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Alex R. Piquero

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# “Take My License n’ All That Jive, I Can’t See ... 35”: Little Hope for the Future Encourages Offending Over time

*Alex R. Piquero*

A very small number of studies has observed that persons who perceive an early age-at-death report a higher risk of offending. This literature, however, is limited by the use of general population samples, cross-sectional data, and the failure to consider both the determinants of perceived age-at-death, as well as some of the mediating processes associated with the relationship between perceived age-at-death and offending. Using data for a large sample of serious youthful offenders from two urban cities and who were followed for seven years, the current study attends to these concerns. Results show that gender, race/ethnicity, and adverse neighborhood conditions influence the perceived age-at-death; this perception distinguishes between distinct trajectories of offending, and such perceptions also influence both perceived risks and perceived rewards as well as one’s impulse control.

**Keywords** perceived age-at-death; offending; rational choice

## Introduction

A recent but exciting set of studies in criminology and the social sciences more generally has considered the potential role of an individual’s expectation of an early death in predicting antisocial and criminal behavior. Although the

Alex R. Piquero is Ashbel Smith Professor of Criminology at the University of Texas at Dallas, adjunct professor at the Key Centre for Ethics, Law, Justice, and Governance, Griffith University Australia, faculty affiliate, Center for Violence and Injury Prevention, George Warren Brown School of Social Work, Washington University, in St. Louis, and co-editor of the *Journal of Quantitative Criminology*. His research interests include criminological theory, criminal careers, and quantitative research methods. He has received several research, teaching, and service awards and is a fellow of both the American Society of Criminology and the Academy of Criminal Justice Sciences. Correspondence to: Alex R. Piquero, Program in Criminology, University of Texas at Dallas, 800 W. Campbell Rd., GR31, Richardson, TX 75080-3021, USA. E-mail: [apiquero@utdallas.edu](mailto:apiquero@utdallas.edu)

theoretical reasons underlying the relationship between expectations of an early death and offending are not well understood (Brezina, Tekin, & Topalli, 2009), researchers have considered several individual views such as “futurelessness,” “fearlessness,” or even “fatalism” (Anderson, 1994, 1999; McCarthy & Hagan, 2005; Wilson & Daly, 1997).<sup>1</sup> But, potentially more useful linkages as to why expectations of early death may be linked to crime arise out of theoretical notions within the rational choice and self-control frameworks. For example, from a rational choice viewpoint, persons who do not envision a future may be more likely to discount any long-term consequences and engage in risk-seeking behaviors that produce immediate benefits (Nagin & Paternoster, 1993; Piquero & Tibbetts, 1996). A shortened future, and in turn, an earlier anticipated death, promotes a “here-and-now” orientation that helps to guide much of the decision-making process of such persons (see also Brezina et al., 2009, p. 1115; Hill, Ross, & Low, 1997). This perspective is, of course, also friendly to Gottfredson and Hirschi’s (1990) general theory, which considers self-control to be the main cog implicated in antisocial behavior. In the context of anticipated early death and why it would link to offending, it stands to reason that anticipated early death “may discourage the exercise of self-restraint” (Brezina et al., 2009, p. 1117). In short, there are several potential

1. In this regard, it is important to recognize that these perceptions are not unique to criminology, as sociologists have considered powerlessness (or the “expectation that outcomes of situations are determined by forces external to one’s self such as powerful others, luck, fate, or chance”; see Lewis, Lewis, Ross, and Miroswky [1999, p. 1574]). These views resonate well with the lack of personal control, a common theme in sociology and psychology (Brehm, 1993; Wheaton, 1980; Lewis et al., 1999). More centrally, such perceptions share some common ground with notions from psychological research in the mid-twentieth century surrounding internal–external locus of control (Rotter, 1966) and learned helplessness (Hiroto & Seligman, 1975; Seligman & Maier, 1967). Locus of control “refers to the degree to which an individual perceives that reinforcements are contingent on one’s actions” (Hiroto, 1974, p. 187). Persons with internal locus of control perceive “reinforcements as a consequence of [their own] responses and to attribute the reinforcement contingencies to [their own] skills and abilities,” while persons with external locus of control perceive “reinforcements as unrelated, i.e. independent of [their own] behavior, and to attribute outcomes to luck, chance, or another person” (Hiroto, 1974, pp. 187–188; see also Rotter, 1990). Studies have linked external locus of control to lower well-being, weakened self-control, poorer school achievement, increased psychiatric disorders, and increased juvenile delinquency (Twenge, Zhang, & Im, 2004), with recent research on learned helplessness and locus of control being expanded to consider other dimensions of attributions including stability, globality, intentionality, and controllability (see Maruna & Copes, 2005, p. 292). Arising out of shuttle box experiments assessing escape-avoidance behavior of dogs given electric shock, learned helplessness involves “the interference with instrumental responding following inescapable aversive events” (Hiroto & Seligman, 1975, p. 311) and as a result of recognizing “that outcomes are uncontrollable by [their] responses” the person becomes “seriously debilitated by this knowledge” (Maier & Seligman, 1976, p. 4). Researchers have argued that the helplessness stemming from feelings of lack of control is related to a variety of psychiatric disorders and also have found that the perception of inability to exert control over one’s environment is related to adverse health conditions as well as involvement in antisocial behavior (Wortman & Brehm, 1975, p. 278). The key theme underlying these closely related concepts is their consideration that persons have a general orientation about life and the extent to which such persons do not envision a long life or a certain future—and, in turn, are likely to anticipate an early age-at-death.

reasons as to why expectations of early death may link to offending behavior. As Brezina et al. (2009, p. 1118) nicely summarize: "... anticipated early death is linked to crime, in part, because uncertainty over future survival promotes a disregard for the future consequences of one's actions ('Might be dead by 25 so who cares?'), a focus on immediate rewards and benefits ('Life is short, so it's smart to get yours now'), the development of a 'here and now' orientation ('It's all about today'), and attraction to risky behavior ('If I see something I want I take it right then because that might be your only chance in this world to get some')".

These notions and frameworks regarding futurelessness or future discounting also emerge in narratives obtained from street youth and active offenders in the qualitative literature. Gibbs and Shelly (1982) conducted interviews with commercial thieves in the northeast and observed that many thieves lived uncertain lives—especially over the extent to which they would be caught and punished for their crimes. As one thief (#8) put it, "...your luck can run thin" (p. 325). Such views, coupled with a hedonistic lifestyle, tend to limit concern for the future. As the authors surmise, "We would expect the thief to live fast and live well *for today*" (p. 325, emphasis added). Additional comments about living fast, partying, gang-bagging, robbing, and living for today because there may not be a tomorrow are found in several recent qualitative studies (Decker & van Winkle, 1996; Wright & Decker, 1997; Hoffman, 2004; Hochstetler, 2000; Topalli & Wright, 2004). For example, Jacobs (2000, p. 122) reports on a series of interviews he conducted with offenders who robbed drug dealers and observed that: "Fatalistic attitudes are enormously liberating for those with so much to fear. They permit those who express them to shift responsibility for their destiny onto forces over which they have no control. Life is short and 'what will be will be,' so why obsess about potential consequences over which one has no jurisdiction?" (Anderson, 1999, pp. 136-137; see Miller, 1958). Consider also how one of Topalli and Wright's (2004, p. 162) carjackers put it: "... So, everyday, there's not a promise that there'll be another [day], so I just spend it, you know what I'm saying?" And consider Anderson's (1999, p. 68) observations about those at the extreme street group: "... they also lack an outlook that allows them to see far beyond their present circumstances in the most positive sense."

