

The Oxford Handbook *of*COERCIVE
RELATIONSHIP
DYNAMICS

The Oxford Handbook of Coercive Relationship Dynamics

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The Oxford Handbook of Coercive Relationship Dynamics

Edited by

Thomas J. Dishion

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This book is dedicated to our own children, partners, and grandchildren, who have put up with our preoccupation with a science of family living.

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OXFORD LIBRARY OF PSYCHOLOGY

The Oxford Library of Psychology, a landmark series of handbooks, is published by Oxford University Press, one of the world's oldest and most highly respected publishers, with a tradition of publishing significant books in psychology. The ambitious goal of the Oxford Library of Psychology is nothing less than to span a vibrant, wide-ranging field and, in so doing, to fill a clear market need.

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The Library surveys psychology's principal subfields with a set of handbooks that captures the current status and future prospects of those major subdisciplines. This initial set includes handbooks of social and personality psychology, clinical psychology, counseling psychology, school psychology, educational psychology, industrial and organizational psychology, cognitive psychology, cognitive neuroscience, methods and measurements, history, neuropsychology, personality assessment, developmental psychology, and more. Each handbook undertakes to review one of psychology's major subdisciplines with breadth, comprehensiveness, and exemplary scholarship. In addition to these broadly conceived volumes, the Library also includes a large number of handbooks designed to explore in depth more specialized areas of scholarship and research, such as stress, health and coping, anxiety and related disorders, cognitive development, or child and adolescent assessment. In contrast to the broad coverage of the subfield handbooks, each of these latter volumes focuses on an especially productive, more highly focused line of scholarship and research. Whether at the broadest or most specific level, however, all of the Library handbooks offer synthetic coverage that reviews and evaluates the relevant past and present research and anticipates research in the future. Each handbook in the *Library* includes introductory and concluding chapters written by its editor to provide a roadmap to the handbook's table of contents and to offer informed anticipations of significant future developments in that field.

An undertaking of this scope calls for handbook editors and chapter authors who are established scholars in the areas about which they write. Many of the

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Peter E. Nathan Editor-in-Chief Oxford Library of Psychology

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PREFACE

Jim and Tom had different developmental paths that brought them into the Oregon group studying social interaction patterns in families of aggressive, antisocial children. Jim had been to Vietnam, and then attended graduate school in clinical psychology. He wrote a dissertation that replicated the effects of parent management training on the reduction of children's aggressive behavior. Tom rolled into Eugene in 1978 in a VW camper van, looking for a job and career. It was luck that brought him to Oregon and to the menial task of transcribing home observers' descriptions of family interactions. The observers' whispers were transcribed onto coding sheets, which looked like musical scrolls. In viewing the musical scroll, the pattern between the mom's nattering and the children's aggression was visually quite clear.

Implicit Knowledge

Gerald R. Patterson 08/2011

The musician plays in my garden
Her soft notes tentative
Tiny fingers reach through the music
Caressing the meaning beneath the notes
Unveiling the structure of my statistical model

Even in 1978, those observing family interaction patterns did not assume that the interactions were causing the aggressive behavior. Causality came into the picture when Marion Forgatch became involved in 1980. After a month or so of transcribing the family interactions it was time for an intervention. The intervention was simple: put an earphone in mom's ear and whisper parenting skills to her to replace coercive antecedents. Like magic, the aggressive behavior was reduced to normal levels. Thus stimulus control was established, and families' quality of life improved.

Jim and Tom did not meet in Oregon until some years later (mid-1980s). Jim came to Oregon Social Learning Center for a senior-level postdoc. There was clearly a "click" between Jim and the entire Oregon group, and in the ensuing years several advances were made in the formulation of the coercion model with respect to studying escalation, measuring the relative rate of reinforcement, and the matching law.

Right around the time Jim came to Oregon for a year, the Oregon group became interested in extending the coercion dynamic into developmental models that hopefully would inform prevention and treatment strategies. With fervor,

the group advanced headlong into longitudinal modeling. Among behavioral scientists, high-inferential constructs are often avoided, if not eschewed. However, the statistical framework in psychology was growing, and now it was possible to translate latent constructs into very specific measurements of behavior. These were exciting times at OSLC, and the early career researchers blossomed. Jerry Patterson, John Reid, and Patti Chamberlain collaborated to create a highly supportive scientific environment that would lead to innovation in intervention and theory. The OSLC "Bull Sessions" were the venue for trying out new ideas, statistical consultation, and general support for the research enterprise. There were no rules except that criticism was to be kept at a minimum, and discussion and brainstorming flowed naturally. From the OSLC Bull Sessions emerged several evidence-based practices for the prevention and treatment of antisocial behavior in children and adolescents: Parent Management Training-Oregon Model, Treatment Foster Care-Oregon model, Family Check-Up, and the LIFT program. Freewheeling discussions and data exploration sensitized the group to expand the model to include the broader ecology of antisocial behavior. Tom initiated research into deviancy training by the peer group, which unveiled the prominent role of peer interactions in the persistence of antisocial behavior and its escalation to more serious forms.

Listen to the Music

Gerald R. Patterson 4/2013

The trees stand silent Listen to their music No thinking—just rhythm

Oh, the beauty of it

Skis floating

Dive into space

The music deep inside

Oh, the beauty

On the blackboard

Three latent constructs

A single path shimmering through all three

Oh, the beauty of it

She stands alone

Join her

Hear the music

Oh the beauty of it

Oh the beauty

Oh

As time marched on we witnessed the field of developmental psychology and intervention science grow in various ways, improving societies' capacity to understand, prevent, and treat antisocial behavior in children and families and to help couples reduce destructive cycles of conflict. Understanding, measuring, and intervening to reduce coercive dynamics in families and couples became accepted as the cornerstone of evidence-based interventions and a critical aspect of

developmental theory. We all moved on in our careers but remained friendly and often collaborative despite our busy professional and personal lives. To continue learning and supporting studies on relationships and families, Jerry proposed periodic Chautauquas that brought in scientists able to mix a bit of fun with a lot of science. Jim and Tom were always part of these events and collaborated to write many of the ensuing papers and edit special issues.

As it became clear that work relevant to coercion theory was branching into new areas of discovery, we thought it was time to create this Oxford *Handbook*, to reflect on the progress that has been made, and to clarify new and promising future directions of scientific inquiry. It made sense for Tom and Jim to collaborate closely on this project. However, as time and change go hand in hand, the coordination and editing of this volume came with its challenges, with heart surgery and cancer treatment being significant disruptors to the editorial process.

With some flexibility and persistence, the *Handbook* was finished. We are grateful for the patience, talent, and dedication of the authors of this *Handbook*. With their own litany of career and life events, the group pulled through to contribute the best thinking on etiology of coercion and interventions that reduce it. We thank Cheryl Mikkola for her tactful guidance and skilled forbearance with the editors. As you will see from the interesting chapters in this *Handbook*, progress in science takes many unexpected turns. The study of coercion began with the careful analysis of single individuals as they interacted with family members and moved toward developmental models that included hundreds of couples, families, and peers. This nonlinear scientific momentum culminated in the past decade to encompass national efforts to successfully implement intervention strategies that address coercion and reduce child and adolescent aggression. It has been an interesting journey, and this book reflects what can be accomplished when scientists cooperate to answer important questions. It is also possible have a little fun and make some friends along the way.

The Oxford Handbook of Coercive Relationship Dynamics

CHAPTER

1

Introduction: Coercive Social Processes

James J. Snyder and Thomas J. Dishion

Abstract

This chapter provides an introduction to the concept of coercion in human relationships. Coercion is defined as an interpersonal strategy that results in avoidance or escape of an aversive social experience. We describe the basic topographic, functional, and contextual factors associated with coercion. The varied ways in which coercive behaviors are manifested and operate in multiple social relationships are described, along with the kinds of social contingencies and conditions that grow coercive dynamics. The origins, shaping by social environmental experiences, and longer term outcomes of coercive behaviors and relationship dynamics are discussed from a developmental perspective. Research on coercion was inspired by an interest to design effective interventions. The dialectic between applied and basic research strengthens our scientific understanding of the role of coercive relationship dynamics in developmental outcomes and provides the basis for several evidenced-based interventions that improve the lives of children and families.

