCabe & Marwit, 1993) and substance use (Page, 1993) among youth. Despite this, criminological research in this area provides little theoretical understanding into why and how self-perceptions of attractiveness are related to deviance and offending (exceptions are discussed in the subsequent section).

The goal of the present study is twofold. First, we address the undertheorized aspect of the linkage between deviance and self-reported physical attractiveness by drawing from general strain theory (Agnew, 1992), thus providing a framework that elucidates and clarifies the theoretical link between self-perceptions of attractiveness and offending. Second, through the application of general strain theory, we provide the first empirical test of the link between self-perceptions of attractiveness and deviance among youth as they progress through school. To accomplish this, we use longitudinal panel data from the Adolescent Academic Context Study (AACS), an eight-wave panel study of youth. Prior to discussing analytics, we begin with an overview of the existing scholarship on physical attractiveness and behavior and then place this discussion within the framework of general strain theory.

Prior Research on Attractiveness

At least as far back as the 1960s, scholars have recognized that physical attractiveness is a key organizing concept for behavioral expectations of others. Studies during this era tended to find that attractiveness of a potential partner was particularly important for dating preferences (e.g., Kiesler & Baral, 1970; Walster et al., 1966). A study on dating frequency found that women preferred physical attractiveness of a partner over desirable personality characteristics (Spreadbury & Reeves, 1979). Other studies similarly found that attractive individuals were rated more favorably across a wide range of characteristics—being happier, more humorous, and assertive—than individuals rated as less attractive (Miller, 1970). Even among youth, better looking children are rated more favorably than less attractive children by their peers (Dion & Berscheid, 1974) and teachers (Clifford, 1975). Overall, these studies tend to confirm that perceptions of attractiveness by others are linked with key behavioral and social expectations.

More recent research tends to echo the importance of attractiveness in the perceptions of others. Romano and Bordieri (1989) found that students perceived attractive professors as more competent than less attractive professors, and students also reported a greater likelihood of recommending attractive professors to other students than less attractive professors. Similarly, Wapnick et al. (1998) found that more attractive violinists were rated much higher on musical performance scores than less attractive violinists, thus suggesting that individuals ascribe more positive characteristics to more attractive individuals than less attractive individuals. An experiment by Desantts and Kayson (1977) found that among a fictitious burglary case, more attractive defendants were awarded more lenient sentences than less attractive defendants. Overall, these studies reveal that physically attractive people tend to be evaluated more positively than less attractive people.

Despite extant studies highlighting that other people's evaluations of one's attractiveness are key indicators of perceptions of a variety of individual-level characteristics, this research is limited in two specific ways. First, the majority of prior research on physical attractiveness tends to focus on others' perceptions of attractiveness and has tended to overlook the relationship between one's own attractiveness beliefs and behavior (some notable exceptions to this are discussed momentarily). Second, although studies have tied perceptions of attractiveness—from either the respondent or others—to a variety of outcomes (previously discussed), we are aware of only one study which directly examines the link between attractiveness and offending.

Toward the first limitation, we are aware of only a handful of studies that specifically examine the link between one's self-perceptions of attractiveness and behavioral outcomes. Using data from 1,297 high school students, Page (1993) examined the link between an actor's perceived physical attractiveness and his/her substance use. Findings revealed that young women who perceived themselves as unattractive were four times more likely to use illicit substances like cocaine and marijuana than those who rated themselves as more attractive. Males who rated themselves as less attractive were more likely to use chewing tobacco than more attractive males, though there was no significant variation among other substances. In a smaller study of 57 youth aged 9 to 12, McCabe and Marwit (1993) found that youth who perceived themselves as less attractive reported higher levels of

depressive symptoms than youth who perceived themselves as more attractive. In examining the effect of media on self-perceptions of worth, Patrick et al. (2004) found that women with lower perceptions of attractiveness reported more negative feelings about themselves when presented with advertisements of popular women's magazines (Patrick et al., 2004; see also Bissell & Rask, 2010). Although studies on self-perceptions of attractiveness and behavior are much smaller in number than those based in others' evaluations, these studies demonstrate that self-perceptions of attractiveness are potentially a key influence on other social and behavioral characteristics.

The second key limitation regards the dearth of research on the link between physical attractiveness and offending. To our knowledge, only one study has even broached this topic. Rayburn and Wright (2009) recruited 42 participants to rate the attractiveness of photographs of individuals who were on the sex offender registry in the state of Florida. This study captured attractiveness as rated by others, not the actual sex offenders themselves (thus falling susceptible to the first limitation of this set of research). The sample of photos of registered sex offenders included twelve individuals who were classified as less serious (nonviolent) offenders and twelve individuals classified as more serious (violent/multiple) offenders. Although the 42 participants did not know which photograph corresponded to which category of offender, participants rated the less serious offenders as significantly more attractive than the more serious offenders. The authors concluded that "the result seems to imply either that less attractive men in fact commit more heinous offenses, or in any case that they are convicted of more heinous offenses whether they in fact commit such offenses or not" (p. 348–349). To explain these findings, Rayburn and Wright drew from the frustration-aggression hypotheses to suggest that "ugly" individuals experience a lifetime of discrimination and rejection which ultimately leads to increased prevalence and seriousness of offending. Although their study confirms that individuals proscribe less serious offenses to more attractive individuals, the results do not confirm whether attractiveness is in fact related to actual offending. However, and key to this study, their results do suggest that attractiveness and offending *may* be intertwined.