At the same time that the qualitative research has been at the fore of documenting this live-for-today perspective, with a handful of exceptions empirical investigation has not kept pace. To help fill this gap, the current study uses data from a large sample of serious youthful offenders followed for seven years after their initial adjudication in juvenile court in order to assess the relationship between perceived early death and distinct trajectories of offending. Three specific issues are explored, including the extent to which (1) expectations of early death are influenced by demographic and environmental circumstances; (2) such expectations relate to distinct patterns of offending; and (3) such expectations influence how juvenile offenders control their

impulses as well as perceive the costs and benefits of offending. The next section provides a brief overview of previous empirical research.

### Prior Research on Anticipated Early Death

As noted earlier, the qualitative research has yielded a recurrent theme among street youth and offenders regarding their live-for-today perspective, but the empirical literature has not followed suit. There have only been a few studies that have empirically examined this issue, four of which have been based on cross-sectional data (Agnew, 2002; Caldwell, Wiebe, & Cleveland, 2006; DuRant, Cadenhead, Pendergrast, Slavens, & Linder, 1994; Hill et al., 1997), and only one of which (Brezina et al., 2009) directly examined the link between anticipated early death and youth crime. Four studies used community, general population, as well as high school and college student samples to investigate the linkage between anticipated early death and offending, and all of them found that respondents perceiving a shorter lifespan reported greater offending.

In the most recent and very comprehensive study on this topic, Brezina et al. (2009) conducted a mixed-methods study that made a significant leap forward regarding the association between anticipated early death and offending. Drawing on quantitative data from the Add Health as well as rich qualitative interviews from active offenders in Atlanta, these authors sought to improve key limitations of the previous studies (i.e. lack of control for rival correlates, cross-sectional designs, small and geographically limited samples, and the manner in which offenders process expectations regarding their future survival; pp. 1096-1097). Their quantitative, longitudinal (two-wave) findings uncovered evidence of a significant relationship between anticipated early death and offending, while their qualitative analyses provided insight into the cognitive factors that potentially underlie the anticipated early death-offending relationship, yielding consistent affirmations of a focus on day-to-day events with aversion to considerations of the future.

### Extending Previous Research

The studies that have examined the relationship between fatalistic perceptions and offending were important contributions but are limited, primarily because of their reliance on general population samples (no research on offender samples), their limited follow-up (the longest study covered a one-year recall period), and their narrow attention to the relationship between anticipated early death and offending. The current study extends this prior research in three specific ways by: (1) considering the potential determinants of anticipated early death; (2) exploring whether such perceptions relate to and distinguish between unique trajectories of offending over a seven-year period spanning the transition from adolescence to early adulthood among a large sample of

serious youthful offenders; and (3) considering some potential non-crime outcomes of anticipated early death that are themselves important correlates of offending, including impulse control and two deterrence-oriented perceptions (perceived costs and perceived rewards). This section comments briefly on these features and how they will expand the current knowledge base.

### Potential Determinants of Anticipated Early Death

Expectations regarding life expectancy may be especially pronounced in the adolescence period, where juveniles are experiencing a wide range of new experiences and emotional reactions (Steinberg & Morris, 2001), many of which are coupled with attempting to break free from the parental control that they had been subject to. Moffitt's (1993) depiction of the turmoil surrounding adolescence as one where juveniles are stuck in a maturity gap desperately seeking to attain and extend autonomy is part and parcel of the struggle for gaining control. In this regard, children and adolescents have much less control over their lives because they depend on adults for most of the necessities in life (e.g. Lewis et al., 1999, p. 1576). As adulthood approaches and adolescents become able to take control over other aspects of their lives (see Lewis et al., 1999; Moffitt, 1993), hope for the future may increase.<sup>2</sup>

Other than age, what other factors may influence expectations of an early death? Three in particular are sex, race/ethnicity, and neighborhood context.<sup>3</sup> Both theoretical and empirical literature have discussed the unique socialization experiences that boys and girls face as children and how controls may be lessened or strengthened as they move into adolescence (see Hagan, Gillis, & Simpson, 1985). And although females may be subject to more control and restrictions as they transition from childhood to adolescence, Matza (1964, p. 189) anticipates that males may be more likely to experience fatalism and, in turn, report a shortened time horizon: "The mood of fatalism ... is likely to culminate in a sense of desperation among persons who place profound stress on the capacity to control the surroundings. Such a stress is implicit in the customary precepts that celebrate the virtues of manliness. A man is above all one who will not allow himself to be 'pushed around.'" Interviews drawn from inner-city youth in Philadelphia also appear to highlight the role of male gender with respect to fatalistic perceptions (Anderson, 1999). Thus, we would expect that males will report an earlier predicted age-at-death.

There is reason to believe that race/ethnicity also acts as an important determinant of anticipated early death, especially among non-Whites (specifically African-Americans and Hispanics) compared to Whites because of their

2. Of course, life-altering events experienced in adulthood could re-trigger a return to a shortened time horizon.

3. This is not a complete list, as other potential determinants, such as socioeconomic status, may be relevant (Brezina, 2000, p. 792).

historical experiences, educational and employment experiences, vicarious knowledge and experiences (see Jamieson & Romer, 2008), and their familial and neighborhood environments, which tend to be characterized by more disruption and disadvantage than that of Whites (see Sampson & Wilson, 1995). Although there has been little research on potential race/ethnic differences with respect to anticipated early death—especially in criminology (though see Brezina [2000], Lewis et al. [1999, p. 1587]) found in their analysis of the NLSY79 that at the bivariate level, Blacks and Hispanics “have somewhat lower perceived control than [did] non-Hispanic whites,” but that when other variables were added to the model, Blacks reported higher levels of perceived control than Whites, while there was no difference between Hispanics and Whites. On the other hand, Jamieson and Romer (2008) found that Hispanics were more likely to report not expecting to live past age 30, while Borowsky, Ireland, and Resnick (2009) report that Native Americans, Blacks, and Hispanics report a higher risk of early death compared to Asian/Pacific Islanders and Whites. To add to the clouded set of findings regarding race/ethnicity, Brezina (2000, p. 793) did not observe a race effect (coded non-White/White) on perceived fatalism. Nevertheless, it would not be a stretch to consider race/ethnicity to be an important determinant of perceived early death in urban, offender-based samples given Anderson’s (1999) rich narratives of inner-city youth and their adoption of the code of the street. Since the code governs the behavior and the rules of order and engagement, inner-city youth must not only adopt the code but also use it when faced with an affront or dangerous situation. As race plays a central feature in Anderson’s street code thesis, there is ample reason to suspect that, and especially among a sample of adjudicated youthful offenders from two large urban cities, their life experiences are such that they may have had exposure to violence and victimization, including death. Thus, it is anticipated that non-Whites (both Black and Hispanics) will report higher expectations of early death compared to Whites.