Key Words: coercion, relationship, development, negative reinforcement, aggression

Introduction

Humans are fundamentally social beings. Close, supportive relationships are associated with health, happiness, and psychological well-being. However, dysfunctional social relationships are related to a litany of prevalent and costly individual and social problems. These include violence, school failure and dropout, drug use, child abuse, criminal activity, depression and anxiety, relationship failures, risky sexual behavior, accidents, bullying and victimization, ethnic and religious intolerance, poor physical health, and diminished work productivity. It is a paradox of the human condition that we are often not aware nor able to regulate the interpersonal events that add up to suffering of others or ourselves. Healthy social relationships, on the other hand, are not only good for individuals but also fundamental to collective well-being, including effective parenting, supportive and loving intimate relationships and friendships, constructive political

and collective social action, and productive work (Biglan, Flay, Embry, & Sandler, 2012).

Efforts to promote human welfare at individual and collective levels provide the impetus to identify and understand the processes operating in close social relationships that powerfully influence human adjustment, health, and productivity. This Handbook focuses on one fundamental social behavior process, coercion. The vast majority of coercion is expressed by the simple use of aversive behavior to win a conflict. The coercion dynamic likely evolved as an efficient and effective means to establish dominance and resolve conflict in favor of group cohesion (de Waal, 2000). However, in close interpersonal relationships, unfettered coercion reflects the dark side of social living and its destructive potential. Scientific understanding of the origins and effects of coercive social processes holds the promise of reducing suffering and promoting health and well-being in human relationships.

T

In this chapter, we first provide a definition and description of coercive behavior and coercive social processes, serving as a foundation for subsequent chapters in this Handbook. More specifically, we describe how coercion theory, from its earliest formulation (Patterson, 1982; Patterson & Reid, 1970), established a translational research agenda. Based on an understanding of the micro origins of coercive family dynamics (e.g., Patterson & Cobb, 1971), an intervention was designed that would systematically reduce aggression in families (Patterson, 1974). Thus, the early program of research on coercion entailed a focus both on understanding on changing families to reduce suffering and improve health and well-being. As can be seen by the chapters in this edited volume, several investigators share this translational research agenda and considerable progress has been made in the design of interventions that improve the lives of children and families.

A critical point that needs to be made at the onset of this journey is the distinction between a theory and a model. One of the defining characteristics of the program of research on coercion is that it lends itself to ongoing empirical validation. At some point, Patterson and colleagues stepped back from the group's research and articulated the concept of a performance model, in contrast to a theory (Patterson, 1989). The performance model is an empirical model that accounts for variance in the dependent variable such as child aggression. As such, variables from diverse theoretical orientations can be integrated into an empirical formulation. Of course, one of the defining steps in testing a model is an intervention experiment that manipulates the mediating construct to examine change in the outcome of interest (Dishion & Patterson, 1999). Several chapters in this volume share that dual focus, not only reporting variance accounted for in an outcome of interest but also considering how well intervention experiments support the model. Multiple theoretical perspectives are used throughout the volume to understand and potentially change coercive relationship dynamics. These elaborations and extensions reflect cross-disciplinary and multilevel elaborations and extensions of previous empirical work derived from coercion theory, and represent a powerful convergence of behavioral, developmental, social, biological, and intervention sciences. We invite the reader to join us on this interesting empirical journey.

The Construct of Coercion

Coercion refers to a set of interpersonal tactics by which individuals or groups use (typically) aversive behavior to obtain rewards and access to desired activities, attain status, and avoid or escape aversive control and demands in social relationship contexts (McCord, 1995; Patterson, 1982). Coercion can be defined in terms of its topography and social function. Topographically, coercion has typically referred to a class of overt social behaviors that are perceived as aversive by others (Snyder, 1983). These behaviors may be direct and include physical threats and aggression, verbal threats and disparagement, opposition and noncompliance, negative affective displays, and emotional manipulation and control. Coercion can also take also take more indirect and subtle forms such as love withdrawal, lying and deception, third-party character denigration, and rejection or exclusion in social groups in which relationships are keys to adaptive functioning. In some cases, as we will see, individuals may even "coerce" their romantic partner into acquiescence through manipulative affection. Regardless of the specific form, coercion is apparent in all close personal relationships, with parents, siblings, peers, friends, intimate partners, teachers, and coworkers.

Persons targeted by coercive behaviors generally experience those behaviors as aversive or manipulative. One primary function of coercive behaviors is to turn off and/or to head off others' behavioral demands, expectations, or potential conflicts (Snyder & Patterson, 1995). This arrangement of events is often called "negative reinforcement," in which a behavior is strengthened because it functions to reduce a threatening and aversive experience. A tantrum in response to a parental limit setting is functional if it terminates parental efforts to enforce that limit. Coercion may occur when one person purposefully ignores the social bids from another as a means of avoiding an argument, as in "stonewalling" (Gottman, 1993). This function reflects escape or avoidance conditioning in which coercive behaviors are shaped and maintained by negative reinforcement contingencies provided by other people.

Coercive behaviors may also be shaped and maintained by positive reinforcement insofar as those behaviors enable access to desired materials, social status, and activities. As we shall see, examples of positive functional outcomes that can lead to increases in coercive relationship dynamics include increased cooperation and compliance,

access to material goods and activities, social control and status, and sexual and emotional engagement. At a macro scale, coercion may serve as a means to increase solidarity and advantages of an "in-group" by threatening or actively excluding an "out-group." This is apparent not only in social cliques in peer groups but also in the actions of ethnic and religious groups and nation-states.

Whether a behavior serves a coercive function also depends on the social context in which it occurs. An individual who is the target of a topographically aversive behavior may experience that act as prosocial rather than coercive if that behavior benefits the targeted individual (e.g., being pushed out of the way of an oncoming car). Similarly, a topographically prosocial act may be perceived as coercive if it is manipulative or controlling (e.g., verbal endearments that are experienced as embarrassing or humiliating). The presence of third parties and social networks also potentiates ostracism, which can be a very powerful form of aggression and coercion (Cairns & Cairns, 1984, 2000). The threat of exclusion can build solidarity and cohesion as well as power and status of the "in-group" (Crick & Grotpeter, 1996). Similarly a lover can threaten to "jilt" his/ her partner if a conflict is not resolved to his/her satisfaction (Collins, 2003). Such experiences in adolescent romantic relationships may be critical learning opportunities that define future relationship adaptation.

Coercion is a social process involving two or more persons. Coercive behaviors are evoked by the behavior of other persons, are context dependent, and are shaped and maintained by the contingent reactions of others. Because social interaction inherently entails mutual influence, the behaviors of both parties are shaped by the other's behavior during ongoing interaction (Patterson, 1979, 2002; Patterson, Reid, & Dishion, 1992). When a parent gives in to the demand of an adolescent for a later curfew, the adolescent is more likely to use such demands to diminish limit setting and the parent is less likely to set limits in order to avoid conflict with the adolescent. If refusal to respond successfully terminates a spouse's expressions of distress, the person will come to increasingly rely on refusal or withdrawal of attention as means of problem solving. The study of coercion, therefore, focuses on relationship processes involving multiple persons rather than on the behavior of any one individual.

Coercive behaviors represent one ubiquitous, fundamental class of social behavior. However, there

are other fundamental classes of social behavior that might be termed positive or "skilled" (variously labeled cooperative, prosocial, nurturing, empathic, warm, and supportive) available in individuals' social repertoire that may serve the same functions as coercive behavior. There are skilled and more constructive means by which to manage conflict and disagreement, to attain status, to collaborate on some goal, and to access rewards and desired activities. These skilled behaviors are relationship enhancing (Biglan et al., 2012). The frequency of coercive behaviors depends on their utility or functional value relative to that for more positive, skilled alternatives (McDowell, 2004; Snyder & Patterson, 1995). An intimate partner may yell to settle a disagreement, however, that strategy prevails only if it works better than empathy, listening, and problem solving (Birchler, Weiss, & Vincent, 1975). However, a healthy relationship tends not to reciprocate and returns back to an emotional state where two individuals can solve the problem equitably and with compassion.

Development of Coercive Social Processes

Humans and other primates have a "built-in" capacity for coercive behavior, as witnessed by infants' cries to gain adult attention and care giving. Coercive behavior doesn't have to be "learned" in this sense (Tremblay, 2003). Coercive behaviors are built-in and ubiquitous partly because they are adaptive. They provide powerful means to alter the behavior of others, to manage aversive states and environmental challenges, to obtain desired materials and social attention, and to access to desired activities. As such, coercive behaviors are natural and not inherently pathological; they simply represent one basic class of social-relational behaviors.

However, infants also have an array of other built-in social behavioral tactics by which to capture adult attention and care giving, such as mutual gaze, nuzzling, grasping, and smiling that emerge early in development. During development, both coercive and skilled social relationship tactics become elaborated in topography and shift in frequency and function as a result of biological maturation, progressive experiences in new social ecological contexts, and social learning processes (Dishion & Stormshak, 2007; Leve, Pears, & Fisher, 2002). If that elaboration leads to predominant reliance on coercive means of relating to others, the development of competence and access to supportive social relationships are compromised and risk for negative developmental outcomes is increased (Reid & Eddy, 1997).