Overall, these two limitations raise an intriguing possibility. On one hand, it is clear that self-perceptions of attractiveness are linked to certain behaviors like substance use (Page, 1993) as well as negative states such as depression (McCabe & Marwit, 1993; Patrick et al., 2004). On the other hand, as Rayburn and Wright (2009) hypothesize (but do not confirm), it is *possible* that less attractive individuals may be more deviant than more attractive individuals. Toward providing theoretical clarity and nuance into this issue, we now place these findings within the framework of general strain theory (Agnew, 1992).

General Strain Theory and Attractiveness

General strain theory (Agnew, 1992) draws heavily from Merton's (1940) anomie theory. Anomie theory posits that deviance is an outcome of strain stemming from a disjuncture between broad social goals and an inability for individuals to achieve those goals through acceptable, normative means. Whereas anomie theory focuses on objective strain—largely blocked economic opportunities—as the primary causal agent of offending, general strain theory expands on anomie by including subjective sources of strain to better explain

individual-level deviance. These non-mutually exclusive sources of strain include (1) the failure to achieve positively valued goals, (2) the removal of positively valued stimuli, and (3) the presence of negative stimuli. When combined with negative affective states—emotional reactions to subjective strains such as depression or anger—the strain is theorized to result in deviant behavior. As we discuss below, perceptions of attractiveness fit into each of the non-mutually exclusive sources of strain.

The first source of strain, failure to achieve positively valued goals, focuses on the disjuncture between goals and achievement. For Agnew (1992), this could include the inability to achieve monetary success (highlighting the theory's roots in anomie theory [Merton, 1940]), have healthy relationships, and even have an idealistic body type. For example, Ford et al. (2014) find that in the U.S.—a society that spends billions of dollars on gym memberships, weight loss drugs, and cosmetic surgery—obesity is an example of a failure to achieve a positively valued goal. Likewise, in a society that values attractiveness, a failure to conform to society's standards of beauty is likely a failure to achieve a positively valued goal.

The second source of strain, removal of positively valued stimuli, focuses on the loss of prosocial or positive life experiences (Agnew, 1992). Being unattractive represents a removal of the positively valued social position of being "good looking" and can prevent individuals from acceptance into peer groups, employment, and interaction with others (Rayburn & Wright 2009). Supporting this, research has found that unattractive individuals are less likely to be hired for a job than more attractive individuals and may be less likely to be promoted (Dipboye et al., 1977; see also Lee et al., 2015). As adolescents age into late adolescence and emerging adulthood, the peer group gets increasingly important (Elder et al., 2003). From the perspective of general strain, less attractive adolescents could find it harder to earn or sustain valued friendships during a period of life in which the peer group is a key factor to everyday social life, thus resulting in the removal of a positively valued stimuli.

The third source of strain is the presence of negative stimuli or, stated differently, undergoing unpleasant or noxious experiences. Broadly, it is entirely possible that "feeling ugly" represents the presence of negative stimuli in a society that values ideal body shapes and perfection (e.g., Ford et al. 2014). Less attractive people are likely treated more negatively than more attractive people; as Rayburn and Wright (2009) observe, "All of us, day in and day out, whether consciously or not, pay more and kinder attention to people we find attractive than to people we find to be homely or plain (p. 348)." Given the research finding that adolescents rate more attractive peers as being more socially prestigious than less attractive peers (e.g., Dion & Berscheid, 1974), being unattractive may result in exclusion, bullying, and teasing at school. Moreover, based on the research on dating preferences (e.g., Spreadbury & Reeves, 1979), being unattractive could result in an inability to form meaningful relationships or rejection by others. Regardless of the scenario, general strain theory provides a pertinent, organizing framework to help hypothesize how deviance and attractiveness should be related.

A key to Agnew's (1992) theory is that not everyone who experiences strain engages in deviance. Since strains are subjective, they are not enough to lead to offending behaviors

on their own. Instead, general strain theory suggests that the effect of strain on offending operates through the presence of negative affect states (Agnew, 1992). Negative affect refers to negative emotional reactions such as anger, depression, and anxiety which call for corrective actions. Thus, in the absence of prosocial coping mechanisms, negative affect leads to deviance. In the case of adolescents, it is likely that the negative affective state of depression will mediate the link between strain caused by being less attractive and offending behaviors, thus raising attention to the goals of this study.

Current Study

Using eight waves of panel data and longitudinal analysis techniques, this study examines the relationship between self-perceptions of physical attractiveness and crime among adolescents. Although research on physical attractiveness and crime is relatively underdeveloped, general strain theory provides for a cohesive theoretical way of thinking about how and why attractiveness and deviance may be linked. When placed within the theoretical framework of general strain theory (Agnew, 1992), it is likely that lower perceptions of attractiveness—as a source of strain—will significantly relate to elevated levels of deviance. General strain theory also suggests that negative affect should mediate the relationship between strain and deviant outcomes. Based on these expectations, we offer two hypotheses. First, we expect that (H1) greater self-perceptions of attractiveness will relate to decreased levels of deviance. Second, we expect that (H2) depressive symptoms —as a form of negative affect—will mediate the relationship between attractiveness and deviance.

Methods

Data

Data for this project come from the Adolescent Academic Context Study (AACS). AACS is a longitudinal panel study that lasted 4 years and was a collaborative project between Bowling Green State University and the Lakeport City School District (LCSD) (a pseudonym to protect confidentiality). Lakeport was chosen for this study because the ethno-racial demography is much closer to national averages than other small cities in the surrounding Great Lakes Region. The U.S. Census reports that the city had about 16,500 residents in 2010, a drop of nearly 4% since 2000 (U.S. Census, 2010). The population living in the Lakeport City School District (LCSD) was stable at around 31,000 in 2010. The Ohio Department of Education classified LCSD at the time of this data collection as a “Group 1” district, which are characterized by higher-than-average poverty, the lowest median income level, and the lowest percentage of population with college degrees. “Group 1” districts are most commonly found in the Appalachian areas of Ohio (Ohio Department of Education, 2007).