Lastly, while there are many theoretical conceptions and empirical operationalizations of neighborhoods, neighborhood context, and the like, there is very strong qualitative research pointing to the expectation that neighborhood can influence an individual’s perceived age-at-death. Gibbs and Shelly (1982, p. 319, quoting Shover, 1971, p. 66) observed that for some offenders whose criminal careers begin early, a part of it can be explained by exposure to a disorganized environment: “Some men considered their early crimes the result of economic deprivation and restricted opportunity, while others attributed them to internalization of neighborhood values.” Once again, Anderson’s (1999) rich narratives provide excellent material for anticipating an influence of neighborhood context on anticipated early death, where he observes that: “... in the deprived and troublesome public environment of the inner city, as people increasingly feel buffeted by forces beyond their control” (p. 81), and further that: “... The neighborhood and surrounding environmental influences—and how the child adapts to this environment—are key” (p. 82). And as one offender related to Brezina et al. (2009, p. 1113): “I grew up with shootin’ and



fightin' all over ...Where I'm from you never know if you gonna live one minute to the next. It's like a war out there. People die every day ... Ambulances and police cars steady riding through my neighborhood, man." Thus, it is hypothesized that persons who reside in neighborhoods characterized by much physical and social disorder will report a higher expectation of early death.

### Anticipated Early Death and Unique Offending Patterns

Previous research has yielded evidence of an association between anticipated early death and offending cross-sectionally, and one study has found this relationship to hold over a 12-month time period (Brezina et al., 2009). Still unknown is the extent to which such perceptions relate to offending over a longer period of the life course as well as the extent to which such perceptions may distinguish between distinct offending styles. Evidence from the developmental/life-course literature reports that there is significant heterogeneity in longitudinal offending patterns, with some groups of offenders following more chronic offending patterns, other groups evincing lower patterns, and other groups who restrict their offending to specific periods of the life course (adolescence or adulthood only) (see Jennings & Reingle, 2012; Nagin, 2005; Piquero, 2008). Further, evidence shows that several key risk and protective factors are able to distinguish these heterogeneous offending styles (see Chung et al., 2001; Farrington et al., 2013; Mulvey et al., 2010; though see Laub & Sampson, 2003). As a shortened time horizon and life expectancy were common themes emerging from the qualitative interviews among street offenders reviewed earlier, it is hypothesized that perceptions of shorter lifespans would be highest among the most chronic offenders, lowest among the lowest rate of offenders, and more mixed within the offending styles that are found in between these two extremes.

### The Influence of Anticipated Early Death on Individual Characteristics

In addition to assessing some of the potential determinants of perceived age-at-death as well as the extent to which it distinguishes between trajectories of offending, the third contribution of this study is its preliminary investigation into the extent to which perceptions of anticipated early death may influence specific individual characteristics that, in turn, are related to offending. This is important as no previous study has examined this particular association, leading Brezina et al. (2009) to explicitly call for such analysis. Here, the focus is on three individual characteristics: impulse control and two deterrence-oriented perceptions, the perceived risks and perceived rewards of offending.

As highlighted earlier, the qualitative narratives that emerge from different samples and in different locations all converge on the view that offenders do not consider the future. Borrowing insights from Gottfredson and Hirschi's (1990) general theory, persons with lower self-control tend to live in the here-and-now



and do not consider—much less plan for—the future: “People must differ in the likelihood that they will take the quick and easy way regardless of long-term consequences...Those who have a high degree of self-control [or who can control their impulses] avoid acts potentially damaging to their future prospects, whatever the current benefits these acts seem to promise” (Hirschi & Gottfredson, 2001, p. 82). Thus, it is anticipated that persons reporting an earlier age-at-death will be more likely to have less impulse control.<sup>4</sup> Relatedly, and as much of the deterrence-based (qualitative) literature has shown (Piquero & Rengert, 1999; Wright & Decker, 1994, 1997), active street offenders are prone to focus on the benefits of crime as opposed to the distant costs associated with detection and eventual punishment. Thus, it is easy to hypothesize that persons anticipating an early death will also tend to focus on the momentary benefits of offending in lieu of potential long-term consequences, for they have no “future to look forward to” (Caldwell et al., 2006, p. 600). Thus, it is hypothesized that an anticipated early death will correspond with an increase in perceived benefits and a decrease in perceived costs.

### Current focus

The current paper extends prior research in several ways. First, the analysis considers some potential determinants of anticipated early death such as race/ethnicity, gender, and adverse neighborhood conditions. As previous research has not examined the predictors of anticipated early death, this portion of the analysis provides useful descriptive information (Brezina et al., 2009, p. 1120).<sup>5</sup> Second, the current study examines the association between perceptions of expected early death assessed at the outset of the study and offending trajectories over a subsequent seven-year follow-up period, thus building upon the only other longitudinal study which was based on a 12-month recall (Brezina et al., 2009), by studying whether distinct offending patterns are differentially distinguished by anticipated early death. Third, the study employs a rich sample of serious youthful offenders from two large urban cities. Not only does this extend the knowledge base (which has considered the association between anticipated early death and offending solely within non-offender or population samples who have limited offending experiences),

4. It is possible that persons who have more impulse control will report a later anticipated age-at-death. As this particular relationship is assessed at the baseline interview, establishing causal order is difficult. Still, the feature that this part of the analysis is designed to consider is that one's perception of an early death may influence how they view the world and are able (and willing) to exercise impulse control.

5. As these authors note: “An understanding of the origins of anticipated early death may ultimately suggest ways to foster young peoples' optimism in the future and, hence, reduce criminal involvement...[and] could lead to the development of interventions designed to foster resilience and hope among those who have already faced considerable instability and unpredictability in their lives” (Brezina et al., 2009, p. 1120).

but it also focuses the issue on the most policy-relevant group regarding issues related to persistence and desistance from crime (Laub & Sampson, 2001; Mulvey et al., 2004).

As noted earlier, previous qualitative and quantitative literature helps to provide a pattern of expectations regarding potential relationships and differences. Specifically, it is expected that males and minorities, as well as those from disadvantaged neighborhoods, would perceive a more limited lifespan. It is also expected that anticipated early death will distinguish between offending trajectories, with the highest rate offenders reporting the earliest anticipated age-at-death. Also, anticipated early death would remain a significant distinguisher of offending trajectories even after controlling for an array of relevant demographic variables and individual characteristics. Finally, one's perceived age-at-death should influence how subjects control their impulses as well as how they perceive two key rational choice considerations, rewards and costs.

### Data

The data for the current investigation come from Pathways to Desistance, a large, longitudinal study of serious adolescent offenders from Maricopa County, Arizona, and Philadelphia County, Pennsylvania. The purpose of Pathways was to examine the mechanisms that influence the desistance of antisocial activity within a group of serious adolescent offenders who are making the transition from adolescence into early adulthood (see Mulvey et al., 2004). Across both sites, 1,354 youth were enrolled between November 2000 and January 2003. Enrollment criteria required potential participants to be less than 18 years old at the time of the study index offense and found guilty of a serious offense (overwhelmingly felony offenses, with a few exceptions for less serious property offenses, misdemeanor sexual assault, or misdemeanor weapons offenses). Enrollment of males was limited to 15% drug offenders to maintain a heterogeneous sample of serious offenders. However, all eligible females and all youth whose cases were being considered for trial in the adult system were approached. The enrolled sample represented approximately one in three adolescents adjudicated on the enumerated charges in these two locales during the recruitment period.

