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Risk, promotive, and protective factors in youth offending: Results from the Cambridge study in delinquent development

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ABSTRACT

Purpose: The main aim of this research is to investigate risk, promotive, risk-based protective, and interactive protective factors for delinquency.
Methods: The Cambridge Study in Delinquent Development is a prospective longitudinal survey of 411 London males from age 8 onwards. Variables measured at age 8–10 are investigated as predictors of convictions between ages 10 and 18.
Results: High troublesomeness, a convicted parent, and high daring were important risk factors for delinquency, while low neuroticism and few friends were important promotive factors. The most important interactive protective effects were: high nonverbal intelligence, high verbal intelligence, high school attainment, and high parental interest in education protected against poor child-rearing; good parental supervision protected against high dishonesty; and high family income protected against a convicted parent.
Conclusions: Developmental and life-course theories of offending should attempt to explain findings on promotive and protective factors. Findings on interactive protective factors suggest particular types of interventions that should be targeted on individuals displaying particular risk factors.

Introduction

This article first investigates risk and promotive factors for delinquency in the Cambridge Study in Delinquent Development (CSDD). It then investigates risk-based protective factors and interactive protective factors. Since there is some confusion about the definition of these terms, they are discussed in detail in the next sections.

Risk and protective factors

During the 1990s, there was a revolution in criminology, as the risk factor prevention paradigm became influential (Farrington, 2000). The basic idea of this paradigm is very simple: identify the key risk factors for offending and implement prevention methods designed to counteract them. This paradigm was imported into criminology from public health, where it had been used successfully for many years to tackle illnesses such as cancer and heart disease, by pioneers such as Hawkins and Catalano (1992). The risk factor prevention paradigm links explanation and prevention, links fundamental and applied research, and links scholars, policy makers, and practitioners. Loeber and Farrington (1998) presented a detailed exposition of this paradigm as applied to serious and violent juvenile offenders. Empirical research continues to show that serious, violent, and chronic juvenile offenders have different risk and protective factors from others and intervention efforts aimed at addressing these factors is critical for reducing recidivism (Baglivio, Jackowski, Greenwald, & Howell, 2014).

A risk factor is defined as a variable that predicts a high probability of offending. Usually, risk factors are dichotomized. This makes it easy to study interaction effects, to identify persons with multiple risk factors, to specify how outcomes vary with the number of risk factors, and to communicate results to policy-makers and practitioners as well as to researchers (Farrington & Loeber, 2000). Dichotomization also deals with the problem of nonlinear relationships, does not necessarily result in a decrease in the measured strength of associations, and the order of importance of risk factors is usually similar in dichotomous and continuous analyses.

Risk factors are not necessarily causes. (For discussions of the key concepts involved in risk factor research, see Kazdin, Kraemer, Kessler, Kupfer, & Offord, 1997; Kraemer et al., 1997). The most convincing method of establishing causes of offending is to show that changes in a presumed causal factor within individuals are reliably followed by changes in offending within individuals (Farrington, 1988). For example, in the Pittsburgh Youth Study (PYS), which is a prospective longitudinal survey of over 1500 boys from age 7 to age 30, changes within

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individuals in parental supervision, parental reinforcement, and involvement of the boy in family activities predicted within-individual changes in offending (Farrington, Loeber, Yin, & Anderson, 2002).

Many researchers have discussed the need to study protective factors as well as risk factors, and to strengthen protective factors as well as to reduce risk factors in intervention programs. For example, Pollard, Hawkins, and Arthur (1999) argued that focussing on protective factors and on building resilience of children was a more positive approach, and more attractive to communities, than reducing risk factors, which emphasized deficits and problems. Unfortunately, the term "protective factor" has been used inconsistently. Some researchers have defined a protective factor as a variable that predicts a low probability of offending, or as the "mirror image" of a risk factor (e.g., White, Moffitt, & Silva, 1989), while other researchers have defined a protective factor as a variable that interacts with a risk factor to nullify its effect (e.g., Rutter, 1985), or as a variable that predicts a low probability of offending among a group at risk (e.g., Werner & Smith, 1982).

Inspired by Sameroff, Bartko, Baldwin, Baldwin, and Seifer (1998), Loeber, Farrington, Stouthamer-Loeber, and White (2008) proposed that a variable that predicted a low probability of offending should be termed a "promotive factor". It might be argued that a promotive factor is just "the other end of the scale" to a risk factor, and therefore that calling a variable both a promotive factor and a risk factor is rather redundant, using two names for the same variable. However, this is not necessarily true, and it depends on whether the variable is linearly or nonlinearly related to offending as we discuss below.

Defining risk, promotive, and protective factors

In order to investigate risk and promotive factors in the PYS, Loeber et al. (2008, Chapter 7) trichotomized variables into the "worst" quarter (e.g., low school achievement), the middle half, and the "best" quarter (e.g., high school achievement). They studied risk factors by comparing the probability of offending in the worst quarter versus the middle half, and they studied promotive factors by comparing the probability of offending in the middle half versus the best quarter. They used the odds ratio (OR) as the main measure of strength of effect; an OR of 2.0 or greater indicates quite a strong effect (Cohen, 1996).