The overall goal of the AACS was to examine adolescent development and school contextual climate. During the early fall of 2009, all students between grades seven through ten in the middle and high school were invited to participate in the study with an 89% response rate for the middle school and 74% for the high school. Primary data collection then occurred twice a year between 2009 and 2013. Wave one data, collected in the fall

of 2009, included 1,044 students spread across the four grades in the LCSD. Surveys were distributed at the beginning of fall semester and end of spring semester, resulting in a total of eight waves of data. A variety of measures were collected from the survey including questions about the school climate and environment, student attitudes toward school, family influences, identity, academic achievement, and some questions about mental health (for more information see Adolescent Academic Context Study [AACS], 2020; Gerard & Booth, 2015). Beginning in wave three, the AACS introduced questions about deviance (described in greater detail momentarily) because of influences from the first year of the study. For the current study, we draw a number of time invariant measures from wave 1 (also described momentarily) but place our central emphasis on time varying measures from waves three to eight because of the way the study's design was constructed.

Dependent Variables

This study consists of one dependent measure encompassing a broad range of deviant behaviors along with four subscales of specific deviant acts collected across waves three to eight. The measure of *general deviance* is comprised of 15 items (from the ADD Health Study) that asked the respondent about a variety of behaviors including how often they: (1) painted graffiti, (2) damaged property, (3) lied to parents, (4) shoplifted, (5) got in a serious fight, (6) hurt someone badly enough to injure them, (7) ran away from home, (8) drove a car without permission, (9) stole something worth more than $50, (10) burglarized a building, (11) used or threaten someone with a weapon, (12) sold drugs, (13) stole something worth less than $40, (14) took part in a group fight, and (15) got rowdy in a public place. Possible response categories were coded along a four-point scale (0 = *never*, 1 = *one or two times*, 2 = *three or four times*, 3 = *five or more times*), and the alpha among these items at baseline ($\alpha = 0.882$) indicates high levels of inter-item reliability (Cronbach, 1951). Items were summed together, and the resulting scale has a mean of 3.283, a standard deviation of 6.305, and a range from 0 (*no deviance*) to 42 (*a great deal of deviance*). As a time varying measure, the within-individual standard deviation is 3.988. Descriptive statistics for all variables used in the forthcoming analysis are displayed in Table 1.

Although general deviance scales are useful, there may be key differences across subtypes of offending (Elliott, 1990). To examine differences by type of offending, we created four subscales encompassing violence, theft, property destruction, and drug sales. To capture *violence*, items capturing getting into a serious fight, hurting someone badly enough to injure them, and participating in a group fight were summed together (mean = 0.608, standard deviation = 1.587, within-person standard deviation = 1.003, range = 0–9, $\alpha = 0.792$). *Theft* was created by combining items capturing shoplifting, stealing something worth more than $50, stealing something worth less than $50, and burglarizing a building (mean = 0.657, standard deviation = 1.962, within-person standard deviation = 1.298, range = 0–12, $\alpha = 0.802$). *Property destruction* includes damaging property and painting graffiti (mean = 0.514, standard deviation = 1.183, within-person standard deviation = 0.725, range = 0–6, $\alpha = 0.724$). Finally, given the low frequency of students who reported ever selling drugs, we collapsed the *drug sales* into a binary measure to represent youth who reported selling drugs at each wave (5.9%) in contrast to students who reported not selling drugs at each wave (mean = 0.059, standard deviation = 0.235, within-person standard deviation =

0.150). All subscales are time variant as respondents reported changes in deviance across waves.

Focal Independent Measure: Self-Perceptions of Attractiveness (General Strain)

The focal independent measure in the current study is *self-perceptions of attractiveness*. To capture attractiveness, we draw from a single question that asked respondents across waves three through eight to rate the extent to which they thought they were good looking. Possible responses ranged along a 4-point scale (1 = *not at all good looking*, 2 = *not very good looking*, 3 = *fairly good looking*, and 4 = *very good looking*). The overall mean for this measure is 3.175 (standard deviation = 0.665), indicating that most respondents reported being "fairly" or "very" good-looking. This is a time variant measure (within-person standard deviation = 0.389). Lower values on this measure represent greater strain.

Focal Independent Measure: Depressive Symptoms (Negative Affect)

In line with Agnew's (1992) general strain theory, we examine the extent to which negative affect mediates the link between perceptions of physical attractiveness and each deviant outcome. Although general strain theory highlights the importance of multiple forms of negative affect such as anger and anxiety (e.g., Piquero & Sealock 2000; Sigfusdottir et al., 2004), we focus on *depressive symptoms* (Radloff, 1977) for two reasons. The first is a practical limitation: The AACS data do not include measures of anger nor anxiety (please see a detailed review of why this is substantively important in the Discussion section). The second reason for our focus on depression is summarized by Remster (2014), who notes that "research has repeatedly documented the link between depression and delinquency (p. 66)." Even amidst numerous other ley correlates of offending, depression is robustly tied to offending behaviors (Siennick, 2007).