Failures to discourage primary and persisting reliance on coercive behavior and to successfully shape and support positive, skilled social behavior involve cumulative learning during day-to-day interaction of individuals with parents, teachers and other adult caregivers, siblings, peers, adult partners, and offspring. Insofar as coercive relative to skilled behaviors are functional during social interaction in multiple relationships over time, coercive behavior may be maintained at high frequency, amplify in variety, and escalate in severity, leading to its trait-like expression over time and across situations. An individual may move through a cascade of experiences in multiple social-ecological contexts during infancy, childhood, adolescence, and adulthood in which pain and manipulation are used as primary relationship tactics, undermining the health and well-being of the individual and of others.

Coercive behaviors may be initially strengthened by escape conditioning (avoiding hunger, discomfort, etc.), but later in development often take on more complex and elaborate functional properties involving combinations of positive and negative reinforcement. For example, joining with a peer in attacking a school bully may be both positively reinforcing (establishing a friendship) and negatively reinforcing (reducing the likelihood of future attacks). Successful cheating on a test attains unwarranted rewards and avoids punishment. Lying to an intimate partner about an affair can avoid conflict and promote a rewarding liaison.

Heavy reliance on coercive behavior as a primary means of relating to others also undermines development in less direct ways. Coercive behavior diminishes and disrupts supportive social relationships and limits access to learning environments needed to acquire skilled behavior. Heavy reliance on coercive behavior may lead to social rejection, to reciprocated coercion or exclusion, and to failure in important normative learning and earning environments such as school and work (Patterson et al., 1992; Snyder, Reid, & Patterson, 2003). Individuals may also actively select social relationships and contexts that are compatible with their coercive style and may provide a modicum of reward and status (Dishion, Andrews, & Crosby, 1995). This "niche finding" is adaptive from an evolutionary perspective, yet at another level, may amplify and reinforce coercive social behavior. Youth may learn a coercive stance in romantic relationships, one that will need to be unlearned to achieve a healthy and satisfying intimate relationship. Social relational niche-finding, either as a result of active choice or exclusion, is apparent in peer relationships as early as kindergarten, continues into adolescence (Snyder, Horsch, & Childs, 1997), and operates in the selection of adult partners and associates. Coercive individuals create and live in coercive environments. Depending on the context, this may lead to increased economic and material resources (resulting from bullying, desired mates, or crime) but also to longer-term relationship failure and further marginalization and exclusion.

Individual variation in the frequency and range of coercive social behaviors is apparent from birth and continues across development. Early individual differences in coercive (and in skilled or positively engaging) behaviors likely have genetic or constitutional origins as reflected in temperament, but are elaborated by social environmental experiences and contingencies. Normative socialization entails, in part, the experience of environmental contexts and contingencies that discourage reliance on coercive interactions and encourage responding skillfully and humanely to emerging conflicts, demands, and expectations in ways that constructively access desired activities and materials, and that enhance relationships (Cavell, Hymel, Malcolm, & Seay, 2007). The relationship conditions that discourage coercive social behaviors and that shape and maintain skilled social behaviors are specific to development period (Dishion & Stormshak, 2007), characteristics of the relationship (parent-child, sibling, peers, romantic partner, marital partner, coworker etc.), and developmental shifts in temperament (Kiff, Lengua, & Zalewski, 2011). Without doubt, cultures also vary with respect to norms and values on the definition and resolution of conflict and the use of coercion.

Given the negative social and contextual consequences and the negative developmental outcomes associated with trait-like coercive behavior, the question might be posed as to why such behavior persists and is relatively resistant to change. There appear to be at least three answers. One answer is that coercive behavior is immediately powerful and adaptive—it is highly functional in terms of generating short-term positive and negative reinforcement contingencies. In some cases, the yields may seem costly to abandon (a lucrative criminal activity, a submissive spouse), and in other cases reflect an impoverished social repertoire with which to attain reinforcement, resolve conflict, and establish supportive relationships.

A second answer is that coercive behaviors may become overlearned and automatic as they occur daily in family, peer, and other close relationships (Dumas, 2005). As a consequence, involvement in coercive social exchanges may take place without active awareness, planning, and intention. As a result of ongoing and repeated contingency-shaping, irritability, opposition, and aggression may become almost reflexive relationship tools, coercion is quickly met with countercoercion, and escalation in the intensity of aversive behavior is used to force capitulation.

Third, individuals who increasingly rely on coercive tactics are both architects and victims of coercive environments (Dodge, 1983; Patterson, 1988). Rejection can be in the eye of the beholder, and those doing the rejecting can become enemies, and therefore future targets of aggression and retaliation. Coercion begets coercion. Humiliated by teasing and provocations, a young man brings a gun to school and shoots other students who are perceived as provocateurs. Anticipating rejection, an intimate partner threatens suicide. To avoid conflict, a husband stops talking and becomes disdainful. To gain status, adolescents collude to humiliate a victim through the use of social media.

Coercion as a social process is a reasonable target for both prevention- and treatment-oriented interventions. From an ecological view, many of the settings in which coercion occurs have been targeted by intervention research. In the past 20 years, the success of interventions to reduce aggressive and antisocial behavior is remarkable (see Weisz & Kazdin, 2010). Interventions designed for school settings, for youth within schools, marital relationships, peer relationships, and especially family relationships show important benefits to reducing coercion and promoting cooperation, positive coping, and problem solving. However, changing automatic and often unconscious interpersonal behaviors is as challenging as it is valuable.

The goal of this handbook is to bring together a group of scientists with programs of research relevant to understanding and changing coercive relationship dynamics. The group articulates the relatively broad applications and extensions of coercion theory to understanding the dark side of human relationships and risk for maladjustment and illness, and to find avenues to improve the human condition. If as argued above, coercion is a fundamental social relationship tactic, expanding our understanding of the means by which it is expressed, the manner in which it operates, and the array of outcomes it generates provides important avenues for better understanding human behavior and social

relationships and for developing interventions to limit its negative effects. In the chapters that follow, a number of empirical journeys are described that substantially extend our understanding of coercive relationship dynamics, articulate new directions for research, and describe efforts to derive and deliver increasingly efficacious and effective preventive and clinical interventions to promote constructive and supportive human relationships and ultimately to engender and sustain positive individual and social adaptation and capacity.

References

- Biglan, A., Flay, B. R., Embry, D. D., & Sandler, I. N. (2012). The critical role of nurturing environments for promoting human wellbeing. *American Psychologist*, 67, 257–271.
- Birchler, G. R., Weiss, R. L., & Vincent, J. P. (1975). Multimethod analysis of social reinforcement exchange between maritally distressed and nondistressed spouse and stranger dyads. *Journal of Personality and Social Psychology*, 31, 349–360.
- Cairns, R. B., & Cairns, B. D. (1984). Predicting aggressive patterns in girls and boys: A developmental study. Aggressive Behavior, 10, 227–242.
- Cairns, R. B., & Cairns, B. D. (2000). The natural history and developmental functions of aggression. In A. J. Sameroff, M. Lewis, & S. M. Miller (Eds.), *Handbook of developmental psychopathology* (pp. 403–429). Dordrecht, The Netherlands: Kluwer Academic.
- Cavell, T. A., Hymel, S., Malcolm, K., & Seay, A. (2007). Socialization and the development of antisocial behavior: Models and interventions. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of socialization* (pp. 42–67). New York, NY: Guilford Press.
- Collins, W. A. (2003). More than myth: The developmental significance of romantic relationships during adolescence. *Journal of Research on Adolescence*, 13, 1–24.
- Crick, N. R., & Grotpeter, J. K. (1996). Children's treatment by peers: Victims of physical and relational aggression. *Development and Psychopathology*, 8, 367–380.
- De Waal, F. B. M. (2000). Primates—A natural heritage of conflict resolution. *Science*, 289, 586–590.
- Dishion, T. J., Andrews, D. W., & Crosby, L. (1995). Adolescent boys and their friends in early adolescence: I. Relationship characteristics, quality, and interaction processes. *Child Development*, 66, 139–151.
- Dishion, T. J., & Patterson, G. R. (1999). Model building in developmental psychopathology: A pragmatic approach to understanding and intervention. *Journal of Clinical Child Psychology*, 28, 502–512.
- Dishion, T. J., & Stormshak, E. A. (2007). Intervening in children's lives: An ecological, family-centered approach to mental health care. Washington, DC: American Psychological Association Press.
- Dodge, K. A. (1983). Behavioral antecedents of peer social status. *Child Development*, 54, 1386–1399.
- Dumas, J. E. (2005). Mindfulness-based parent training: Strategies to lessen the grip of automaticity in families with disruptive children. *Journal of Clinical Child and Adolescent Psychology*, 34, 779–791.

