Concept Paper

Provisional Paper Title: A Developmental Model of Perceptions of Punishment Risk: Results from The Dunedin Study, Birth to Age 38

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Today's Date: April 4, 2018

Objective of the study:

Experience teaches us that threatening someone with punishment is an effective way to influence their behavior. The child refrains from reaching into the cookie jar while his/her parents are watching and traffic on the motorway slows when a police car is present. It is easy, then, to understand why deterrence theory has for centuries played a leading role in many policy discussions (Wilson and Petersilia, 2011). Indeed, politicians often rely on principles like "getting tough on crime", "all offences brought to justice", and, on a global scale, "mutual assured destruction" to deter others from bad behavior. The reverse is also true—when punishment threats are removed, bad behavior spikes (Andenaes, 1974).

Against this backdrop, it is not surprising that empirical research into deterrence and rational choice (DRC) theories has maintained a central position in criminology and economics for more than two hundred years (Apel and Nagin, 2017; Beccaria, 1963 [1764]; Chalfin and McCrary, 2017). Empirical researchers have tested various aspects of DRC and this body of evidence has clearly established support for many of DRC's key propositions (Loughran et al., 2016; Matsueda et al., 2006; Piliavin et al., 1986; Pratt et al., 2006).

Yet, despite these well-established findings, there remain gaps in scholars' understanding of the broader DRC model. As Paternoster (2010) noted, in order for DRC to "work", objective punishment risks must affect individual-level perceptions of those risks and, in turn, individuals' perceptions of risk must impact their behavior (objective punishment risks→perceptions of punishment risk→behavior). Empirical research has repeatedly provided support for the link between perceptions of punishment risk and individuals' behavior (Apel and Nagin, 2017). But there is less support for the first connection between objective risks and perceptions of risk (Pickett and Roche, 2016; but see Apel, 2013; Apel and Nagin, 2017), which raises questions about the factors that influence variation in perceptions of punishment risk. In his expansive review of the DRC literature, Paternoster (2010) pointed out

that research has not established a link between objective risks and perceptions of risk; a point that was echoed in a more recent review (Apel and Nagin, 2017, page 128). "What is troubling" according to Paternoster (2010, page 804), "is that perceptions of sanction threats are generally not well explained at all. We know very little about exactly how perceptions of punishment certainty, severity, and celerity are formed and this is one of the most glaring holes in the deterrence literature." He referred to this as the "dirty little secret" of DRC research.

The present study aims to cast light on Paternoster's (2010) "secret" by offering a new perspective on individual-level perceptions of punishment risk. We conceptualize perceptions of risk as an age-graded outcome that emerges from a developmental process that begins early in the life course and remains sensitive to turning points that arise in adolescence and young adulthood. We rely on advancements in criminology, psychology, and behavioral economics to derive our model and to develop several novel hypotheses. We test each hypothesis against observations from a representative and prospective longitudinal birth cohort of New Zealand residents. Our data cover nearly 40 years of development, beginning at birth and continuing until participants reached age 38. Our measurement of the perception of punishment risk was assessed using identical measurement strategies from age 18 to age 38, affording us the ability to examine the (in)stability in perceptions over the adolescence-to-adulthood transition.

Data analysis methods:

The analysis will consist of four steps:

1) Factor analysis to determine whether the perceptions of punishment risk (within each phase) can be represented by a single latent trait. This step will be carried out with confirmatory factor analysis.

2) Estimate a growth curve model to capture the development of perceptions of punishment risk over time/age.

3) Use the childhood and adolescence variables to predict the intercept (i.e., the baseline perceptions at age 18) in the growth curve model

4) Use the adulthood time-varying variables to predict time-specific variation in the growth curve model.

Variables needed at which ages:

Outcome Variables

Illegal behavior module for Phases 15, 18, 21, 26, 32, 38

Predictors

Administrative Records
-conviction status and date

Previously constructed items
-offending trajectory group status from Odgers et al. (2007, 2008)
-self-control (from Moffitt et al., 2011 [*PNAS*])

Birth
-birth weight
-sex
-ethnicity

Phase 3
-brain health (measure from Ultra-high-cost segment paper)
-socioeconomic status

Phase 15
-risk preferences (available?)
-anxiety workhorse variable?
-substance use
-peer offending/delinquency or drug use

Phase 18
-personality workhorse variables?
-anxiety workhorse variable?
-parental incarceration (ever incarcerated up to this point?)
-marital status
-employment status (life-history calendar or workhorse available?)
-children (life-history calendar or workhorse available?)
-substance use
-peer offending/delinquency or drug use

Phase 21
-anxiety workhorse variable?
-marital status
-employment status (life-history calendar or workhorse available?)

-children (life-history calendar or workhorse available?)
-substance use
-peer offending/delinquency or drug use

Phase 26
-anxiety workhorse variable?
-marital status
-employment status (life-history calendar or workhorse available?)
-children (life-history calendar or workhorse available?)
-substance use
-peer offending/delinquency or drug use

Phase 32
-anxiety workhorse variable?
-marital status
-employment status (life-history calendar or workhorse available?)
-children (life-history calendar or workhorse available?)
-substance use
-peer offending/delinquency or drug use

Phase 38
-anxiety workhorse variable?
-marital status
-employment status (life-history calendar or workhorse available?)
-children (life-history calendar or workhorse available?)
-substance use
-peer offending/delinquency or drug use

Significance of the Study (for theory, research methods or clinical practice):

Criminologists (and economists) have very little insight into how perceptions of punishment risk develop over the life course. The available research is either cross-sectional or, if longitudinal, restricted to a very limited time point of the life course. The proposed study will extend this literature by offering a developmental perspective and by conducting an analysis that extends much further into the life course than prior work. Information gleaned from the present study will help to advance research into deterrence and rational choice theories of criminology. Because these theories are so heavily relied upon by policymakers, the findings from the present study have the potential to impact policymaking decisions on a wide scale.

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Other Contributors	Temi Moffitt Peter Tanksley (J.C.'s student)
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Comments:

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	Conceptualizing and designing the longitudinal study
	Conceptualizing and collecting one or more variables
	Data collection
	Conceptualizing and designing this specific paper project
	Statistical analyses
	Writing
	Reviewing manuscript drafts
	Final approval before submission for publication
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