If a predictor is linearly related to delinquency, so that the percent delinquent is low in the best quarter and high in the worst quarter, that variable could be regarded as both a risk factor and a promotive factor. However, if the percent delinquent is high in the worst quarter but not low in the best quarter, that variable could be regarded only as a risk factor. Conversely, if the percent delinquent is low in the best quarter but not high in the worst quarter, that variable could be regarded only as a promotive factor. Most studies of the predictors of delinquency label them as "risk factors" but researchers should distinguish these three types of relationships.

Loeber et al. (2008, Chapter 7) systematically investigated relationships between predictor variables and two outcomes (violence and serious theft) and found many examples of pure risk factors and pure promotive factors. As an example, Fig. 1 shows two results from the prediction of violence in early adulthood (ages 20–25) by variables measured in early adolescence (ages 13–15) in the oldest Pittsburgh cohort of 500 males. School achievement was clearly a promotive factor. The percent of boys who were violent was 8% (high achievement), 21% (middle), and 21% (low achievement), with a promotive OR of 2.9 and a risk OR of 1.0. Here, high achievement is the promotive category and low achievement is the risk category. In contrast, peer delinquency was clearly a risk factor. The percent of boys who were violent was 9% (low delinquent peers), 11% (middle), and 40% (high delinquent peers), with a risk OR of 5.5 and a promotive OR of 1.2.

In the PYS, Loeber et al. (2008, Chapter 7) were surprised to find that several variables previously labeled as risk factors instead operated as promotive factors, especially high academic achievement, an older mother, low ADHD (attention deficit-hyperactivity disorder), low

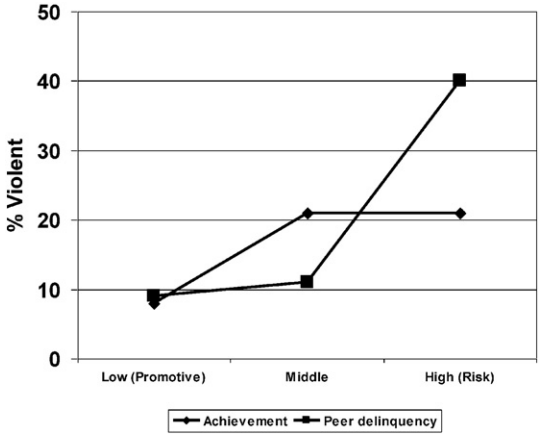

Fig. 1. Prediction of violence in early adulthood from variables in early adolescence.

physical punishment, good parental supervision, high involvement in family activities, and living in a good neighborhood. In contrast, peer delinquency and large family size operated as risk factors, and several variables had linear relationships with violence and serious theft. Promotive factors were more common at younger ages.

As mentioned, a protective factor is a variable that interacts with a risk factor to nullify its effect, or alternatively a variable that predicts a low probability of offending among a group at risk. We will term the former "an interactive protective factor" and the latter "a risk-based protective factor". There have been fewer studies of interaction effects than of protective effects in a high risk group. An interactive protective factor is defined as follows: When the protective factor is present, the probability of offending does not increase in the presence of the risk factor; when the protective factor is absent, the probability of offending does increase in the presence of the risk factor. An alternative way of interpreting this interaction effect is as follows: When a risk factor is present, the probability of offending decreases in the presence of a protective factor; when a risk factor is absent, the probability of offending does not decrease in the presence of a protective factor.

Methods

This article analyzes data collected in the Cambridge Study in Delinquent Development (CSDD), which is a prospective longitudinal survey of 411 South London males (see Farrington et al., 2006; Farrington, Coid, & West, 2009; Farrington, Piquero, & Jennings, 2013; Piquero, Farrington, & Blumstein, 2007). These males were chosen because they were in the second forms of six state primary schools in a working-class area of London. They were not a sample but a complete population of boys of that age in those schools at that time. These males were first assessed at age 8–9 in 1961–62; they have been followed up to age 48 in nine repeated face-to-face interviews and up to age 56 in criminal records. Information was also collected in annual interviews with parents conducted by Study social workers when the boys were aged 8–14, from peer ratings at ages 8 and 10, and from teacher ratings at ages 8, 10, 12, and 14. At age 48, 93% of the males who were still alive were interviewed (365 out of 394), and 42% of the males were convicted up to age 56 (170 out of 404 searched, excluding seven males who emigrated before age 21 and were not searched; see Farrington et al., 2013). Convictions were only counted for the more serious offenses normally recorded in the Criminal Record Office, excluding motoring offenses.

This article investigates the extent to which variables measured at age 8–10 predicted youthful convictions between ages 10 and 18; for more information about all the age 8–10 variables, see West and Farrington (1973) and Farrington, Ttofi, and Coid (2009). Up to age 18, 27% (111) of 409 boys at risk were convicted. Many variables that