Participants were individuals who were at least 14 years old and less than 18 years old at the time of the study index petition ( $M = 16.2$ ,  $SD = 1.1$ ). The sample is ethnically diverse with 20% Caucasian, 41% African-American, 33.5% Hispanic youth, and 5% youth of "other ethnicity."<sup>6</sup> These individuals had, on average, 3.2 ( $SD = 2.2$ ) petitions prior to the baseline interview. For 350 individuals (25.8%), the study index petition was their first petition to court. The study index petition represented a felony assault or felony weapon charge

6. Due to small sample size and because of the mixture of groups in the "other ethnicity" option, these cases were removed from the analysis.

for 39% of enrolled youth, followed by a drug felony (18%), burglary (15%), major property felony (10%), felonies, not part 1 (7%), murder/rape/arson (7%), or another less serious charge (4%). Details regarding recruitment and a complete description of the full sample and the study methodology are discussed in Schubert et al. (2004).<sup>7</sup>

## Variables

The primary variable of interest in the current study is perceived age-at-death, and it will be used as both an independent and dependent variable. Although there are many ways to potentially measure perceived age-at-death,<sup>8</sup> Pathways

7. The participation rate, defined as the number of participants enrolled divided by the number attempted for enrollment, was 67%, while the refusal rate, defined as the number of adolescents or parents who would not take part in the study divided by the number approached, was 20%. Both of these figures compare very favorably with those from other high-risk populations (Schubert et al., 2004, pp. 247-248). The enrolled Pathways subjects were purposefully selected to be comprised of serious offending youth (and during the enrollment period, the Pathways research team enrolled more than one of every three (36%) of the identifiable adjudicated felony offenders who came before the courts in the two study sites.) A few other data-related points are worth noting. First, African-American youth were not significantly more likely to refuse to participate in the Pathways Study. Second, at the 84-month follow-up (which comprise the data being used in the current study), the retention rate was especially high for a sample of serious adolescent offenders, as 84% of the original baseline sample was interviewed at 84 months. And if one were to subtract the number of original baseline interviewees who dropped out of the study or who had died by the 84-month follow-up, the sample retention would be 90%.

8. It is important to point out that prior conceptualizations and operationalizations of anticipated early death and related concepts exhibit wide variation. Some researchers have used perceptions about one's personal control over their environment (Brezina, 2000), while others have used measures referring to solving problems, controlling things that happen [to the respondent], or planning for the future (Lewis et al., 1999). In criminology, Brezina et al. (2009) consider the effect of anticipation of early death, or a sense of "futurelessness," which they operationalize with two different items contained in the Add Health: (a) "probability of being killed by 21" and (b) "probability of living up to 35." In Nguyen et al. (2012), also using the Add Health, the same construct is referred to "perceived survival expectations" and is measured again with the question "what are your chances of living to age 35?" Other studies have used either the exact same measure or a virtually identical item to measure the same general construct but provide a different theoretical conceptualization. Jamieson and Romer (2008) consider "unrealistic fatalism," measured via responses to the statement: "I do not expect to live much past the age of 30," McDade et al. (2011), also employ the Add Health, and use perceptions of living to age 35 to assess "expectations for the future." Borowsky et al. (2009) also use the Add Health item "what do you think are the chances that you will live to age 35" to measure what they call "perceptions of invulnerability" and the "adoption of a fatalistic attitude." Harris, Duncan, and Boisjoly (2002) also use the Add Health item related to perceptions of living to age 35 to measure "expectations about the future" and "nothing to lose" attitudes. In sum, there are several ways of conceptualizing and operationalizing this construct, but all the studies share an interest in assessing an individual's view of their own future, or time horizon, either via how old they think they will live to be or the chances that they will die by a certain age. As will be seen, the current study uses a very similar question to assess this construct but the point to be taken away from these prior measurement strategies is that there are more similarities than differences across previous studies with what they are intending to measure (overall perceptions of a shortened life) and how they are actually measuring the construct (use of a range of different questions because of specific data nuances).

included a single-item measure that is straightforward and resonates well with the measure from the Add Health used by Brezina et al. (2009). At the initial interview, subjects were asked to respond "How old do you think you will live to be?"<sup>9</sup> As a continuous variable, it originally ranged from a low of 16 years to a high of 200 years. Because of the skewed 5% of cases of 100 years or greater, those scores were top-coded at 100 ( $M = 70.871$ ,  $SD = 20.598$ , Range 16–100).<sup>10</sup> Supplemental analyses conducted in a later portion of this paper adopt the coding scheme of Brezina et al. (2009) to consider a dead-by-35 measure, coded 1 for those respondents who indicated that they would live to less than 35 (6.04%), and 0 otherwise.<sup>11</sup>

Self-reported offending is the other main dependent variable in the current study. The analysis relies on methodology used to derive unique longitudinal (group-based) trajectories of offending, which were based on data from 1,088 males in Pathways who completed at least 70% of the interviews administered during the seven-year study.<sup>12</sup> At each interview, subjects reported on their involvement in antisocial and illegal (aggressive and income-generating) activities using the self-report of offending measure, which was based on a common delinquency measure (see Huizinga et al., 1991). Twenty-two items are reported upon at each measure and subsequently converted to variety scores based on a count of the 22 different acts that an individual endorsed at each recall period. Using the same data, the current study uses the five-group solution obtained in a recent Pathways analysis (see Monahan, Steinberg, Cauffman, & Mulvey 2013; Piquero, Monahan, Claseen, Schubert, & Mulvey, 2013). After testing a number of different group solutions, this five-trajectory solution was determined to have provided the best fit to the data "because it had a low BIC value, a conceptually clear model, an adequate percentage of [at least 5% of] the sample in each trajectory group" (Monahan et al., 2013, p. 1099), including: a group following a low trajectory (linear polynomial, 37.22% of the sample, posterior probability = .90)

9. Note that perceived age-at-death is measured solely at the baseline interview and is used to distinguish between offending patterns assessed at/after baseline. We revisit this issue in the discussion.

10. Some readers may wonder whether there may be subjects who believe that they will live forever, or have some hyper-optimism about their own longevity. A simple two-way line graph (not shown but available upon request) clearly shows that the majority of subjects who report much later perceived ages-at-death are clustered at the very low end of the continuous, summarized offending scale, while there are no subjects who report a very late perceived age-at-death and who are located toward the top end of the continuous, summarized offending scale.

11. It is not possible to compare the percent of the sample who reported that they would be dead-by-35 in the Pathways data and in the Add Health data used by Brezina et al. This is because in the Add Health, the question and response categories were phrased differently. Respondents were asked about the chances they will "live to age 35," with response options of: "almost no chance," "some chance, but probably not," "a 50–50 chance," "a good chance," and "almost certain." Brezina et al. (2009, p. 1101) then created three dichotomous indicators for their analyses: (1) "less than a 50% chance," (2) "a 50% chance," and (3) "more than a 50% chance," with the "50% chance" group serving as the comparison. We return to this issue later in the text.