- Gottman, J. M. (1993). The roles of engagement, escalation, or avoidance in marital interaction: A longitudinal view of five types of couples. *Journal of Consulting and Clinical Psychology*, 61, 6–15.
- Kiff, C. J., Lengua, L. J., & Zalewski, M. (2011). Nature and nurturing: Parenting in the context of child temperament. Clinical Child and Family Psychology Review, 14, 251–301.
- Leve, L. D., Pears, K. C., & Fisher, P. A. (2002). Competence in early development. In J. B. Reid, G. R. Patterson, & J. Snyder (Eds.), Antisocial behavior in children and adolescents: A developmental model and model for interventions (pp. 45–64). Washington, DC: American Psychological Association Press.
- McCord, J. (1995). Introduction: Coercion and punishment in the fabric of social relations. In J. McCord (Ed.), Coercion and punishment in long term perspectives (pp. 1–5). New York, NY: Cambridge University Press.
- McDowell, J. J. (2004). A computational model of selection by consequences. *Journal of the Experimental Analysis of Behavior*, 81, 297–317.
- Patterson, G. R. (1974). Interventions for boys with conduct problems: Multiple settings, treatments and criteria. *Journal* of Consulting and Clinical Psychology, 42, 471–481.
- Patterson, G. R. (1979). A performance theory for coercive family interaction. In R. D. Cairns (Ed.), *The analysis of social interactions: Methods, issues and illustrations* (pp. 119–162). Hillsdale, NJ: Erlbaum.
- Patterson, G. R. (1982). Coercive family process. Eugene, Oregon: Castalia.
- Patterson, G. R. (1988). Family processes: Loops, levels and linkages. In N. Bolger, A. Caspi, G. Downey, & M. Moorehouse (Eds.), Persons in context: Developmental processes (pp. 114–151). New York, NY: Cambridge University Press.
- Patterson, G. R. (2002). The early development of coercive family processes. In J. B. Reid, G. R. Patterson, & J. Snyder (Eds.), Antisocial behavior in children and adolescents: A developmental

- model and model for interventions (pp. 25–44). Washington, DC: American Psychological Association Press.
- Patterson, G. R., & Cobb, J. A. (1971). A dyadic analysis of "aggressive" behaviors. In J. P. Hill (Ed.), *Minnesota symposium on child psychology* (Vol. 5, pp. 72–129). Minneapolis: University of Minnesota Press.
- Patterson, G. R., & Reid, J. B. (1970). Reciprocity and coercion: Two facets of social systems. In C. Neuringer & J. L. Michael (Eds.), *Behavior modification in clinical psychology* (pp. 133–177). New York, NY: Appleton-Century-Crofts.
- Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). Antisocial boys. Eugene, OR: Castalia.
- Reid, J. B., & Eddy, J. M. (1997). The prevention of antisocial behavior: Some considerations in search of effective interventions. In D. M. Stoff, J. Breiling, & J. D. Maser (Eds.), *The* handbook of antisocial behavior (pp. 343–356). New York, NY: Wiley.
- Snyder, J. (1983). Aversive social stimuli in the family interaction coding system. *Behavioral Assessment*, 5, 315–331.
- Snyder, J., Horsch, E., & Childs, J. (1997). Peer relationships of young children: Affiliative choices and the shaping of aggressive behavior. *Journal of Clinical Child Psychology*, 26, 145–156.
- Snyder, J., & Patterson, G. R. (1995). Individual differences in social aggression: A test of a reinforcement model of socialization in the natural environment. *Behavior Therapy*, 26, 371–391.
- Snyder, J., Reid, J. B., & Patterson, G. R. (2003). A social learning model of child and adolescent antisocial behavior. In B. B. Lahey, T. E. Moffitt, & A. Caspi (Eds.), Causes of conduct disorder and juvenile delinquency (pp. 27–48). New York, NY: Guilford Press.
- Tremblay, R. E. (2003). Why socialization fails: The case of chronic physical aggression. In B. B. Lahey, T. E. Moffitt, & A. Caspi (Eds.), Causes of conduct disorder and juvenile delinquency (pp. 182–224). New York, NY: Guilford Press.

2

Coercion Theory: The Study of Change

Gerald R. Patterson

Abstract

This chapter describes research supporting a stage model for the progression of antisocial behavior from early childhood through late adolescence. Early coercion within the family leads to growth in a child's oppositional behavior, which in turn undermines school readiness and can precipitate early influence of deviant peers. Antisocial behaviors in middle childhood are prognostic of deviant peer group association in early adolescence. Involvement with deviant peers and deviancy training in adolescence account for the progression from antisocial behavior to violence, arrests, and multiple forms of problem behavior. The chapter reviews randomized intervention studies that have shown that Parent Management Training - Oregon Model (PMTO®) leads to reduced coercion, increased positive interactions with parents, less deviant peer involvement, and ultimately, fewer serious antisocial behaviors in adolescence. In this sense, application of the coercion model to understanding and changing antisocial behavior is one of the few success stories of a translational research enterprise.

Key Words: coercion theory, change, antisocial behavior, childhood, adolescence, PMTO

"If you truly want to understand something, try to change it."

-Kurt Lewin

In the Beginning

By the 1950s it had become abundantly clear that community-based, intensive treatment (Redl & Wineman, 1951, 1957) and outpatient treatment (Levitt, 1957) were ineffective therapies for children with aggression and antisocial behavior. This finding was extended in the 1980s to systematic randomized studies of residential group care for delinquent youths (Weinrott, Jones, & Howard, 1982) and to selected prevention for high-risk youths, which ultimately revealed potential iatrogenic effects (Dishion, McCord, & Poulin, 1999; McCord, 1981). The need to apply the science of human behavior to the design of effective prevention and treatment became clear.

During this same time, the Skinnerian revolution (Skinner, 1953, 1969) with its behavioral approach was exerting a major impact on the field of psychology and seemed the most promising for translation to treatment. The Skinnerian model seemed ideally suited to identifying the causes of aggression and finding answers to the problem. For example, in keeping with the Skinnerian position, researchers assumed they would be able to identify the reinforcing contingencies for specific aggressive behaviors. But this assumption raised a number of interesting questions. What were the reinforcements? Who presented them? When and why? How does something become reinforcement for aggression? An adequate theory would have to address each of these questions.

Contingencies would have to be analyzed. This meant that researchers would need a measurement system with strong methodology based on direct

observation to evaluate family interactions. It was imperative that data were sequential in form and of very high quality (Reid, 1978). We built and rebuilt coding systems for family and peer interactions several times while a series of methodological studies were conducted on the impact of observer presence, interrater reliability, observer training, the effects of settings, and statistical strategies to analyze the interactions (Patterson, 1982).

We had thought that providing positive social reinforcement contingent on prosocial behavior would be a simple process. However, a series of findings from laboratory studies showed that antisocial boys were significantly less responsive than normal boys were to social reinforcement (Levin & Simmons, 1962; Patterson, Littman, & Hinsey, 1964). As a result, we found ourselves pairing social reinforcement with instrumental reinforcement (e.g., extra screen time, special dessert).

Using the Skinnerian model as a launching pad was a flawed approach. Studies had been showing that punishment had only short-term suppressive effects on behavior, so it was widely suggested that punishment had no place in this model. Many investigators, including the Oregon research group with whom I was working, carried out their own small studies and found that punishment played a role in behavior change, but by itself it was not effective. It was most effective in combination with positive reinforcement.

The next step in the treatment strategy seemed relatively straightforward: find a punishment that would effectively reduce aggressive behavior. Then it should be relatively easy to combine mild punishment with positive reinforcement to strengthen prosocial behavior. However, several difficulties immediately arose. First, an effective punishment had to be identified. Within a very short time some variation of "time out from reinforcement" became a part of my research group's intervention. Unfortunately, we found that most parents failed to use it properly. Delivering an effective punishment for coercion turns out to be one of the more difficult components of treatment.

That was the beginning. This chapter describes how we moved from modest and perhaps over-simplistic operant models to an understanding of coercion as a fundamental social process that contributes to risk for antisocial behavior from early childhood into adolescence and young adulthood. It also describes how and why our early efforts to develop a parenting intervention evolved as a result of this understanding, including how to deliver it to parents who resist our skills-training efforts.

What Is Coercion?

