

# Longitudinal Impact of Perceived Self-Regulatory Efficacy on Violent Conduct

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*The present study examined the longitudinal impact of perceived self-regulatory efficacy and parental communication on violent conduct. Adolescents' perceived efficacy to resist peer pressure for transgressive activities counteracted engagement in violent conduct both directly and by fostering open communication with parents. Parental communication was linked to violent conduct concurrently but not longitudinally. There were*

*gender differences in level of engagement in violent activities, but the causal structures were the same. Perceived self-regulatory efficacy contributed to violent conduct both concurrently and longitudinally after controlling for prior level of violent conduct and openness of parental communication.*

*Keywords: Self-regulatory efficacy, familial communication, violent conduct.*

A major concern of parents, teachers, and society at large centers on discovering early determinants of children's developmental trajectories with the goal of promoting socially valued life courses, and preventing detrimental or antisocial ones. Over the years much theorizing and research has been devoted to the major transition that occurs from childhood to adolescence, and the personal and social determinants governing successfulness of the developmental changes (Cairns & Cairns, 1994; Compas, Hinden, & Gerhardt, 1995; Furstenberg, Eccles, Elder, Cook, & Sameroff, 1999).

Much attention has been given to individual and situational factors operating in concert over time in predisposing individuals to lifestyles that jeopardize or foreclose beneficial life courses (Jessor, 1998; Magnusson, 1988; Robins & Rutter, 1993). The transition to adolescence presents special challenges, because adolescents have to manage major biological, educational, and social role transitions concurrently with growing independence. It is also a period of experimentations with risky activities and substance use (Elliott, 1993; Jessor, 1998), and lessening of parental monitoring.

Some authors contend that engagement in some forms of problem behavior is a normal aspect of adolescence, especially for boys (Caspi, 1993; Elliott, 1993). However, not all adolescents get deeply involved in high risk activities that give rise to detrimental lifestyles. The theoretical challenge is to explain why some adolescents remain deeply engaged in risky activities, whereas most give up risky experimentation (Bandura, 1997; Moffitt, 1993).

Some researchers have focused on temperament and global personality characteristics a predisposing to engagement in risky and transgressive behaviors on vulner-

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ability to environmental stressors (Caspi & Elder, 1988). Other researchers have highlighted the influence of the social environment mainly through familial and peer relationships (Brown, 1990; Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Furstenberg, Eccles, Elder, Cook, & Sameroff, 1999; Sampson, 1992).

The findings of a number of studies lend support to the influential role of parental influences in the development of patterns of antisocial and violent behavior (Aseltine, 1995; Clark & Shields, 1997; Harter, 1999; Jessor, 1998; Patterson, Reid, & Dishion, 1992; Loeber & Hay, 1997). Low levels of parental guidance and support and poor communication and parental monitoring have been linked to adolescents antisocial orientations that predict hostility and risk-taking in adulthood (Ary, Duncan, Duncan, & Hops, 1999; Barnes & Farrell, 1992; Fisher & Feldman, 1998; Kim, Hetherington, & Reiss, 1999; Juang & Silbereisen, 1999; Sholte, 1999).

As children advance through adolescence, they spend more time in the larger community outside the home. But this change does not diminish the importance of parental support. Parents continue to serve as important sources of guidance, support and trust (Scabini, Lanz, & Marta, 1999). The more parents encourage the expression of personal preferences and aspirations the more children turn to them for guidance and support. The more open the communication between parents and children the more parents can rely upon their children to report their activities outside the home and the more children are dissuaded from activities that would be disapproved by their parents. Positive family relations in adolescence can thus counteract gravitation to deviant peers, whose influence on adolescents' antisocial attitudes and proneness to violence is widely recognized (Emler, Reicher, & Ross 1987; Thornberry, Krohn, Lizotte, & Chard-Wierschem, 1993).

A growing literature reveals that positive family relations help most adolescents to navigate safely through the important transitions toward adulthood despite the temptations of risky affiliations. The social cognitive theory guiding the present program of research has focused on personal determinants that enable young people to play a proactive role in charting their life course by selecting and structuring their environments in ways that cultivate competencies and set a successful course life (Bandura, 1997). According to this theory people are proactive and self regulating agents whose psychosocial development takes place in transactions within a broad network of sociostructural and psychosocial influences. In these transactions individuals operate as producers and products of social systems.