12. Due to insufficient number of females ( $n = 184$ ) available for trajectory-based analyses, the emerging solutions were based on the male subsample only.

with a rate of offending approaching zero by age 19; an early-desister trajectory (cubic polynomial, 31.25% of the sample, posterior probability = .85) with high rates of offending in adolescence followed by a quick desistance from crime as they entered early adulthood; a late-desister trajectory (cubic polynomial, 10.48% of the sample, posterior probability = .85) with the highest rate of offending at the outset of the study followed by a steep decline as they transitioned to adulthood; a moderate/stable trajectory (intercept-only polynomial, 13.51% of the sample, posterior probability = .81) with a low but consistent rate of offending from 14 to 24 years of age; and a high-persistent trajectory (intercept-only polynomial, 7.54% of the sample, posterior probability = .85) with a continued rate of offending over the course of the study (see also Piquero, Monahan et al., 2013, p. 750).

Given the subject's residence in two major urban cities, as well as the observations from Anderson and other researchers about the importance of distressed and disadvantaged urban environments, the current study also includes a measure for adverse neighborhood conditions, which was adapted for Pathways to assess the environment surrounding the adolescent's home (see Sampson & Raudenbush, 1999). Items from this self-report measure tap physical disorder of the neighborhood (e.g. "cigarettes on the street or in the gutters," "graffiti or tags"), as well as social disorder (e.g. "adults fighting or arguing loudly," "people using needles or syringes to take drugs"). The scale contains 21 items to which participants respond on a 4-point Likert scale ranging from "Never" to "Often," with higher scores indicating a greater degree of disorder within the community. An additional item is included to determine the amount of time the participant spends within his/her neighborhood, where responses range from "None of my time" to "All of my time." If the youth is in a locked facility at the time of the interview, the neighborhood of focus for this interview is the address at which the youth lived prior to going into the facility. The neighborhood conditions measure (mean of all 21 items) had very strong internal consistency ( $\alpha = .94$ ).

Based on the view that persons who do not have a future to look forward to are probably more likely to focus on immediate rewards to the neglect of long-term risks (Caldwell et al., 2006, p. 600), two prominent deterrence-oriented variables and one overall measure of individual differences are included in the current study. The measure for individual differences assesses a subject's impulse control and was measured using the impulse control portion of the Weinberger Adjustment Inventory (WAI; Weinberger & Schwartz, 1990), which is an assessment of an individual's social-emotional adjustment within the context of external constraints. The impulse control portion is the mean of eight items ( $\alpha = .76$ ; sample item "I say the first thing that comes into my mind without thinking enough about it" [reverse coded]), with higher values indicating more impulse control. The two deterrence measures, perceived costs of offending and perceived rewards of offending, were adapted for Pathways in order to measure the adolescent's perceived likelihood of detection and punishment for any of several types of offenses (Nagin & Paternoster, 1994)

and the benefit/thrill they would derive from offending (e.g. “How much ‘thrill’ or ‘rush’ is it to break into a store or home?”), respectively. The certainty of punishment is the mean of seven items, with strong internal consistency ( $\alpha = .89$ ), while perceived benefit is the mean of seven items also with strong internal consistency ( $\alpha = .88$ ). Higher values on the certainty of punishment scale indicate more certain perceptions, while higher values on the benefits of offending scale indicate more perceived benefits.

Finally, several demographic variables are used, including gender and race/ethnicity (described earlier) as well as two other subject-level variables, educational attainment and the number of priors ever. Educational attainment was an ordinal measure ranging from 6th grade or less (coded 1) to 7th grade, 8th grade, 9th grade, 10th grade, 11th grade, and high school graduate (coded 7) ( $M = 4.027$ ,  $SD = 1.252$ ). The number of priors-ever is based on the subject's legal involvement with the total number of priors before the baseline assessment, which is defined as both the study initial referring petition as well as petitions to the initial referring petition ( $M = 2.919$ ,  $SD = 2.144$ , Range = 1–15).

## Results

### Bivariate Comparisons

We begin by examining the bivariate baseline comparisons of perceived age-at-death with the main demographic variables of race/ethnicity, gender, the number of priors, neighborhood conditions, and educational attainment (not shown but available upon request). With respect to the three continuous variables (priors, neighborhood conditions, and educational attainment), correlations indicate significant associations between anticipated early death and both neighborhood conditions and the number of priors in the expected direction, i.e. a later age-at-death is associated with less adverse neighborhood conditions and fewer priors (or in other words, more priors and more adverse neighborhood conditions are associated with an earlier anticipated early death). There was no significant relationship between educational attainment and anticipated early death. With respect to gender, males perceive an earlier age-at-death than females. And with respect to race/ethnicity, there was a significant overall relationship, with Hispanics reporting the earliest age-at-death, followed by African-Americans, and then Whites—who indicated the oldest perceived age-at-death. (Note: Because Hispanics disproportionately report the lowest age-at-death, they will serve as the reference group in the analyses that follow).

### Potential Determinants of Perceived Age-at-Death

In line with the recommendation made by Brezina et al. (2009, p. 1120), this section examines some of the potential determinants of the perceived

age-at-death. An OLS Regression shown in Table 1 indicates that four variables are significantly related to anticipated early death. Females are more likely to perceive a later age-at-death than males, while both Blacks and Whites report later ages-at-death when compared to Hispanics (the omitted reference group who perceived much earlier ages-at-death). Subjects who report living in/ around areas characterized by many problems are also more likely to perceive an early age-at-death. Neither educational attainment nor the number of priors was significantly related to perceived age-at-death.

Does Perceived Age-at-Death Distinguish Different Trajectories of Offending?

In this section, we investigate the extent to which a subject’s perceived age-at-death (measured at baseline) distinguishes between distinct offending trajectories. For this analysis, the ages 14–24 five-group offending trajectory solution described earlier are used (see Monahan et al., 2013; Piquero, Monahan et al., 2013). An analysis of variance indicated a significant association ( $F = 12.15, p < .05$ ). Specifically, the two groups who tended to have the highest rates of offending (late desisters and high persisters) reported the earliest perceived ages-at-death ( $M = 61.273, SD = 23.154, \text{Median} = 60.0$  and  $M = 65.333, SD = 22.619, \text{Median} = 70.0$  years of age, respectively), while the other groups (early desisters:  $M = 68.764, SD = 21.198, \text{Median} = 70.0$ ; moderate:  $M = 70.694, SD = 19.677, \text{Median} = 71.0$ ; and low:  $M = 74.934, SD = 17.486, \text{Median} = 78.0$ ) reported much later ages. Tukey’s HSD pairwise comparisons indicate significant differences between the low- and late-desister groups, the low- and high-persister groups, the late-desister and early-desister groups, and the late-desister and moderate groups. The difference between the low-and early-desister group approached significance, while the late desisters and high persisters were not significantly different from one another. Figure 1 presents the average ages (and  $\pm 1$  SD) across the trajectory groups.