In "normal" families, the social interactions are organized around positive and neutral exchanges, in contrast to clinical families, who have higher levels of aversive exchanges embedded in coercive conflicts (Snyder, 2002). Thus, in response to the question "What causes children's aggression?", our extensive observational studies during the 1970s suggested that the proximal variable for understanding child aggression would be "coercion." Coercion describes a process during which aversive events are used to control the behavior of another person. To operate as part of a coercive process, a social action must possess each of two characteristics: one, the action is experienced by others as aversive, and two, the action is used contingently. Observations indicate that a problem child produces an aversive event about every 3 minutes, with similar rates at home and on the playground. In a 10-hour day, there could be something like 200 opportunities to strengthen or weaken a large number of aversive behaviors. This potentiality has profound implications for growth in aggressive and oppositional behavior.

An aversive event might serve any of three sequential and contingent functions:

- 1. Two-step sequence: An aversive behavior by Person 1 at Time 1 leads to a positive outcome by Person 1 at Time 2 (reinforcement).
- 2. Two-step sequence: An aversive behavior by Person 1 at Time 1 leads to a negative consequence by Person 2 at Time 2 (punishment).
- 3. Three-step sequence: An aversive behavior by Person 1 at Time 1 leads to an aversive behavior by Person 2 at Time 2, which results in desistance of aversive behavior by Person 1 at Time 3 (negative reinforcement or escape conditioning).

Note that these arrangements are not pathological in and of themselves. For example, the three-step sequence could account for how effective punishment, when applied sanely and humanely, can reduce a child's aggressive behavior. The same arrangement could also explain how a child could escalate resistance in the face of a parent's aversive behavior and result in the parent being a victim of aggression. In our early studies of aggression, we expected that the simple two-step sequence of positive reinforcement was the most promising candidate to explain etiology and guide treatment. It had never occurred to us that often it was the victim who supplied the positive reinforcement for the aversive behavior in the negative reinforcement arrangement!

In one of our first observation studies, we collected data in a nursery school (Patterson, Littman, & Bricker, 1967). Each aggressive event was coded with respect to specific behavior of both the aggressor and the victim. Eighty percent of the attacks were positively reinforced by the victim (e.g., cry, give up the tricycle). This positive reinforcement contingency was associated with an increase in the probability of future attacks on the victim. Our more recent findings suggest that peers and siblings may be important sources of positive reinforcement, specifically for hitting.

Our lives are played out against a background of changing probability values. We do not experience this as a state of constant flux, because most of us consider such events to be innocuous—a kind of social detritus best ignored. Garden-variety coercive exchange is analogous to driving a car, an activity that is overlearned (Howard, 1983). Overlearned activities require very little active cognitive processing, making it possible to talk and drive at the same time,

for example. Coercion is also overlearned. It runs on automatic: "We assume that the effects of reinforcement and punishment contingencies found in family interaction sequences are automatic, that is, they are not mediated by thought or expectancies" (Patterson, Reid, & Dishion, 1992, p. 56). In fact, one reason why family therapy is so difficult is that much of the coercion process is on automatic. These circumstances led Forgatch (1994) to add a component about emotions to the intervention, to teach parents to accurately track negative and positive emotions in themselves and their children. Parents learn to provide clearly stated directives in neutral affect and follow up with positive reinforcement for cooperation and small negative sanctions (e.g., Time Out) for noncompliance. The effect of the intervention is to bring the overlearned aspects of coercion out in the open.

Coercion has a thousand beginnings, and many of them look innocent enough. For example, Figure 2.1 depicts a three-step sequence during which the mother scolds her son for not doing homework.

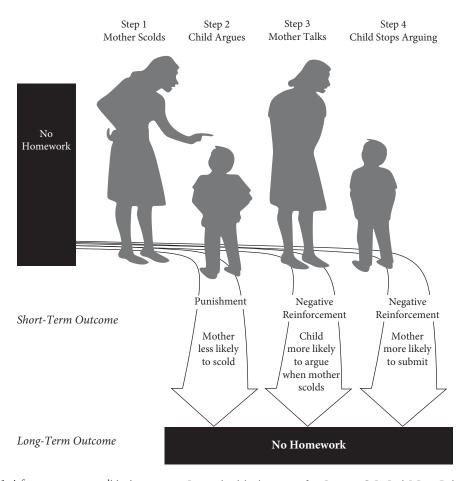


Figure 2.1 A four-step escape-conditioning sequence. Reprinted with kind permission from Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *Antisocial boys* (Vol. 4). Eugene, OR: Castalia.

In Step 2, the boy responds by yelling. Steps 1 and 2 are an example of negative reciprocity initiated by the mother. The boy's arguing functioned as a punishment for the mother's scolding. In Step 3, the mother stops being negative and backs away from the homework demands. It is noteworthy that the coercion arrangement is more complex than one person being negatively reinforced for an aversive behavior. Actually, both the mother and the boy are affected by this arrangement. A fourth step could be introduced that describes the effect of the arrangement on the mother. In Step 4 the boy stops arguing, which negatively reinforces the mother for giving in, and she is less likely to scold in the future. In the short term, the effect of the interchange is to reduce dyadic misery. The mother stops scolding, and the child stops arguing. But in the long term, there will be an increase in unfinished homework, an increase in the child becoming aversive when someone makes a demand, and an increased risk for school failure.

Coercive exchanges occur in most relationships. However, how do you know when coercion gets out of control and leads to deviancy? On any given day any number of single aversive behaviors could accelerate into major confrontations. If coercion is associated with deviancy, one would expect to see it occur more frequently and for longer durations in clinically referred families than in at-risk or nonproblem families. Table 2.1 lists the frequency and duration of 13 aversive child events occurring during 20 minutes of observation with samples of clinical and at-risk families (Patterson, 1982). First, notice that the rates of aversive behavior are much higher for the clinical sample than for the at-risk sample. One might ask why this is so. The hypothesis is that among the clinical group, child aversive behavior received more negative reinforcement. Notice that most coercive behavior is expressed verbally (e.g., negative verbal, commands, verbal attack). The average duration of negative verbal statements was

Table 2.1 Frequency and Duration of Specific Behaviors from the Family Process Code

	At-Risk S	At-Risk Sample (N = 104)			Clinical Sample (N = 48)			
	Frequenc	zy .	Duration	1	Frequenc	y	Duration	ļ
FPC Codes	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Negative verbal	5.55	6.48	22.60	30.10	11.08	13.52	38.38	45.39
Tease	.24	.76	.84	2.57	.52	1.22	1.63	3.56
Verbal attack	.75	1.25	2.92	5.31	2.67	7.46	9.50	25.92
Command	1.56	2.12	5.86	7.77	4.40	6.62	16.21	23.71
Coerce	.02	.14	.12	.84	.08	.35	.40	1.76
Command ambiguous	.88	1.70	3.01	5.45	2.00	3.28	6.85	10.90
Coerce ambiguous	.00	.00	.00	.00	.04	.20	.23	1.12
Refuse	.48	.86	1.73	3.54	_	_	_	_
Negative nonverbal	.81	1.48	2.61	4.59	2.44	4.21	8.48	14.54
Physical aggression	.30	.71	1.36	3.30	1.10	1.70	4.85	10.93
Physical attack	.00	.00	.00	.00	.02	.14	.02	.14
Noncomply	.20	.79	.66	2.15	.23	.81	.92	3.40
Sum of means	10.79		41.71		24.58		87.47	
% aversive	2.3		2.5		6.8		6.5	

38 seconds in the clinical sample and 22.6 seconds for the at-risk group. Summing across all categories of aversive behavior reveals a total duration of 87.5 seconds for the clinical sample and 41.7 seconds for the at-risk sample.

According to contingency theory, each of us is assumed to constantly change our behavior in an effort to roughly match the changes in contingencies we experience in our social environment. What is emphasized is change itself. The fabric of everyday life is made up of contingencies. They are the warp of social interaction, and the social responses controlled by them are the weft. These contingencies are often operating outside of family members' awareness or intention. Thus they may result in increasing reliance on aversive behavior as a means of influence and control and lead to extended conflict bouts that escalate in intensity. Most of the time an exchange of aversive behaviors goes nowhere. Both members merely "natter" at each other and then move on, but have a repertoire of positive exchanges that overrides the coercive arrangement. Periodically, however, the coercive exchange persists and escalates, and the positive aspects of the relationship deteriorate.

These coercive exchanges generate a trap. Each of us is easily deceived by the seeming triviality of most aversive exchanges. But sometimes snowflakes can become an avalanche. Observation data about interactions in normal families often show one family member behaving aversively to another. However, a single event of this sort usually does not set a coercive process in motion. In "normal" families, a positive behavior by one person seldom elicits an aversive event from another, and the likelihood that a coercive sequence will start up is low. For example, in a nonclinical sample when the mother was positive, there was a .01 likelihood that the child was negative. But the comparable likelihood for a clinical sample was four times higher (Patterson, 1982).