The AACS data contain five items designed to capture depressive symptoms in waves three to eight. Measured along a four point Likert-type scale (1 = *never/rarely*, 2 = *sometimes*, 3 = *a lot of the time*, and 4 = *always/most of the time*), respondents were asked how often they: 1) had the blues, 2) felt depressed, 3) felt sad, 4) felt lonely, and 5) felt that life was not worth living. These items were summed together to create a measure of depressive symptoms (mean = 8.231, standard deviation = 3.395, range = 5–20). Higher values on this scale indicate greater levels of depressive symptoms (alpha = 0.880).

Time Variant Controls

To protect against omitted variable bias, we include a number of time variant control measures drawn from waves three to eight. First, we account for academic performance by including a measure indicating the respondent's grade-point average in English, math, and science classes. Students were asked to provide their letter grade along an ordinal scale (0 = F, 1 = D, 2 = C, 3 = B, 4 = A) for each of the three sets of courses. We averaged student reported data for English, math, and science classes together. The overall mean for this measure is 3.173, indicating that the average person reported having a grade in the B range (standard deviation = 0.685, within-person standard deviation = 0.300).

Student bonds to teachers are captured by combining a total of four items that asked the respondent about their experiences with teachers in school. Specifically students were asked how much they agreed/disagreed with the following statements: (1) most of my teachers make this school and exciting place to learn; (2) this is a very caring school/the teachers care about us; (3) most of my teachers put a lot of time and energy into their teaching; and (4) in this school, many teachers spend a lot of their time helping students with their school work. Possible responses ranged along a four-point Likert-type scale (1 = *strongly disagree*, 4 = *strongly agree*). Items were summed together (mean = 10.944, standard deviation = 2.400, within-person standard deviation = 1.381, range = 4–16). The items scale consistently (α = 0.775).

To account for family effects, we draw from a number of questions asking the respondent about the extent to which their mother engages with them outside of school in a manner which provides academic support. Specifically, questions asked the extent to which their mother: (1) is very interested in my school work; (2) often helps me with my homework; (3) often speaks to me about my school work; (4) often praises me for the things I do in school; (5) is a great support for me in school; (6) gives me great encouragement to stay in school; and (7) tells me that a good education is important. Possible responses ranged along a four-point Likert-type scale (1 = *strongly disagree* to 4 = *strongly agree*), and the alpha among these measures is 0.897. This measure has a mean of 21.993, a standard deviation of 4.457 (within-person standard deviation = 2.437), and ranges from 7 (*low maternal engagement*) to 28 (*high maternal engagement*).

We also account for self-efficacy by drawing data from seven items that asked the respondent along a four-point Likert-scale (1 = *strongly disagree* to 4 = *strongly agree*): (1) I am certain that I can learn the skills taught in school this year; (2) I can do even the hardest work in school if I try; (3) If I have enough time, I can do all my class work; (4) I can do almost all the class work if I don't give up; (5) even if school work is hard, I can learn it; (6) I am certain I can figure out how to do the most difficult school work; and (7) no matter how hard I try, there is some school work I'll never be able to do (reverse coded). The items scale reliably (α = 0.865). This summated scale has a mean of 22.286, a standard derivation of 3.647 (within-person standard deviation = 2.071), and ranges from 7 (*lowest self-efficacy*) to 28 (*highest self-efficacy*).

Finally, we include a separate control to account for the amount of general social support each adolescent receives. This measure is drawn from one item that asked the respondent how much they agreed/disagreed with the statement: I have all the support from my family or friends that I need (1 = *strongly disagree* to 4 = *strongly agree*). The mean for this item is 3.280, indicating that students tended to fall between "*agree*" and "*strongly agree*" (standard deviation = 0.710, within-person standard deviation = 0.464).

Time Invariant Controls

In addition to time variant measures, we also control for a number of time invariant measures drawn from the first wave. Prior research has linked popularity to deviance (e.g., Rebellon et al., 2019). As a proxy for this, we include data from a question that asked respondents how much they agreed/disagreed with the statement "I have many friends

at this school." Responses ranged from 1 (*strongly disagree*) to 4 (*strongly agree*). This measure has an overall mean of 3.532 and a standard deviation of 0.663 (this measure could have potentially varied across time, but there was hardly any within-person change in this measure).

We also include gender as a dummy variable with females (52.1%) contrasted against males (47.9%). Race/ethnicity is included as a series of dummy variables indicating that the student self-reported being Black (5.5%), Hispanic (10.8%), or Other (22.0%) in contrast to White (61.7%). The other category is primarily comprised of students who self-identified as multiracial. Finally, we include age at wave one. Overall, the mean age for the AACS sample at wave one is 13.579 (standard deviation = 1.197, range = 11–17 years old).

Analytic Strategy

As the AACS's design is longitudinal data where the panel of youth were sampled at multiple time points, a model must be used that is able to account for a lack of independence over time. Random effects models introduce a random intercept by nesting time within the individual and are common tools that are used to examine deviance within a longitudinal context (Rabe-Hesketh & Skrondal, 2006). Because some students graduate within the 4-year data collection period, this modeling approach also retains youth within the sample as long as they have completed at least two waves of data. Of the 1,044 individuals included in the AACS at wave one, we use data from a total of 783 youth, or 75% of the original sample.

Our general strain-inspired research question necessitates a model-building procedure. Accordingly, our models have several steps. In the first step model for each dependent variable, we examine the relationship between self-perceptions of physical attractiveness and deviance with control variables included. Then, to test the premise of general strain theory —that negative affect mediates the relationship between strain (physical attractiveness) and deviance—we introduce our measure capturing negative affect (depressive symptoms) into model two.