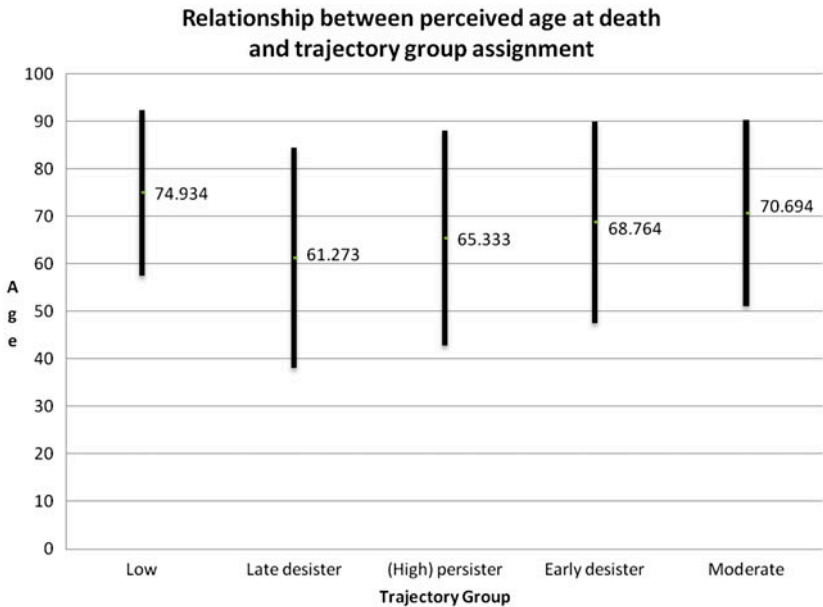
Table 2 presents the results of a multinomial logistic regression of the offending trajectories (with the low trajectory serving as the comparison

Table 1 OLS regression assessing determinants of perceived age-at-death (continuous)

Variable	Coef. (SE)	$\beta$
Gender (1 = m, 2 = f)	5.618 (1.691)	.093*
Black	5.141 (1.307)	.122*
White	4.665 (1.556)	.092*
Priors	−0.334 (0.274)	−0.034
Neighborhood conditions	−3.212 (0.791)	−0.117*
Educational attainment	−0.170 (0.459)	−0.010

Notes. Hispanic is omitted in reference race category; Constant included (not shown).  
\* $p < .05$ .





**Figure 1** Relationship between perceived age-at-death (continuous) and trajectory group assignment.

group). As can be seen, a range of variables are significantly related to membership in the specific offending trajectory relative to the low-trajectory group (discussed in detail shortly). The most relevant finding to emerge from these results is the significant, negative effect for the perceived age-at-death in most comparisons. Specifically, a later perceived age-at-death was associated with a lower chance of being in three of the offending groups relative to the low-offending group (late desister, high persister, and early desister) with the exception of a non-significant effect for the moderate vs. low comparison. Thus, subjects in the low-offending trajectory reported much later perceived ages-at-death than subjects in the late-desister, high-persister, and early-desister trajectories who reported much earlier perceived ages-at-death.

Other results from Table 2 are worth noting. For example, across all of the comparisons (except for moderate vs. low), more priors and more adverse neighborhood conditions were associated with membership in the respective offending trajectory compared to the low trajectory.<sup>13</sup> Further, across all comparisons in Table 2, impulse control was less likely to be associated with membership in the non-low trajectories and more likely to be a characteristic of persons in the low trajectory. Further, perceived risks and perceived rewards were found to be significant discriminators between the low and all of the

13. The relationship of priors in the moderate vs. low comparison was positive and marginally significant ( $p = .059$ ).

**Table 2** Multinomial logistic regression distinguishing offending trajectories

Variable	Coef.	SE
Late desister vs. low		
Black	-.380	.301
White	.500	.327
Priors	.167	.055*
Neighborhood conditions	.476	.177*
Educational attainment	.190	.096*
Impulse control	-1.070	.156*
Perceived rewards	.240	.053*
Perceived costs	-.265	.047*
Perceived age-at-death	-.024	.006*
High persister vs. low		
Black	-.209	.334
White	.777	.361*
Priors	.126	.061*
Neighborhood conditions	.893	.200*
Educational attainment	.118	.105
Impulse control	-1.035	.171*
Perceived rewards	.267	.058*
Perceived costs	-.288	.052*
Perceived age-at-death	-.014	.006*
Early desister vs. low		
Black	-.065	.199
White	.360	.236
Priors	.150	.041*
Neighborhood conditions	.418	.123*
Educational attainment	.197	.068*
Impulse control	-.625	.101*
Perceived rewards	.178	.039*
Perceived costs	-.174	.031*
Perceived age-at-death	-.010	.004*
Moderate vs. low		
Black	.170	.248
White	.471	.291
Priors	.097	.051
Neighborhood conditions	.172	.153
Educational attainment	.104	.084
Impulse control	-.325	.123*
Perceived rewards	.139	.048*
Perceived costs	-.137	.038*
Perceived age-at-death	-.007	.005

Notes. Low-offending trajectory is comparison group; Constant included (but not shown).

\* $p < .05$  (two-tail).

non-low trajectories, where higher rewards and lower risks were characteristic of the non-low trajectories, while subjects in the low trajectory perceived lower rewards and higher risks.

It is also important to assess the extent to which perceived age-at-death is able to distinguish between the various offending trajectories. Wald-based  $\chi^2$  tests allow for the comparison of multiple coefficients.<sup>14</sup> Table 3 presents the results of a series of  $\chi^2$  tests of whether expected age-of-death distinguishes across trajectory group membership among all five offending trajectories. The null hypothesis for each of these tests is that the coefficient of early death is the same across all of the offending groups. Further, these results are presented in two different ways. First, the  $\chi^2$  tests are calculated based on the full multinomial logistic regression estimated in Table 2, which contain all of the independent variables. Then, the  $\chi^2$  tests are calculated using the results of a naïve model, which contains only the coefficient for perceived early death so as to remove any potential confounding influence of the other variables.

The first test statistic to consider in Table 3 is the omnibus test reported at the bottom of the table, which tests that the overall effect that the expected age-of-death on the group trajectory variable is 0. For the full model, the  $\chi^2$  is 16.73 ( $p < .05$ ), thus rejecting the null hypothesis of no overall relationship. Turning to the 10 comparisons for the full model, it can be seen that half of them reject the null hypothesis of an equal effect of perceived age-of-death between trajectory groups. Specifically, significant group differences emerge between: (1) low vs. late desister, (2) low vs. high persister, (3) low vs. early desister, (4) late desister vs. early desister, and (5) late desister vs. moderate. Thus, while the low group tends to be the most different from the other offending trajectories, there are still relevant differences between some of the offending trajectories whose offending patterns are of a mixed shape, level, and trend. The  $\chi^2$  comparisons based on the naïve model provide even stronger evidence of differences between offending groups. Again, the omnibus test is significant ( $\chi^2 = 44.45$ ,  $p < .05$ ) and seven comparisons across the offending trajectories are statistically significant: (1) low vs. late desister, (2) low vs. high persister, (3) low vs. early desister, (4) low vs. moderate, (5) late desister vs. early desister, (6) late desister vs. moderate, and (7) high persister vs. moderate ( $p = .067$ ). In short, it appears that the coefficient for perceived early death is not the same across the offending trajectories.

