

Keith S. Smolkowski  
Oregon Research Institute

Ary, D.V., Duncan, T.E., Biglan, A., Metzler, C.W., Noell, J.W., & Smolkowski, K. (1999). Development of adolescent problem behavior. *Journal of Abnormal Child Psychology*, 27, 141-150.

**Abstract:** The social context model of development of adolescent antisocial behavior advanced by G. R. Patterson et al (1992) appears to generalize the development of a diverse set of problem behaviors. Structural equation modeling methods were applied to 18-month longitudinal data from 523 14-17 yr old adolescents. The problem behavior construct included substance use, antisocial behavior, academic failure, and risky sexual behavior. Families with high levels of conflict were less likely to have high levels of parent-child involvement. Such family conditions resulted in less adequate parental monitoring of adolescent behavior, making associations with deviant peers more likely. Poor parental monitoring and associations with deviant peers were strong predictors of engagement in problem behavior. These constructs accounted for 46% of the variance in problem behavior. Although association with deviant peers was the most proximal social influence on problem behavior, parental monitoring and family factors (conflict and involvement) were key parenting practices that influenced this developmental process.

Barrera, M., Jr., Biglan, A., Taylor, T. K., Gunn, B.K., Smolkowski, K., Black, C. et al. (2002). Early elementary school intervention to reduce conduct problems: A randomized trial with Hispanic and non-Hispanic children. *Prevention Science*, 3, 83-94.

**Abstract:** Children's aggressive behavior and reading difficulties during early elementary school years are risk factors for adolescent problem behaviors such as delinquency, academic failure, and substance use. This study determined if a comprehensive intervention designed to address both of these risk factors could affect teacher, parent, and observer measures of internalizing and externalizing problems. The study randomly assigned 116 European American and 168 Hispanic children (kindergarten through third grade) from 3 communities selected for aggressiveness or reading difficulties to an intervention or no-intervention control condition. Intervention families received parent training, and their children received social behavior interventions and supplementary reading instruction over a 2-yr period. At the end of intervention, playground observations showed that treated children displayed less negative social behavior than controls. At the end of a 1-yr follow-up, treated children showed less teacher-rated internalizing and less parent-rated coercive and antisocial behavior than controls. The authors discuss the study's limitations and implications for prevention.

Biglan, A. & Smolkowski, K. (2002). Intervention effects on adolescent drug use and critical influences on the development of problem behavior. In D.B. Kandel (Ed.), *Stages and pathways of drug involvement: Examining the gateway hypothesis* (pp. 158-183). New York: Cambridge University.

**Abstract:** This book represents the first systematic discussion of the Gateway Hypothesis, a developmental hypothesis formulated to model how adolescents initiate and progress in the use of various drugs. In the United States, this progression proceeds from the use of tobacco or alcohol to the use of marijuana and other illicit drugs. This volume presents a critical

overview of current knowledge about the Gateway Hypothesis. The authors of the chapters explore the hypothesis from various perspectives ranging from developmental social psychology to prevention and intervention science, animal models, neurobiology and analytical methodology. This volume is original and unique in its purview, covering a broad view of the Gateway Hypothesis. The juxtaposition of epidemiological, intervention, animal, and neurobiological studies represents a new stage in the evolution of drug research, in which epidemiology and biology inform one another in the understanding of drug abuse.

Biglan, A., & Smolkowski, K. (2002). The role of the community psychologist in the 21st century. *Prevention & Treatment, 5*, NP.

**Abstract:** This article describes likely roles for community psychologists in the 21st century. From a public health perspective, one goal of community psychologists is to assist communities in reducing the incidence and prevalence of human behaviors that they view as undesirable. The roles of community psychologists that are implied by this goal include (a) facilitating community decision-making about goals and the programs and policies intended to achieve them, (b) assessing the well-being of community members, (c) articulating which programs and policies are likely to affect targeted problems, and (d) providing consultation and training for the implementation of programs and policies. An infrastructure of national- and state-level organizations is necessary to support the work of psychologists in local communities. The authors delineate some of the implications of this analysis for the training of community psychologists.

Biglan, A., Ary, D.V., Smolkowski, K., Duncan, T.E., & Black, C. (2000). A randomized control trial of a community intervention to prevent adolescent tobacco use. *Tobacco Control, 9*, 24-32.