We note that several dependent variables—general deviance, violence, theft, and property destruction—are significantly skewed with a right tail. To account for this, we estimated models using a natural logarithmic transformation for the dependent variables and the substantive results were the same. For easier interpretation of the results, we use the non-logged dependent measures in the forthcoming analyses. To be able to easily compare effect sizes, all coefficients presented in the tables are standardized. Finally, we use a generalized linear mixed-effects model for the drug sales outcome since it is binary (Rabe-Hesketh & Skrondal, 2008).

Results

Prior to presenting the results, we first examined correlations and variance inflation factors to check models for symptoms of multicollinearity. No variation inflation factor exceeded a value of 1.56 in any of the models, thereby demonstrating that the covariance matrix and correlative structure of the independent variables are not causing issues of multicollinearity across the models (see Allison, 1991). Results of the mixed-effects models examining the

relationship between self-perceptions of physical attractiveness and general deviance are shown in Table 2. The first model's chi-square value ($\chi^2 = 241.62$) indicates that the model fits the data closely, and the intraclass correlation demonstrates that approximately 43% of the variation in general deviance occurs between youth. Substantive results reveal that self-perceptions of attractiveness are highly significantly associated with increased levels of general deviance. The standardized coefficient of the general strain-inspired measure indicates that a one standard deviation increase in attractiveness is associated with a 0.551 unit *increase* in general deviance. Results of the control measures reveal that higher grade point average, bonds to teachers, maternal engagement, self-efficacy, and general social support all relate to reductions in general deviance. Males and Hispanic youth tend to report significantly higher levels of deviance than women and other racial/ethnic youth, respectively.

Model 2 of Table 2 steps in the measure of negative affect. Adding this variable into the model significantly improves model fit to the data ($\chi^2 = 381.72$). Substantive results indicate that depressive symptoms are robustly related to elevated levels of general deviance. In contrast to the expectations of general strain theory, the inclusion of negative affect does not reduce the strength between of the association between strain (self-perceptions of attractiveness) and deviance. Interestingly, besides depressive symptoms ($\beta = 1.552$) and being male ($\beta = 1.024$), attractiveness is the most robust predictor of general deviance in this model ($\beta = 0.791$). Additionally, once negative affect is included in the model, the effect of general social support falls from significance, but otherwise the effects of the control variables are similar to model 1.

The next two sets of models are similar, but change out the general deviance measure in favor of each of the four subscales of deviance. Model 1 in Table 3 first examines the relationship between self-perceptions of physical attractiveness and violence. Like the prior analysis, higher perceptions of attractiveness are significantly associated with increased—and not decreased—violent deviance. Substantive results of the control variables are similar to those presented in the prior table. Model 2 introduces the measure of negative affect. While depressive symptoms are again robustly related to violent offending ($\beta = 0.321$), this measure of negative affect does nothing to mediate the relationship between attractiveness and violence, failing to support H2. Besides the effect of depressive symptoms and being male ($\beta = 0.285$), attractiveness emerges as the most robust predictor of violence ($\beta = 0.203$) in model 2.

Model 3 in Table 3 examines theft as an outcome. Again, the model fits the data well and the substantive results show that physical attractiveness is significantly associated with theft in a positive direction. Unlike the prior models, academic performance is not significantly associated with theft behaviors, and we observe no difference between Black and White respondents. Otherwise, substantive findings for control measures are similar to the prior models. Model 4 introduces the negative affect measure of depressive symptoms. This measure is significantly and robustly related to theft in a positive direction. Again, we find no evidence that negative affect mediates the link between strain and offending.

Table 4 reports the final two sets of models. Model 1, which examines the outcome of property destruction, fits the data closely (Wald $\chi^2 = 279.22$). Results demonstrate that attractiveness is significantly associated with increased levels of property destruction. High levels of academic performance, bonds to teachers, maternal engagement, and self-efficacy, but not general social support, are associated with decreased property destruction. Male and Hispanic youth report increased property destruction relative to their counterparts. Model 2 steps in depressive symptoms and, like the prior models, this measure is significantly associated with increased property destruction and fails to mediate the attractiveness-property destruction link.

Two generalized mixed-effects models assessing drug sales are shown in models 3 and 4 of Table 4. Due to using a logit link on the dependent variable, we report odds ratios in place of standardized coefficients for ease of interpretation. Results in Model 3 once again show that attractiveness is significantly associated with higher odds of drug sales. While the results of the control measures generally mirror prior models, we observe no differences among racial/ethnic groups regarding selling drugs. Finally, model 4 introduces the measure of depressive symptoms. Overall, results show that depressive symptoms are associated with a 133% increase in the odds of drug sales, while attractiveness is associated with a 68% increase in the odds of drug sales. Besides depressive symptoms and being male, attractiveness is the most robust predictor of drug sales. Overall, we observe no situation where the negative affect of depressive symptoms mediates the relationship between physical attractiveness and deviance.

Discussion

The goal of this project was to examine the relationship between self-perceptions of attractiveness and offending. More specifically, we drew from general strain theory to examine the extent to which self-perceptions of physical attractiveness (a source of strain) related to a variety of deviant behaviors. Testing the key premise of general strain theory, we also considered the role which depression (a form of negative affect) played during this process. Using a longitudinal sample of youth, findings highlighted that attractiveness was a robust predictor of multiple forms of offending behaviors. We now return to our hypotheses and extant research to unpack our findings.