The study of coercion requires data from both members of a dyad. What one person is doing provides a backdrop against which another person's behavior can come into focus. If the ambiance in the family changes such that the mother uses aversive behavior more frequently, as is seen in clinical families, we get a drift toward persisting and escalating coercive exchange. Data from a normal sample of families revealed that when a mother engaged in an aversive behavior, the odds were 9 times out of 100 that the child would reciprocate in kind. The equivalent odds for a sample of families with socially aggressive children were 27 times out of 100 (Patterson, 1982, Table 7.6).

An orderly sequence is activated that leads to increased coercion in the following manner: (1) Frequent aversive behavior sets up reinforcement contingencies, (2) these contingencies are followed by increases in chains of aversive behavior (i.e., repeated aversive behaviors by multiple family members), and (3) these behaviors are accompanied by outbursts of negative emotion. The chains of aversive behavior can last 18 seconds or longer and can be accompanied by strong negative emotions. On average, conflict bouts (reciprocated aversive interchanges by family members) occurred about once every 16 minutes in a clinical sample (Patterson, 1982).

The presence of negative affect deepens the risk. We assume there is a history that leads up to major confrontations, even though the precipitating events slip by virtually unnoticed. In support of this hypothesis, Patterson (1980) collected a set of 59 conflict chains from a clinical sample of families that included four or more coercive events in sequence. As can be seen in Figure 2.2, longer chains were more likely to receive higher ratings of intensity. Conflict chains were longer and more likely to escalate, often to maximal intensity. This was particularly the case for clinical families with aggressive children.

Family members' aversive behavior may be shaped by either positive or negative reinforcement. However, the negative reinforcement contingency that accompanies an aversive exchange is more powerful and resistant to extinction. Negative reinforcement produces significant behavior change in fewer instances than does positive reinforcement. Much of the real training in deviant behavior that takes place in families centers on negative reinforcement processes. Coercion is the method of choice for the socially unskilled. As we shall see later in this chapter, coercion is the antithesis of processes that bring about changes in social skill, affection, or happiness. It was observed early on that low rates of coercion and measures of social skill were significantly correlated (Patterson, 1982). One might also hypothesize that such a matrix will contain variables such as creativity, love, affection, and happiness. For example, in an intervention study of stepfather families conducted by Forgatch and colleagues, significant reduction in coercion and increase in positive parenting predicted a significant increase in marital satisfaction (Bullard et al., 2010). Often the price for using coercion is a massive reduction in positive social experiences.

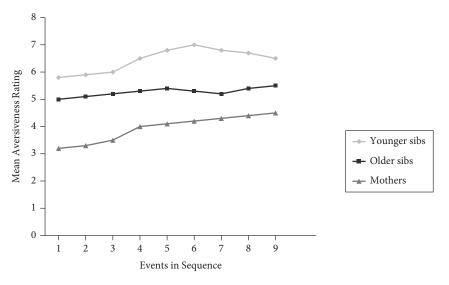


Figure 2.2 Escalations in intensity during extended chains. Adapted with kind permission from Patterson, G. R. (1980). Mothers: The unacknowledged victims. Monographs of the Society for Research in Child Development, 45.

From a Developmental Perspective

It is my goal in this volume to elaborate the role of coercive behavior in multiple social relationships and contexts. Where does coercion start? Why does it start? What are the circumstances that facilitate its continued use? Is it stable across relationships and social contexts? I present a sequence model that organizes changes in reinforcement as the microsocial engine that drives each change in the form of antisocial behavior during the intervals from infancy through adolescence.

Why It Starts

In one sense, coercion starts during infancy. We hypothesize that infants at birth instinctually use negative contingencies to teach caregiving skills to family members. Most adults experience an infant's crying as aversive, and most parents learn to respond quickly to stop the crying by attending to the infant (escape conditioning). When they pick up the baby, the crying often stops within a few seconds. With added experience, the parent becomes proficient at anticipating infant needs and responds to them before the crying begins (avoidance conditioning). Presumably there will be broad differences among families in the child's temperament and needs and in the parents' skills. In spite of the instinctual characteristic for negative reinforcement, significant differences in the reactions of both the infant and the parents influence risk for persistent involvement in coercive social processes. For example, the time given to crying before the mother picks up the infant may be the first step in teaching the infant to use aversive behavior to activate an otherwise unresponsive caregiver. It is generally true that depressed parents are slow to respond to their infant's cries. Alternatively, some infants may persist and escalate no matter what the parent does. In many families, teaching children to use words and positive behavior to attain their needs gradually replace coercion. However, in some cases coercion persists beyond infancy into childhood. This early phase is Stage 1 in the development of coercive behaviors.

The potential for training in coercion fueled by negative reinforcement may increase as children become more physically mobile and as parents increasingly focus on shaping children's behavioral and emotional regulation. According to Tremblay and colleagues (1999), child coercive behavior dramatically increases from age 1 to age 2 and peaks at around age 3. This is reflected in increasing opposition as toddlers explore the environment and resort to tantrums and hitting when parents provide external constraints. The degree to which child coercive behavior persists and grows depends on the effectiveness of parents' use of contingencies to respond to what are normatively challenging child behaviors. Depending on parental skills and child temperament, the preschool period could be a time for real growth in coercion. Understanding variations in socialization during this period seems ideally suited to an application of the matching law. It would be expected that a dramatic increase in the relative rate of coercive versus prosocial child behaviors would correlate significantly with the relative rate of reinforcement for coercive behavior provided by family members.

Stage 1: The Family

An orderly sequence likely will occur in which coercion skills emerge and can be observed. One would expect significant, but small, correlations between coercive mother—child interchanges and increasingly broad-gauge trait measures. Early studies (Patterson, 1982) found that child noncompliance is at the core of coercion and therefore could be one of the first products to emerge from failures in socialization.

We expect to observe high rates of overt aversive behavior when children are 1, 2, and 3 years old. During the first year the rate of coercion is expected to be significantly higher than the rate of prosocial behavior. As such, infants mainly use negative reinforcement to attain their needs, and parents' negative reinforcement controls child coercive behaviors. At some point during the interval between ages 1 through 3, however, a fundamental shift begins to take place in the reinforcement structure. During this interval, family members show a dramatic increase in positive reinforcement for toddler prosocial behavior. This, in turn, should be accompanied by rates of child prosocial behavior that are higher than the rates of coercive behavior. By ages 4 and 5 years, children are well on their way to politely asking for what they want. We need to understand the kinds of family experiences that affect these two reinforcement mechanisms. One of the most significant issues for reinforcement theorists is to provide data to show how parents replace coercive behavior by shaping prosocial behavior with positive reinforcement.

Smith, Dishion, Moore, Shaw, and Wilson (2013) reported that maternal coercion at age 2 predicted child noncompliance at age 3 (r = .08, p = .01). Maternal coercion when the child was age 3 predicted child noncompliance at age 4 (r = .11, p = .01). There was a dramatic increase in the degree to which child noncompliance predicted teacher ratings of oppositional defiant behavior when the child was age 7. The results from this study offer strong support for the idea that mother—infant coercive interactions are in place as early as age 2. The data show that as the growth in coercion continues through age 4, it predicts teacher ratings of child problem behavior at age 7.

As the child moves into early childhood, other family members, such as siblings, become drawn

into coercive exchanges and provide important sources of aversive exchange, escalation with these exchanges, and reinforcement for coercive behavior. As a result, several different coercive processes may then begin to run simultaneously as development unfolds. Coercion affects the interaction of all family members, and its intensity increases. There is a general progression to a wider variety of coercive behaviors shaped by reinforcement contingencies during family interaction. These shifts define important changes in the structure of coercive processes.

Stage 2: The Deviant Peer Group

Most investigators now agree that two different mechanisms produce child aggression. As noted earlier, Stage 1 in this process consists of the negative reinforcement of overt forms (e.g., temper tantrums, hitting) of coercive behavior by family members. Stage 2, on the other hand, may start anytime from school age through adolescence, when the majority of reinforcement contingencies are positive, are provided by peers, and shape more covert forms of aggression, such as lying, stealing, fire setting, substance use, and vandalism.