**Abstract:** *Objective:* Experimental evaluation of a comprehensive community-wide programme to prevent adolescent tobacco use. *Design:* Eight pairs of small Oregon communities (population 1,700 to 13,500) randomly assigned to receive a school-based prevention programme or school-based programme plus a community programme. Effects assessed through five annual surveys (time 1-5) of 7<sup>th</sup> and 9<sup>th</sup> grade (ages 12-15) students. *Intervention:* Community programme included: (a) media advocacy, (b) youth anti-tobacco activities, (c) family communications about tobacco use, and (d) reduction of youth access to tobacco. *Main Outcome Measure:* The prevalence of self-reported smoking and smokeless tobacco (ST) use in the week before assessment. *Results:* The community programme had significant effects on the prevalence of weekly cigarette use at times 2 and 5 and the effect approached significance at time 4. An effect on the slope of prevalence across time points was evident only when analysts eliminated time 2 data points. The intervention affected the prevalence of ST among grade 9 boys at time 2. There were also significant effects on the slope of alcohol use among 9<sup>th</sup> graders and the quadratic slope of marijuana for all students. *Conclusion:* Results suggest that comprehensive community-wide interventions can improve on the preventive effect of school-based tobacco prevention programmes and that effective tobacco prevention may prevent other substance use.

Biglan, A., Duncan, T.E., Ary, D.V. & Smolkowski, K. (1995). Peer and parental influences on adolescent tobacco use. *Journal of Behavioral Medicine, 18*, 315-30.

**Abstract:** Tested longitudinal models of the development of adolescent smoking and smokeless tobacco (ST) use with 608 adolescents (383 girls), aged 14-27 years. Subjects and their parents completed a questionnaire. Ss also provided expired air and saliva samples.

Smoking, ST use, and other problem behaviors formed a single problem behavior factor. Structural equation modeling indicated that inadequate parental monitoring (PM) and association with deviant peers at Time 2 predicted tobacco use at Time 3. When parental and peer smoking at Time 2 were added to the model, each accounted for significant variance in predicting Time 3 smoking, but inadequate PM and association with deviant peers still accounted for some of the variance in Time 3 smoking. In predicting boys' ST use, PM at Time 2 predicted ST use, but only when parental approval of ST use was not included. Father's approval and mother's disapproval of ST use at Time 2 predicted ST use at Time 3.

Biglan, A., Noell, J., Ochs, L., Smolkowski, K., & Metzler, C. (1995). Does sexual coercion play a role in high-risk sexual behavior of adolescent and young adult women? *Journal of Behavioral Medicine, 18*, 549-568.

**Abstract:** The authors examined sexual coercion and its relationship to high-risk sexual behavior in five samples of young women. Sample 1 consisted of 22 sexually active adolescents aged 15-29 yrs. Samples 2 (N = 206) and 3 (N = 70) were patients (aged 14-29 yrs) from 3 sexually transmitted disease clinics. Sample 4 consisted of 51 homeless women aged 13-26 yrs. Sample 5 was 51 college students aged 18-36 yrs. Across all samples, 44.4% of women indicated that they had been forced into some form of sexual activity against their will. Self-reports of sexually coercive experiences occurred consistently in relation to risky sexual behavior. Results indicate that many young women engage in high-risk sexual behavior under coercion. This implies the need for greater attention to male coercive sexual behavior and women's skills for coping with such behavior.

Gunn, B.K., Smolkowski, K., Biglan, A., & Black, C. (2002). Supplemental instruction in decoding skills for Hispanic and non-Hispanic students in early elementary school: A follow-up. *Journal of Special Education, 36*, 69-79.

**Abstract:** This article describes a follow-up study that experimentally evaluated the effects of supplemental reading instruction for children in kindergarten through Grade 3. The authors screened students from 10 elementary schools in three school districts, using the *Dynamic Indicators of Basic Early Literacy Skills*. They identified 256 K-2 students for participation, then randomly assigned those students to receive or not receive 2 years of supplemental reading instruction that taught basic decoding and comprehension skills. The authors measured reading ability in the fall prior to the first year of the intervention and again in the spring of Years 1, 2, and 3. At the end of the 2-year intervention, children who received the supplemental instruction performed better on measures of word attack, word identification, oral reading fluency, vocabulary, and reading comprehension. One year after the intervention, children in the supplemental instruction group still showed greater improvement in word attack and oral reading fluency than the comparison students.