Our first hypothesis premised that greater perceptions of attractiveness would relate to decreased levels of deviance. Contrary to this hypothesis, results of a series of mixed-effects longitudinal panel models revealed the opposite: Greater levels of self-perceived attractiveness were significantly and robustly associated with increased general deviance, violence, theft, property destruction, and drug sales.

Our second hypothesis considered the specific role of depression, as a form of negative affect, in this process and premised that depression would mediate the link between self-perceptions of attractiveness and offending. Although depression was significantly related to all forms of deviance, we find no evidence that depression weakens or mediates the link between self-perceptions of attractiveness and offending.

The conglomerate of results raise attention to our overall—and unexpected—conclusion: Higher self-perceptions of physical attractiveness are related to greater levels of both general and specific forms of offending. From the perspective of general strain theory (Agnew, 1992), it could be that individuals who perceive themselves as more attractive experience greater levels of strain than youth who perceive themselves as less attractive. Although this seems counterintuitive, those who report feeling less attractive may not experience the co-occurring pressure to work to maintain this perception that more attractive youth encounter on a daily basis. Perhaps attractive people recognize that they are treated and evaluated more positively than less attractive people (e.g., Naumann et al., 2009; Petrican et al., 2014; Zaromatidis et al., 2004) and may fear losing this highly valued status—a fear which manifests itself in the form of strain. Cast against the backdrop of a 49.2 billion-dollar-a-year beauty industry (Shahbandeh, 2020) and broader societal obsessions over physical attractiveness (e.g., McCabe et al., 2020), it is no leap to understand that individuals fear losing this highly valued status. Moreover, given the pressures associated with adolescence more broadly, pressures to maintain a standing of physical attractiveness may be particularly salient for youth in the AACS sample. Future research is needed to confirm this and to more carefully probe how perceptions of attractiveness may function as a strain.

In addition to the potential theoretical explanation above, there is also some limited empirical research that offers two potential explanations for our findings. First, in a study examining differences in behavioral expectations among children/adolescents, Langlois and Styczynski (1979) found that attractive boys were perceived as more likely to get into fights, fail to get along with others, fail to follow rules, make fun of others, and as less competent than less attractive boys as they aged through school. When taken together with the results of this study, Langlois and Styczynski's (1979) findings *could* be reflective of actual reality: Better looking adolescents may simply be more deviant than less attractive adolescents. Placed within the looking-glass self (Cooley, 1972) and mechanisms of labeling (Lemert, 1951), it is theoretically plausible that individuals who perceive themselves as more attractive may be likely to take on socially ascribed roles that coincide with having an attractive identity. These roles could include more deviant behaviors such as aggression (Borch et al., 2011) and other forms of deviant behavior. Future research should more clearly unpack the labeling and self-identity-inspired mechanisms that may play a process within this role.

A second potential explanation involves the interrelationship between attractiveness, popularity, and deviance. It is relatively established that attractiveness is related to popularity among adolescents (e.g., Borch et al., 2011; Krantz et al., 1985). In a sample of 270 ninth graders, Boyatzis et al. (1998) found that after reading a vignette about academic performance, attractiveness, and popularity, students in the study rated more attractive high school students as significantly more popular than less attractive students. The importance of the nexus between popularity and attractiveness is that popularity has been tied to offending behaviors among adolescents. For example, Rebellon et al. (2019) found that more popular students engaged in more deviant behaviors—like risk taking—than less popular students. Likewise, in a study of 3,312 adolescents, Dijkstra et al. (2009) found that popularity was significantly and positively associated with aggressive and norm-breaking

behaviors. Moreover, positive features—including physical attractiveness—strengthened this relationship. And in a sample of 579 high school students, Borch et al. (2011) found that attractive students were perceived as more popular and more aggressive alike.

Given the research highlighting the positive link between popularity and offending among adolescents, our findings may be demonstrating that it is not necessarily self-perceptions of attractiveness *alone* that promote offending behaviors. Instead, it could be a combination of physical attractiveness and popularity together that result in elevated delinquency. This concept has been disseminated widely in popularized literature explaining adolescence by Wiseman (2013, 2016), who illustrates the strong link between attractiveness, popularity, and socially unacceptable behavior. Wiseman's qualitative inquiry illustrates that approximately 10% of boys fit into a high popularity elite crowd. Summarizing their social networks, Wiseman highlights that remaining in the elite group likely takes a great deal of effort and stress and may involve forcing others to do things they might not want to do (being a bully). Wiseman (2013) states that for the popular group, it is most important that they "look good" and "less important is actually being good" (p. 39). Although we account for the number of friends the individual has at the school, this measure is likely a poor approximation of popularity. Moreover, because our measures of offending behaviors tend to reflect "groupy" behaviors (Boman & Gibson, 2016), it is likely that these deviant behaviors were committed with friends. More popular students could have more opportunity to engage in "groupy" offenses than less popular students. Future research should examine both the moderating role of popularity and differences in the link between self-perceived attractiveness as "groupy" versus "non-groupy" offense types. It could be that less attractive students might report greater levels of individual-based offending such as self-harm, substance abuse, and suicidality as opposed to group-based offenses.

In addition to the theoretical and empirical implications, this study also carries policy implications. Research has tied low self-esteem to increased offending behaviors (Trzesniewski et al., 2006) and perceptions of attractiveness are likely tied to self-esteem. Our findings suggest that school officials, teachers, and parents must promote positive self-esteem among youth and young adults based on other characteristics and not physical attractiveness. Instead, effort should be placed into highlighting the importance of prosocial identity markers like strong academic performance and school engagement that have been shown to reduce offending. School officials could develop and implement curriculum and/or awareness campaigns that not only dampen the high value youth and young adults place on physical attractiveness, but also promote a focus on other aspects central to one's identity. Reducing the value placed on attractiveness in favor of alternative prosocial personal characteristics should contribute to decreases in offending.