Most researchers suspected that deviant peers had something to do with being delinquent, but we could not quite figure out how it worked. As early as 1966, my colleagues and I had collected observation data in a residential center that was treating delinquents (Buehler, Patterson, & Furniss, 1966). The data showed rich schedules of positive reinforcement (verbal approval, laughter, head nods) contingent on deviant behavior or historical accounts of past deeds. We viewed juvenile residential treatment centers as giant teaching machines for deviancy. Missing was a demonstration that positive responses that peers provided for deviant behavior actually functioned as reinforcement. Research by Dishion and colleagues focused on the mechanisms that accounted for peer influence on problem behavior, the missing link in the research (e.g., Dishion, Nelson, Winter, & Bullock, 2004; Dishion, Spracklen, Andrews, & Patterson, 1996). In a series of studies, they demonstrated that the relative rate of friends' reinforcement accounted for 84% of the variance in measures of relative rate of an adolescent's rule-breaking or deviant talk. The tightly organized scatter plot in Figure 2.3 illustrates that deviancy training by peers is a major mechanism for producing delinquent behavior. We were surprised when systematic observational research suggested the contribution of deviant peers could begin as early as school entry (Snyder & Patterson,

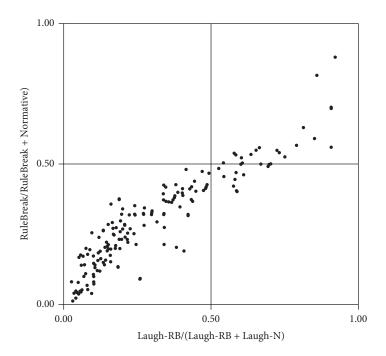


Figure 2.3 A matching-law analysis of rule-breaking discourse in boys' friends (*n* = 181). Adapted with kind permission from Dishion, T. J., Spracklen, K. M., Andrews, D. W., & Patterson, G. R. (1996). Deviancy training in male adolescent friendships. Behavior Therapy, 27, 373–390.

1995). Studies also showed that peer reactions to bullying may be considered to be a positive reinforcement (e.g., victim cries or shows fear). We need to examine the possibility that positive reinforcements for hitting and fighting supplied by peers and siblings may function as an additional reinforcement mechanism for overt antisocial behavior.

Stage 3: Peer Deviancy Training

The past two decades of research have put to rest one of sociology's hallowed battlegrounds that, given massive differences in resources, elevated rates for crime and delinquency would be expected for families living in poverty. Psychologists tended to study an alternative perspective, that processes in families and peer groups produce deviant outcomes. In this vein, we have thus far identified mechanisms that produce two different forms of antisocial behavior: overt and covert. The two forms occur in sequence. During the first few years of a child's development, there can be an increase in overt forms of antisocial behavior, with a great deal of the aggression supported by negative reinforcement contingencies. By the time a problem child is ready to start school, Stage 1 training has become a significant predictor for training in a new form of aggression, covert antisocial behavior (at Stage 2). This round of training takes place during the early school years. The agents who provide this training

are deviant peers using positive reinforcement. At Stage 3, increasingly deviant peers shape increasingly deviant behavior through both negative and positive reinforcement. The shaping of antisocial behavior at each of the three stages tends to involve different kinds of reinforcers. Family members are most likely to use negative reinforcement contingent on overt antisocial behavior. The deviant peer group is more likely to use positive reinforcement, contingent on covert antisocial behavior. Stage 3 is complex in that it involves significant contributions to the coercion process by both the family and a coercive peer group, and both positive and negative reinforcement contingencies shape behavior.

Changes in the Form of Deviancy

Longitudinal studies carried out at the Oregon Social Learning Center (OSLC) have indicated an orderly sequence of changes in the forms taken by children's antisocial behavior. For example, some antisocial behaviors start early in development, and others start late. Children who started aggressive and oppositional behavior early in development were more at risk for police arrests and for chronic offending than were late starters. Information in Figure 2.4 traces the changes in loadings for four different kinds of behavior problems for a sample of at-risk boys relevant to parent and teacher ratings

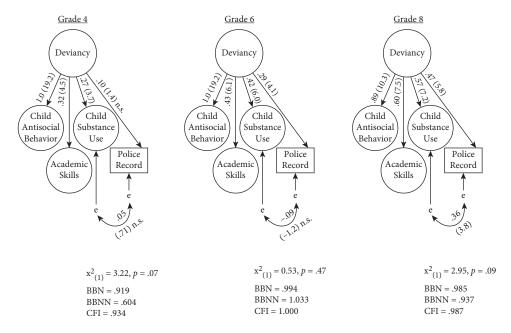


Figure 2.4 Changes in the structure of deviancy over time. *Note:* Listwise *N* = 185. BBN = Bentler Bonnett normed; BBNN = Bentler Bonnett nonnormed; CFI = comparative fit index; n.s. = not significant. Adapted with kind permission from Patterson, G. R. (1993). Orderly change in a stable world: The antisocial trait as a chimera. Journal of Consulting and Clinical Psychology, 61, 911–919.

in Grades 4, 6, and 8. The path coefficients describe the loadings on a second-order deviancy score at each grade level. One may note that some variables are early loading (antisocial, with poor academic skills) while others load later and increase over time (substance use and police arrests). To understand why coercion starts and when and why its form changes during the interval from school-age child to young adulthood, one must examine how the first mechanism feeds into the second and the second into a third. As children move through the sequence, they are at increasing risk for police arrest.

Given psychology's love affair with the measurement of stability, studies of change have received little attention. Change can occur at many different levels. For example, one expects minute changes to accompany positive and negative reinforcement at the micro level. Now we are in a position to consider another very different dimension along which changes can occur: the macro level.

My colleagues and I noticed that a coercive child reinforced at home by family members often seemed to have difficulty adjusting to school (Patterson, Capaldi, & Bank, 1990). Coercive behaviors shaped at the micro level were often followed by macro-level changes in the ways people at school reacted to a child's coerciveness. *Macro level* describes orderly reactions people have when

confronted by some form of antisocial behavior. For example, when problem children start school, teachers and peers respond to their coerciveness with a set of clearly defined reactions. The data indicate a consistent pattern of intercorrelated responses, including rejection by normal peers, academic failure, depression, and drift to deviant peers. Like footprints in the snow, these reactions tell a story. The macro dimension is also related to changes in the form of deviant behavior that evolve from peoples' reactions to antisocial behavior.

Boys trained to be coercive in their interactions at home are at significant risk for encountering a predictable set of reactions at school from peers. The drift to deviant peer groups is a macro-level variable that creates a path directly leading to peers' use of positive reinforcement to strengthen covert antisocial behaviors. But how do you predict or explain this macro-level shift? It requires that a significant number of prosocial peers react in a similar manner to the target child's deviant behavior, for example, they reject him—another macro variable. This opens the door to the child's selective affiliation with deviant peers. As we now know, deviant peers have a history of reinforcing covert deviant behavior. Preschool measures of training in coercion at home during Stage 1 predict a shift to Stage 2 training in the peer setting. Changes in

micro-level reinforcement can lead to changes in macro-level variables. We assume that at each stage, macro-level variables are significant predictors for the next change in micro-level social processes, as shown in Figure 2.5.

Macro-level variables in Stage 3 include hanging out with increasingly deviant peers and carrying weapons. At the micro level, there is an increase in coercive talk with deviant peers that is reminiscent of the negative reinforcing interchanges within families, added to positive reinforcement for deviant talk and behavior in the peer group. By this time, antisocial youths are spending the bulk of their time being shaped by negative reinforcement contingencies, which leads to more extreme forms of antisocial behavior.

Does the stage sequence notion have validity? For example, does it predict police arrest? Ratings of overt and covert antisocial behavior were collected from parents and teachers as youths moved from Grades 1 through 12 (Reid, Eddy, Fetrow, & Stoolmiller, 1999). Children caught up in only low levels of Stage 1 coercion in the family had a probability of 0.12 of experiencing three or more police arrests. By contrast, for boys who displayed high rates of overt antisocial behavior at Stage 1 (Grade 4) supported by negative reinforcement of coercive behavior in the home and who also displayed increasing covert antisocial behavior from Grades 4 to 10 (reflecting Stage 2 deviancy training supported by positive peer reinforcement), the likelihood of chronic offending (three or more arrests) as a young adult was 0.59.

Presumably those youths who move through both overt and covert stages of antisocial behavior will be frequent offenders and will find a subgroup of peers who are even more extreme in Stage 3, combining elements from Stage 1 with those of Stage 2. It is likely that family members continue to provide negative reinforcement for various forms of coercive behavior that escalate to high-amplitude, extended chains. We know now that there is a subsequent drop in positive parenting and monitoring as the family becomes increasingly coercive (Forgatch, Beldavs, Patterson, & DeGarmo, 2008). As these children age, they drift into increasingly deviant environments by virtue of reinforcement provided by deviant peers for problem behavior and deviant talk.