Gunn, B., Smolkowski, K., Biglan, A., Black, C., & Blair, J. (in press). Fostering the development of reading skill through supplemental instruction: Results for Hispanic and non-Hispanic students. *The Journal of Special Education*.

**Abstract:** This paper reports the effects of a two-year supplemental reading program for K-3 Hispanic and non-Hispanic students that focused on the development of decoding skills and reading fluency. The authors identified 299 students for participation and randomly assigned them to either the supplemental instruction or a no-treatment control group. The study assessed participants' reading ability in the fall, before the first year of the intervention, and again in the spring of Years 1, 2, 3, and 4. At the end of the two-year intervention, students

who received the supplemental instruction performed significantly better than their matched controls did on measures of entry level reading skills (i.e., letter-word identification and word attack) and on measures of oral reading fluency, vocabulary, and comprehension. The benefits of the instruction were still clear two years after instruction had ended. Students in the supplemental condition had significantly greater growth on measures of letter-word identification, word attack, oral reading fluency, and comprehension. Results support the value of supplemental instruction focused on the development of word recognition skills for helping students at risk for reading failure.

Gunn, B., Biglan, A., Smolkowski, K., & Ary, D. (2000). The efficacy of supplemental instruction in decoding skills for Hispanic and non-Hispanic students in early elementary school. *Journal of Special Education, 34*, 90-103.

**Abstract:** The number of children who speak languages other than English has risen dramatically in the last 20 years and continues to grow. According to Goldenberg (1996), the number of students in the United States who learn English as a second language (ESL) grew from 1.5 million in 1985 to almost 2.7 million in 1992. Hispanic students constitute the largest group of ESL students and are particularly at risk for reading difficulties. In spite of gains in achievement, Hispanic students are about twice as likely as non-Hispanic Whites to be reading below average for their age (Snow, Bums, & Griffin, 1998). Limited English proficiency may be partially responsible for low reading achievement among Hispanic students. However, research suggests that even when learning and testing in their native language, many Spanish-speaking students still attain low levels of achievement (Gersten & Woodward, 1995; Goldenberg & Gallimore, 1991). Educators know little about the value of systematic reading instruction in English for Hispanic students. Some evidence suggests that learning to read in one's native language can lead to higher levels of literacy in both first and second languages (Collier, 1995), but direct tests of the efficacy of teaching reading in English have not been conducted. This study should contribute to the resolution of this important policy issue by examining the degree to which Hispanic students can benefit from supplemental instruction for reading in English. The purpose of this study was to (a) experimentally evaluate the effects of supplemental reading instruction in phonological awareness and basic decoding skills on word recognition, (b) examine, the degree to which such instruction contributes to growth in oral reading fluency, vocabulary, and comprehension, and (c) examine the utility of teaching Spanish-speaking children decoding skills in English.

Irvine, A. B., Biglan, A., Smolkowski, K., & Ary, D.V. (1999). The value of the Parenting Scale for measuring the discipline practices of parents of middle school children. *Behavior Research and Therapy, 37*, 127-142.

**Abstract:** The psychometric properties of the *Parenting Scale* (Arnold, O'Leary, Wolff, & Acker, 1993), a 30-item instrument originally developed to assess the discipline practices of parents of preschool children, were examined for parents of middle school students. Subjects were 298 parents of middle school students who had been identified as at-risk for problem behavior. An exploratory factor analysis identified two factors labeled "Over-reactivity" and "Laxness," closely resembling two of the factors found by Arnold et al., but each of these factors contained only six items. Confirmatory factor analyses, using data from the first two assessments, replicated this factor structure. The factors were significantly correlated with measures of parents' behavior, with scales from the Child Behavior Checklist and Parent

Daily Reports, and with the Beck Depression Inventory. The Laxness factor was less robust than the Over-reactivity factor.

Irvine, A.B., Biglan, A., Smolkowski, K., Metzler, C.W., & Ary, D.V. (1999). The effectiveness of a parenting skills program for parents of middle school students in small communities. *Journal of Consulting and Clinical Psychology, 67*, 811-825.