Given research that finds that less attractive individuals are more likely to be found guilty of offenses (Desantts & Kayson, 1997; Rayburn & Wright, 2009; Stewart, 1980), our findings carry additional policy considerations. Although more research on is needed to either confirm or refute this statement, our findings suggest that less attractive people may not only experience discrimination in jury evaluations, but they may actually be less likely to offend in the first place. Taken together, our findings highlight a key policy-relevant

disjuncture: Although less attractive people may be punished more harshly, they appear to be less likely to offend in the first place.

Despite the contributions of this study, there are some notable limitations. First, there are key limitations to our data and methods. This study encompasses students in Ohio and may not speak to broader experiences of youth in other areas of the United States. Echoing our sentiments above, our dependent variable is limited to criminal offenses and does not capture a wide-range of deviance such as interpersonal deviance. There are likely other physical characteristics that influence the way in which individuals are treated such as racial identity (see Benson et al., 1976). The AACS sample includes a significant number of individuals who self-identity as multiracial and it is possible that individuals are treated differently based on their racial category and how others perceive them (see Benson et al., 1976). Future research should explore not only racial self-identification within the process of self-perceiving one's own physical attractiveness, but also perceptions of racial identity and attractiveness by others.

In addition to data limitations, there are also some key theoretical limitations. Prior research invoking general strain theory also highlights key roles of anger and anxiety—in addition to other forms of negative affect—in understanding deviant outcomes (e.g., Agnew 2017). Besides depression, we were unable to explore additional forms of negative affect due to data limitations. This places notable limitations on our theoretical test of general strain theory, thus highlighting a need for future research in this area. Similarly, prior research has highlighted the gendered nature of general strain theory whereby particular types of negative affective states may be more or less impactful by gender (see Manasse & Ganem, 2009). Although scholarly perceptions of gender differences in depression tend to highlight that adolescent girls are more likely than adolescent boys to exhibit depressive symptoms (see an overview by Nolen-Hoeksema, 2001), recent research has argued that girls may not experience depression more than boys. Instead, girls may be socialized to express their depressive behaviors differently than boys. Whereas girls are socialized to internalize their feelings and emotions, boys are encouraged to display their emotions in outward behaviors and therefore demonstrate what may appear to be anger (Ryan et al., 2017). Thus, due to differences in the way in which two different emotions (anger *or* depression) are expressed, both could actually be depression. Although there is evidence that depression is likely a key correlate to crime for both girls and boys, future research should further refine this understanding by exploring gendered pathways in the link between physical attractiveness, negative affective states, and offending.

In a similar vein to refining gender differences in the strain-offending relationship, future research should also examine the independent influence of self-perceptions of attractiveness on offending by gender. Prior research, for example, has found that self-perceived attractiveness has significantly greater effects on self-perceptions (e.g., self-esteem) for females compared to males (Bales & Archer, 2013). Research on the cosmetic industry, which is largely targeted at females, tends to show that women are more positively evaluated when employing cosmetics than men (Nash et al., 2006). This perhaps serves to underscore the significant pressures women in the United States face in adhering to social standards of attractiveness. Although studies have found that boys and girls both evaluate their

attractiveness in comparison to other adolescents, girls tend to engage in significantly more social comparisons to others than boys (Jones, 2001).

Overall, this study offers a novel contribution to understanding the etiology of offending behaviors among adolescents. Perceiving oneself as attractive is robustly tied to elevated levels of offending behaviors among youth as they progress through school. While we largely agree with Rayburn and Wright (2009) that in everyday life "it is better to be good-looking than ugly" our findings suggest this may not be true at all when it comes to crime (p. 349).

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Table 1.

Descriptive Statistics of the Adolescent Academic Context Study (AACS) Data (n = 783).

Variable	Mean	*SD*	Range	*SD* Within
Dependent variables				
General deviance	3.283	6.305	0–42	3.988
Deviance subscales				
Violence	0.608	1.587	0–9	1.003
Theft	0.657	1.962	0–12	1.298
Property destruction	0.514	1.183	0–6	0.725
Drug sales	0.059	0.235	0, 1	0.150
Focal independent measure				
Self-perceptions of attractiveness	3.175	0.665	1–4	0.368
Negative affect				
Depressive symptoms	8.231	3.395	5–20	1.956
Time variant controls				
Grade point average	3.173	0.685	0–4	0.300
Bonds to teachers	10.944	2.400	4–16	1.381
Maternal engagement	21.993	4.457	7–28	2.437
Self-efficacy	22.286	3.647	5–20	2.071
General social support	3.280	0.710	1–4	0.464
Time invariant controls				
Number of friends	3.532	0.660	1–4	—
Gender				
Female	0.521	0.500	0, 1	—
Male	0.479	0.500	0, 1	—
Race/Ethnicity				
White	0.617	0.486	0, 1	—
Black	0.055	0.228	0, 1	—
Hispanic	0.108	0.310	0, 1	—
Other	0.220	0.414	0, 1	—
Age	13.579	1.197	11–17	—

Note. *SD* = standard deviation.

Table 2.

Mixed-Effects Models Examining General Deviance (n = 783).