In a supplemental analysis, the reference group for the multinomial regression was switched from the low-offending trajectory to the late-desister trajectory. This group was chosen as the base outcome for these additional analyses because they evinced the earliest perceived age-at-death. In short, results from these analyses indicated that after controlling for the same variables shown in Table 2, relative to the late-desister trajectory, perceived age-at-death was significantly higher in the low, early-desister, and moderate

14. This analysis was performed at the helpful suggestion of an anonymous reviewer.

**Table 3**  $\chi^2$  test comparisons of perceived age-at-death between offender trajectory groups

Test comparison between groups	Full model (from Table 2) $\chi^2$ (1 df)	Naïve model (no covariates) $\chi^2$ (1 df)
Low vs. Late desister	16.03*	36.69*
Low vs. High persister	4.48*	15.35*
Low vs. Early desister	6.06*	16.70*
Low vs. Moderate	1.98	4.80*
Late desister vs. High persister	1.93	1.61
Late desister vs. Early desister	6.00*	10.08*
Late desister vs. Moderate	6.24*	11.72*
High persister vs. Early desister	0.32	1.73
High persister vs. Moderate	0.83	3.35 <sup>†</sup>
Early desister vs. Moderate	0.35	0.85
Omnibus test	16.73*	44.45*

\* $p < .05$ .  
<sup>†</sup> $p = .067$ .

groups ( $p < .05$ ) and marginally (though not significantly) higher in the high-persister trajectory. Given the similarity in perceived age-at-death between the late-desister and high-persister trajectories this is not surprising, nor is it surprising that only one of nine independent variables distinguishes the high persisters from the late desisters (neighborhood conditions).

**What Factors May Link Perceived Age-at-Death to Differential Offending Patterns?**

Thus far, while the analyses indicate that perceived age-at-death is significantly related to distinct offending trajectories, there is a need to consider some potential explanations for this association. In this portion of the analysis, some of Brezina et al.'s expectations that one's anticipated early death would influence the extent to which they consider the future (through their own impulse control), as well as the costs and rewards associated with offending, are assessed. As those authors (p. 1119) hypothesized, "The accounts provided by these offenders point to several mediating variables that may link anticipated early death to crime and that could be explored in future research, including a present-time orientation, perceived salience of immediate benefits, a disregard for the future consequences of behavior, a low desire to exercise self-control, fearlessness, and nihilistic attitudes that may result from the anticipation of early death." Thus, it is expected that Pathways respondents who report an earlier age-at-death would be less likely to exercise impulse control, less likely to care about the potential costs of offending (measured as

**Table 4** OLS regression assessing influence of perceived age-at-death (continuous) on rational choice considerations

Impulse control		Perceived rewards		Perceived costs	
Coef. (SE)	$\beta$	Coef. (SE)	$\beta$	Coef. (SE)	$\beta$
0.006 (0.001)	0.140*	-0.020 (0.003)	-0.173*	0.019 (0.003)	0.141*

*Note.* Constant included (not shown).  
\* $p < .05$ .

the certainty of punishment), and more likely to be attuned to the potential benefits of offending (through any thrill or fun they derived from their actions). In these respects, then, expectations of early death should relate to various aspects of a shortened time horizon.

An OLS regression shown in Table 4 supports these expectations, as a later perceived age-at-death is associated with more impulse control and a higher perceived certainty of sanction threats but a lower perception of the benefits derived from offending. Note that since all of these measures were collected at the baseline interview, clear causal determination is not fully possible. Nevertheless, these analyses provide some preliminary clues about potential linkages between perceived age-at-death and distinct offending styles and resonate well with suggestions by Brezina et al. (2009, p. 1117) that “when young people lose faith in the future, they also lose the incentive to defer immediate gratification” (Hill et al., 1997).<sup>15</sup>

Dead-By-Age-35 Analyses

All of the analyses were re-estimated using Brezina et al.’s (2009) measure for anticipated early death (as dead-by-35) and virtually all of the substantive findings were replicated. For example, similar differences emerged in perceived age-at-death across the distinct offending trajectories with the late desisters (14.15%) and high persisters (11.53%) reporting the highest percentages of being dead by 35. Regarding the determinants of dead-by-35, Blacks and Whites were less likely to believe that they would be dead-by-35 compared to

15. Some readers may argue that impulse control and perceived age-at-death occupy some common ground; yet, a bivariate correlation between the two variables, while positive and significant, is not of sufficient strength to be of concern ( $r = .140$ ). Nevertheless, an additional analysis was estimated predicting the two rational choice variables using perceived age-at-death and impulse control as independent variables. For perceived costs, both impulse control and perceived age-at-death were significant, indicating that higher impulse control and a later perceived age-at-death were both associated with greater perceived costs. For perceived benefits, both impulse control and perceived age-at-death were significant, indicating that higher impulse control and a later perceived age-at-death were both associated with less perceived benefits.

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their counterparts (and Hispanics reporting the highest percentage at 7.87%). Further, the pattern of results in the re-estimated multinomial logistic regression using the dichotomous dead-by-35 measure yielded highly similar results, with the dead-by-35 measure distinguishing between three trajectory group comparisons: (late desisters vs. low,  $RRR^{16} = 3.380$ ,  $p < .05$ ; high persister vs. low,  $RRR = 2.621$ ,  $p < .07$ ; early desister vs. low,  $RRR = 2.035$ ,  $p < .09$ ; but not moderate vs. low,  $RRR = 1.219$ ,  $p > .05$ ). Finally, when exploring the effect of dead-by-35 on impulse control, perceived rewards, and perceived risks once again the findings held with those perceiving that they would be dead-by-35 reporting less impulse control, higher perceived benefits, and lower perceived costs.<sup>17</sup>

## Discussion

This paper used data from a seven-year study of serious youthful offenders in two large urban cities in order to examine what has been a relatively uncharted area of empirical research, the association between anticipated early death and distinct trajectories of offending. Building off the few existing studies, the current study examined the determinants of anticipated early death, the extent to which anticipated early death distinguished between distinct patterns of offending, and the potential mediating linkages between anticipated early death and distinct offending styles. The main findings indicated that: there were demographic and theoretically substantive differences in the predictors of anticipated early death—including race/ethnic and neighborhood effects; anticipated early death distinguished between unique offending styles—most often being linked to the most chronic offending patterns;<sup>18</sup>

16. RRR = Relative Risk Ratio.

17. All of the dead-by-age-35 analyses were re-estimated using the late-desister trajectory as the reference group, the results of which generated a substantively similar pattern of results, with the sole exception that the dichotomous dead-by-age-35 measure was not a significant distinguisher between early desisters and late desisters, nor between high persisters and late desisters.

18. It was expected that the most severe/chronic offending group, the high-persister group (7.54% of the sample), would report the lowest perceived age-at-death. Yet, the results showed that they had the second lowest reported age ( $M = 65.33$ ), while the late-desister group (10.48% of the sample) had the lowest reported age ( $M = 61.27$ ). And this substantive finding of an earlier perceived age-at-death for the late-desister group compared to the high-persister group was also borne out when the dichotomous variable of "die by 35" was examined, in which 14% of the late desisters responded in the affirmative and 11.5% of the high persisters responded in the affirmative. At first glance, this may be somewhat odd but the late-desister group had the highest offending rate at age 14 (over 10 different acts) that was stable for about 3 years and then began to drop throughout late adolescence and into early adulthood (by age 24). On the other hand, at age 14 the high-persister group was averaging about seven different acts, a rate that dropped to about six different acts around age 17 and then remained stable through age 24. What may be occurring is that since perceived age-at-death was obtained at the baseline interview, the fact that the late-desister group had a lower perceived age compared to the high-persister group may be indicative of the former group's higher rate of offending at the outset of the study and at the time the perceived age-at-death measure was collected.

and, that anticipated early death was associated with three relevant mediating links including impulse control and two deterrence-oriented perceptions. Some additional results are worth further consideration.