**Abstract:** This study provides evidence of the effectiveness of behaviorally based parenting skills provided by carefully trained and supervised group leaders who were not mental health clinicians. The authors evaluated a program for parents of at-risk middle school students in a randomized controlled trial in 8 small Oregon communities. Parents (N = 303) were randomly assigned to immediate treatment or a wait-list condition. Data were analyzed using latent growth modeling. Participation in the program led to significant improvements in problem-solving interactions as indicated by parent reports and a Taped Situations Test. Parents' over-reactivity and laxness toward their children's behavior decreased and their feelings toward their children improved significantly as a function of treatment. Parent-reported child antisocial behavior also diminished.

Li, F., Duncan, T.E., McAuley, E., Harmer, P., & Smolkowski, K. (2000). A didactic example of latent curve analysis applicable to the study of aging. *Journal of Aging and Health, 12*, 388-425.

**ABSTRACT: Objectives:** This article provides an example and application of growth curve analysis for modeling individual differences in behavioral rates of change in aging. The latent curve modeling approach to the analysis of change allows researchers to describe change as a continuous process and to address issues related to individual differences in change over time. **Methods:** The authors use data from the Longitudinal Study of Aging (LSOA) on change in activities of daily living (ADLs) in the elderly. Analyses involved direct maximum likelihood estimation using complete and incomplete cases. **Results:** It is possible to statistically capture developmental changes. A negative linear trajectory characterized the change in participants' ADLs and there was evidence of significant individual variability in the starting point of the trajectory and the rate of change over time. **Discussion:** The article discusses the utility of latent curve analysis in aging research as well as other techniques that are extensions of latent curve analysis.

Metzler, C.W., Noell, J. W., Biglan, A., Ary, D.V., & Smolkowski, K. (1994). The social context for risky sexual behavior among adolescents. *Journal of Behavioral Medicine, 17*, 419-438.

**Abstract:** Tested the G. R. Patterson et al (1992) model of adolescents' risky sexual behavior (RSB) in which this behavior is seen as a product of the same peer and family factors that influence a wide range of problem behaviors. The model was tested on 3 independent samples of 609, 131, and 99 adolescents (all aged 14-28 yrs). Ss completed the Scale of Sexual Risk-Taking and family and peer context questionnaires. Ss whose peers were reported to engage in diverse problem behaviors were more likely to engage in risky sexual behavior. Poor parental monitoring (PPM) and parent-child coercive interactions were associated with having deviant peers. PPM also had a direct relationship to RSB. Family involvement was associated with fewer parent-child coercive interactions. Less availability of parental figures in the family was directly associated with RSB and was also associated with PPM.

Smolkowski, K., Biglan, A., Barrera, M., Taylor, T.K., & Black, C. (in press). Schools and homes in partnership (SHIP): Long-term effects of a preventive intervention focused on

social behavior and reading skill in early elementary school. *Prevention Science*.

**Abstract:** This paper reports a randomized controlled trial of the effects of behavioral parenting skills training, social skills training, and supplemental reading instruction on the social behavior of early elementary school children (K through 3). We selected children based on teacher-rated aggressive behavior or reading-skill deficits, delivered the intervention over a two-year period, and obtained follow-up data for two additional years. The intervention affected only two of eight measures of child functioning—Parent Daily Reports of antisocial behavior and parent ratings of coercive behavior. There was evidence that parents of boys in the intervention condition displayed significantly greater declines in their rated use of coercive discipline than did parents of boys in the control condition.

Smolkowski, K., Biglan, A., Dent, C., & Seeley, J. (2004). *The multilevel structure of four adolescent problems*. Manuscript submitted for publication.

**Abstract:** This paper examines variability in adolescent self-reported behavior at the individual, cohort, and school levels separately for eighth and eleventh graders. In particular, we examine the extent to which schools vary reliably after controlling for cohort with four adolescent behaviors: substance use, antisocial behavior, depression, and school grades. The data were collected as part of the Oregon Healthy Teens survey of over 60,000 adolescents over three years in 71 communities. The results indicate that schools vary over time, but not necessarily systematically, and grade-level cohorts account for important variance within schools. The school and cohort, however, accounted for at most 4% of the overall variance. The results have important implications for research and practice in schools and communities. For example, selection of communities for interventions based on high levels of adolescent problems may be unproductive because individuals accounted for at least 96% of the variance. Furthermore, in non-experimental designs cohort variability may account for apparent improvement across years.