	Model 1		Model 2	
Variable	**β**	***SE***	**β**	***SE***
Focal independent measure				
Self-perceptions of attractiveness	0.551	0.134***	0.791	0.132***
Negative affect				
Depressive symptoms	–	–	1.552	0.137***
Time variant controls				
Grade point average	−0.976	0.158***	−0.890	0.154***
Bonds to teachers	−0.502	0.138***	−0.452	0.135***
Maternal engagement	−0.484	0.143***	−0.372	0.139**
Self-efficacy	−0.707	0.148***	−0.627	0.145***
General social support	−0.328	0.136*	−0.087	0.134
Time invariant controls				
Number of friends	0.212	0.183	0.299	0.178
Gender				
Male	0.753	0.178***	1.024	0.175***
Race/Ethnicity				
Black	0.325	0.192	0.235	0.187
Hispanic	0.557	0.186**	0.513	0.181**
Other	0.093	0.181	−0.020	0.177
Age	−0.275	0.191	−0.222	0.186
Constant	3.611	0.179***	3.622	0.175***
Intra-class correlation	0.430		0.428	
R^2	0.125		0.166	
Wald χ^2	241.62***		381.72***	

Note. β = standardized coefficient; *SE* = standard error.

* $p \leq .05$.

** $p \leq .01$.

*** $p \leq .001$.

Table 3.

Mixed-Effects Models Assessing Violence and Theft (n = 783).

	Violence				Theft			
	Model 1		Model 2		Model 3		Model 4	
Variable	**β**	***SE***	**β**	***SE***	**β**	***SE***	**β**	***SE***
Focal independent measure								
Self-perceptions of attractiveness	0.154	0.034***	0.203	0.034***	0.136	0.043**	0.205	0.043***
Negative affect								
Depressive symptoms	-	-	0.321	0.035***	-	-	0.435	0.044***
Time variant controls								
Grade point average	−0.251	0.040***	−0.232	0.040***	−0.181	0.050***	−0.155	0.049**
Bonds to teachers	−0.111	0.035***	−0.101	0.034**	−0.103	0.044*	−0.090	0.044*
Maternal engagement	−0.067	0.036	−0.044	0.036	−0.100	0.046*	−0.070	0.045
Self-efficacy	−0.140	0.037***	−0.124	0.037***	−0.289	0.048***	−0.265	0.047***
General social support	−0.095	0.034**	−0.045	0.034	−0.028	0.044	0.041	0.044
Time invariant controls								
Number of friends	0.037	0.047	0.055	0.047	0.019	0.056	0.042	0.055
Gender								
Male	0.229	0.046***	0.285	0.046***	0.166	0.054**	0.242	0.054***
Race/Ethnicity								
Black	0.132	0.049**	0.114	0.049*	0.104	0.059	0.079	0.058
Hispanic	0.182	0.048***	0.173	0.047***	0.147	0.057*	0.135	0.056*
Other	0.026	0.047	0.003	0.046	0.054	0.056	0.022	0.055
Age	−0.092	0.049	−0.081	0.049	−0.095	0.059	−0.080	0.058
Constant	0.685	0.046***	0.687	0.046***	0.728	0.055***	0.732	0.054***
Intra-class correlation	0.446		0.450		0.380		0.378	
R^2	0.116		0.141		0.078		0.110	
Wald χ^2	225.91***		315.85***		152.13***		253.69***	

Note. β = standardized coefficient; *SE* = standard error.

* $p \leq .05$.

** $p \leq .01$.

*** $p \leq .001$.

Table 4.

Mixed-Effects Models Assessing Property Destruction and Generalized Mixed-Effects Models Assessing Drug Sales (n = 783).

	Property destruction				Drug sales			
	Model 1		Model 2		Model 3		Model 4	
Variable	**β**	**SE**	**β**	**SE**	***OR***	**SE**	***OR***	**SE**
Focal independent measure								
Self-perceptions of attractiveness	0.071	0.025**	0.107	0.025***	1.463	0.209**	1.678	0.242***
Negative affect								
Depressive symptoms	-	-	0.234	0.026***	-	-	2.332	0.322***
Time variant controls								
Grade point average	−0.189	0.030***	−0.177	0.029***	0.499	0.078***	0.499	0.078***
Bonds to teachers	−0.099	0.026***	−0.092	0.025***	0.840	0.121	0.824	0.120
Maternal engagement	−0.072	0.027**	−0.055	0.026*	0.655	0.096**	0.720	0.107*
Self-efficacy	−0.083	0.028**	−0.071	0.027**	0.560	0.093***	0.643	0.105**
General social support	−0.029	0.025	0.006	0.025	0.786	0.111	0.858	0.123
Time invariant controls								
Number of friends	0.007	0.035	0.020	0.034	1.418	0.289	1.467	0.296
Gender								
Male	0.203	0.034***	0.243	0.034***	1.906	0.359***	2.317	0.446***
Race/Ethnicity								
Black	0.011	0.037	−0.003	0.036	1.110	0.191	1.116	0.186
Hispanic	0.067	0.036	0.060	0.035	1.124	0.193	1.099	0.188
Other	−0.006	0.035	−0.023	0.034	0.925	0.168	0.871	0.158
Age	−0.067	0.037	−0.059	0.036	0.904	0.171	0.963	0.179
Constant	0.562	0.034***	0.563	0.034***	0.005	0.002***	0.005	0.002***
Intra-class correlation	0.459		0.452		0.662		0.645	
R^2	0.111		0.140		—		—	
Wald χ^2	189.65***		279.22***		69.06***		88.65***	

Note. β = standardized coefficient; *OR* = odds ratio; *SE* = standard error.

* $p \leq .05$.

** $p \leq .01$.

*** $p \leq .001$