Two findings related to the determinants of anticipated early death are noteworthy, the effects of neighborhood conditions and race/ethnicity. Subjects who reported adverse social and physical disorder in their neighborhoods were more likely to report an earlier expected age-at-death. Although this effect has been observed in the qualitative literature, the results from the current study offers the first empirical link between the two variables and reinforces the point that individual perceptions (and behavior as the longitudinal trajectory analyses showed) cannot be considered without attention to the immediate social context. Regarding race/ethnicity, there was some supposition from the literature that minority youth would report an earlier anticipated death and that Whites would report later ages because of contextual differences (cf. Sampson & Wilson, 1995). Only a portion of this was observed. Whites did report later perceived ages-at-death, but Blacks did not report the earliest ages, a distinction that belongs to the Hispanics in the Pathways sample. Although more research is needed on this finding, it may be due, in part, to the experiences of the Hispanics in the Pathways sample (largely from Arizona and largely Mexican) who see their families having troubled economic lives, neighborhoods riddled with gangs and crime, and with little hope for a positive economic and educational future. Unfortunately, longitudinal data on Hispanics in criminology have been lacking, but data sources are becoming available and their results being published (Maldonado-Molina, Piquero, Jennings, Bird, & Canino, 2009), and perhaps most importantly with the FBI's (2013) recent decision to report information on Hispanic/Latino ethnicity.

The idea of anticipated early death is not owned by any one specific theory inasmuch as it is relevant to several theoretical frameworks across the social sciences. In addition to the early work by Matza (1964), a similar conception can be observed in neutralization theories, as offenders with a pessimistic outlook on later life may use that orientation to justify their criminal activity (see Hochstetler, 2000; Maruna & Copes, 2005). Anticipated early death can also be considered through the lens of subcultural theory, especially those that are friendly to the importance of neighborhood context (Anderson, 1999), within Gottfredson and Hirschi's (1990) general theory, as those subjects who perceive an early anticipated death are also less likely to exercise restraint, as well as more social control-based explanations (i.e. more expectations of an early death would reduce any need to invest in the kinds of activities, such as education and employment, whose benefits are in the long term) (e.g. Brezina et al., 2009, p. 1119; Sampson & Laub, 1993). In short, at least in the Pathways sample, there seems to be a general sense of futurelessness that may characterize the world view of some of these serious juvenile offenders, views which are, in part, influenced by important demographic and neighborhood perceptions; such views are associated with distinct offending styles over a subsequent seven-year follow-up period; and such views influence how



adolescents perceive the costs and benefits of offending as well as the extent to which they routinely control their impulses. Whether such perceptions are accurate estimates of life tables or a psychological construction more generally is an important question for theoretical criminology more generally.

Study findings also have some relevance to policy. The main message from the results is that an anticipated early death should not be considered deterministic but should instead be viewed as an opportunity for early prevention efforts and resiliency training where young children are taught that there are a variety of options even in the most constrained of circumstances. Although there are a wide range of programs designed to help urban children overcome their distressed environments and succeed in school and life more generally (e.g. Harlem's Children Zone), one prevention program that could be considered as a potentially effective means of addressing futurelessness perceptions is the SNAP program. Briefly, SNAP is a cognitive behavioral program that aims to teach children to regulate angry feelings by getting them to stop, think, and plan positive alternatives before acting (Augimeri, Walsh, & Slater, 2011). Teaching children to consider their potential actions and their long-term consequences is oriented around reducing impulsivity and, in turn, increasing their self-control in a future-oriented manner (see Piquero, Jennings, & Farrington, 2010). In short, although views about one's anticipated shortened lifespan may be difficult to prevent in their entirety—especially in the most distressed familial and economic environments—there is some evidence that children can learn to envision lengthened future time horizons.

Some data limitations must be noted. With respect to the analysis of the determinants of anticipated early death, focus centered on key demographic correlates as well as a limited set of individual-centered variables. There is room for expansion and some leading candidates would include the level of community violence, exposure to adequate educational and health facilities, and more generally social contextual influences, especially as they relate to friends' fatalism (cf. Haynie, Soller, & Williams, 2014). Second, it is important to recognize that establishing definitive causal order between the relationships examined here is beyond the ability of the Pathways data. Although some steps were taken to attend to this issue (i.e. a baseline measure of anticipated early death and seven years of subsequent offending), caution should be exercised when extrapolating study results. Third, the small number of females in the Pathways sample precluded an investigation of whether anticipated early death was related to their distinct offending patterns. That said, analysis investigating females' baseline perception of anticipated early death with their self-reported offending at the first follow-up interview yielded a significant, negative relationship, indicating that females who perceived a later age-at-death also reported a lower self-reported (variety) of offending. Future research should consider the role of gender on this topic in greater detail. Fourth, although the current study was the first to empirically examine some potential linkages between anticipated early death and subsequent offending, there is a need to expand the potential range of outcomes to include education and employment

goals (i.e. “why work hard for these things that pay off in the future when the likelihood of a future is dim?”). Lastly, several cautions regarding the measure of anticipated early death should be noted. Some readers may point out that there should be more variation in these perceptions within a sample drawn from the general population than from a high-risk sample like Pathways. Ideally, it would be useful to compare how much variation the Pathways subjects report on the anticipated early death measure compared to that reported from other subjects in other studies. The problem is that no other studies report the exact question used in Pathways in a continuous manner, which was one reason why the current study attempted to replicate the Brezina et al. age-35 coding strategy. Thus, the extent to which there is any restricted range regarding the anticipated early death measure in the Pathways sample is unknown. That said, it is important to point out that restricted range on the independent variable (when expected age-at-death is used to predict offending patterns) does not cause selection bias; only restricted range on the dependent variable can cause selection bias. If there was restricted range on the anticipated early death measure, then, *ceteris paribus*, the standard errors will be larger (they are partially a function of the variance of the independent variable) but it will not cause bias. As the current study showed that anticipated early death can distinguish between unique offending patterns, this appears to be less of a concern. Future research on this question, especially comparison with other data sources, is needed. In this regard and given the little research conducted on anticipated early death, there is a need to develop and assess alternative measures. One of those would be to adopt a measure in the Add Health (and used by Brezina et al.), which asked subjects to indicate the likelihood that they would be killed by age 21. This type of measure is somewhat different from asking a subject about whether they will live to a certain age because the former asks about the risk of violent death as opposed to the latter, which is nondescript on the manner of death. Because offenders face a disproportionate risk of experiencing early (and often violent) deaths (Chassin, Piquero, Losoya, Mansion, & Schubert, 2013; Laub & Vaillant, 2000; Nieuwbeerta & Piquero, 2008; Piquero, MacDonald, Dobrin, Daigle, & Cullen, 2005; Piquero, Farrington et al., 2013), the creation of alternative measures, including attitudinal ones, is important. Further, it would be useful to consider longitudinal measures of anticipated early death in order to examine differences in time orientation with respect to delay discounting between and within persons over time (cf. Steinberg et al., 2009).

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