Expansion to Stage 3 is analogous to a tectonic shift in the way that interfacing social environments (family and peers) affect each other. Youths who proceed to increasingly serious and extreme antisocial lifestyles represent a small subset of youths who were members of the deviant peer group in Stage 2, following Stage 1 at home. The interpersonal relations of these youths are coercive and violent; toughness is valued, and availability and use of weapons are endorsed.

These developments became apparent when Dishion and colleagues (Dishion & Van Ryzin, 2011; Van Ryzin & Dishion, 2013) began studying the precursors to escalation to serious violence by adolescent males and females. At age 16–17, a large sample of urban youths was videotaped interacting with their friends. A subgroup of the males

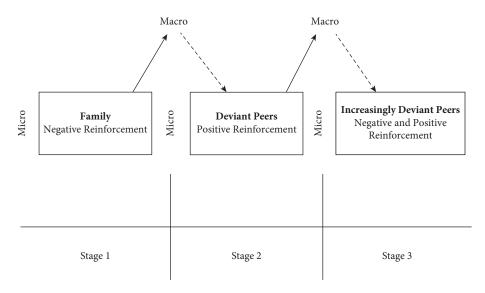


Figure 2.5 Micro-macro model.

and females was later (age 22-23) identified as violent by police records, self-reported aggression and carrying of weapons, and parent reports of violence. As shown in Figure 2.6, results suggest that Stage 3 is the end result of negative reinforcement of coercive exchanges in the family in Stage 1 (at age 12 years) and of peer positive reinforcement for deviancy in Stage 2, but with one very significant addition: Coercive exchanges expanded to include deviant peers. Mutually aggressive youths joined as "friends," often in the context of gang membership. What evolved in this relationship was a mix of coercive interactions and a high rate of positive reinforcement for violent talk (i.e., "coercive joining"; Dishion, this volume). Clearly, negative reinforcement occurs across settings. It is fascinating to note that family coercion measured at ages 12 to 13 was a significant predictor of coercion with friends assessed at age 17, as illustrated in Figure 2.6. Notice that both peer coercion and violent talk predicted serious violence in young adulthood, in addition to the progression from antisocial behavior to violence from age 17 to 22. It may be that this process continues well into adult life and that the adult stages may involve smaller numbers of individuals.

Micro-level and macro-level transactional systems may exist for prosocial processes as well as for

coercion. The problem is to identify positive reinforcements for prosocial behavior that are powerful enough to compete with negative reinforcement. For example, a father who consistently spends time teaching his son baseball skills or a mother who taxis her children to activities that promote skill development could describe Stage 1. Stage 2 could involve the positive reactions of the peer group to the behavior and performance of this highly skilled youngster. Stage 3 could be the process that leads to success within a given skill domain. The trick would be to identify high-density positive reinforcement and to make some lucky guesses about the macro-level variables that sustain prosocial development.

Applications of Coercion Theory

Ten years of research at OSLC focused on an effort to build an effective treatment for antisocial boys (Patterson, Reid, Jones, & Conger, 1975). To confirm our premise that family behaviors really changed following intervention required the construction of family interaction coding systems to measure what families do and how they change in the context of our developmental model of antisocial behavior (Patterson, 1982; Patterson et al., 1992; Reid, Patterson, & Snyder, 2002). The resulting parent training intervention model of the

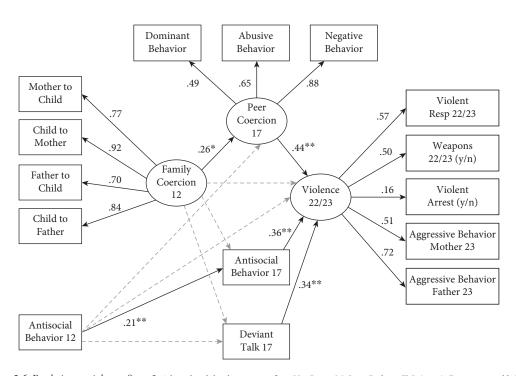


Figure 2.6 Escalation to violence, Stage 3. Adapted with kind permission from Van Ryzin, M. J., & Dishion, T. J. (2013). From antisocial behavior to violence: A model for the amplifying role of coercive joining in adolescent friendships. Journal of Child Psychology and Psychiatry, 54, 661–669.

1970s, 1980s, and 1990s has become known as Parent Management Training—Oregon Model (PMTO°), which has expanded to be suitable for both treatment and prevention (Forgatch & Patterson, 2010).

Mediational Model

In the 1960s, the social interaction learning (SIL) model emerged. It was useful as a set of loosely formulated research strategies for the study and treatment of families with problems with aggression (e.g., Forgatch & DeGarmo, 2002; Patterson, 2005; Patterson, Forgatch, & DeGarmo, 2010). The SIL model assumes that much ongoing coercive behavior is governed by its positive and negative reinforcement contingencies and not by cognitive processes. This model could be tested experimentally in the context of randomized, controlled trials using Baron and Kenny's (1986) formulation of mediational modeling. To support the theory, the effects of intervention on child antisocial behavior should be mediated by changes in social contingencies in the family and peer group.

Forgatch and colleagues designed the Oregon Divorce Study as an experimental test of the SIL model within a prevention science framework. The randomized, controlled trial collected longitudinal data and used intent-to-treat analyses, latent growth curve modeling, and mediation modeling. The children were deemed at risk for externalizing behavior problems because of their family's recent marital separation. The sample comprised 237 recently separated single mothers with a son in Grades 1 through 3. Families were randomly assigned to PMTO or a no-intervention control condition. Multiple agent/method data were collected at baseline; at 6, 12, 18, and 30 months; and at 6, 7, 8, and 9 years after baseline. Intervention was provided between baseline and 6 months. Studies to evaluate the efficacy of PMTO and the SIL mediator model have reported findings at 1-year (Forgatch & DeGarmo, 1999), 3-year (DeGarmo, Patterson, & Forgatch, 2004; Forgatch & DeGarmo, 2002; Martinez & Forgatch, 2001), and 9-year follow-ups (Forgatch et al., 2008; Forgatch, Patterson, DeGarmo, & Beldavs, 2009; Patterson et al., 2010). This approach to studying efficacy and testing models with increasingly longer term assessments yielded some interesting findings.

First, as expected, PMTO benefited parenting practices at 1-year follow-up, with sustained statistical advantage over the control condition at 3-year follow-up. Improvements in child adjustment outcomes were achieved indirectly through

the benefits to parenting at Year 1 (Forgatch & DeGarmo, 1999). At Year 3, however, PMTO yielded direct effects on boys' adjustment, and these positive outcomes were fully mediated by benefits to parenting (DeGarmo et al., 2004; Forgatch & DeGarmo, 2002; Martinez & Forgatch, 2001). The intervention also produced positive effects on a range of outcomes at 3-year follow-up, including reductions in maternal depression that were mediated by reduction in child externalizing behavior (DeGarmo et al., 2004), and a direct effect on increase in per capita annual income and a rise out of poverty, relative to the control condition (Forgatch & DeGarmo, 2007). At 9-year follow-up, boys' outcomes continued to show a direct effect of the intervention, again fully mediated by benefits to parenting practices from baseline to 3 years (Forgatch et al., 2009). At 9-year follow-up, mothers in the PMTO condition also had fewer police arrests and higher socioeconomic status (i.e., education, occupation, and income; Patterson et al., 2010). These collateral improvements for mothers were fully mediated by the benefits to parenting practices.

Parenting practices were assessed from observations of parent—child interactions and specified as microsocial scores and global ratings (Forgatch & DeGarmo, 2002). Constructs of coercive and positive parenting practices were formed. For some analyses a single construct called *effective parenting* was used, which combined positive parenting and coercive parenting (reversed). Other analyses separated the two dimensions to examine differential effects of the intervention on coercive parenting and positive parenting and their role as mediators of child adjustment. We hypothesized that coercive parenting would be more influential than positive parenting as a mechanism for change in child adjustment outcomes.

We examined a mediation model with change in child noncompliance as the outcome and change in coercive parenting and positive parenting as the presumed mediators (Martinez & Forgatch, 2001). As expected, the mediation model showed that each parenting construct predicted change in child noncompliance. The path from positive parenting to noncompliance was significantly stronger than the path from coercive parenting. Our next test of coercive parenting and positive parenting used latent growth curve modeling, mediation modeling, and longitudinal sequencing of the parenting constructs, with 9-year growth in child delinquency as the outcome variable (Forgatch et al., 2008; Forgatch et al., 2009). The findings are shown in Figure 2.7.