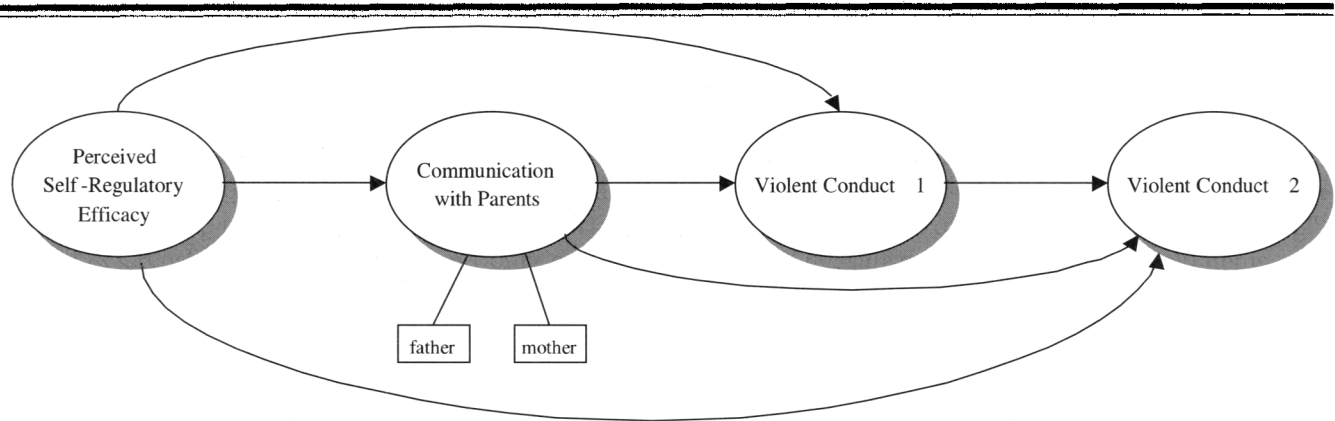
Among the mechanisms of agency, none is more central and pervasive than a sense of personal efficacy. Unless people believe they can produce desired results by their actions, they have little incentive to act or to persevere in the face of difficulties. Whatever other factors may operate as guides and motivators, they are rooted in the core belief that one has the power to produce effects by one's action.

Beliefs of personal efficacy are domain-linked structures that operate as part of the self system that gives unity, continuity, and coherence of personality (Bandura, 1999, 2001a). People build their sense of efficacy through mastery experiences, social modeling and the evaluative feedback of others. Efficacy beliefs affect personal development and functioning through their impact on cognitive, motivational, affective, and choice processes. The findings of diverse lines of research reveal that perceived self-efficacy operates as an influential regulatory factor in diverse spheres of functioning (Bandura, 1997; Maddux, 1995; Schwarzer, 1992).

According to social cognitive theory, children who enter adolescence beset by a disabling sense of inefficacy transport their vulnerability to stress and dysfunction to the new environmental demands and to the pervasive biopsychosocial changes they find themselves undergoing in this transitional phase of life (Allen, Leadbeater, & Aber, 1994; Bandura, 1997). The present research is part of an extended longitudinal project aimed at identifying the developmental determinants and mechanisms of social adaptation during the transitions from childhood to adolescence to adulthood.

Previous studies have verified the influence of multifaceted efficacy beliefs on academic achievement, prosocial behavior, career preference, depression and antisocial behavior (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996, 2001; Bandura, Pastorelli, Barbaranelli, & Caprara, 1999; Caprara, Scabini, Barbaranelli, Pastorelli, Regalia, & Bandura, 1998; Caprara, Scabini, Barbaranelli, Pastorelli, Regalia, & Bandura, 1999). Efficacy beliefs do not operate in isolation from the social relations within which individuals are embedded. Rather, they operate in concert with social and environmental influences.

In a previous study with young adolescents, perceived efficacy to resist peer pressure for detrimental activities reduced antisocial conduct both directly and by fostering supportive parental communication, which, in turn, counteracted substance abuse and delinquency (Caprara et al., 1998). However, the pattern of relations was based on cross-sectional analysis. The present prospective research was designed to further understanding of



**Figure 1**  
Posited causal structure through which perceived self-regulatory efficacy and communication with parents affect violent conduct concurrently and longitudinally.

how perceived self-regulatory efficacy affects antisocial conduct longitudinally within a network of familial influences, especially communication with parents. In contrast to the previous study, the adolescents were at a later phase of their development and their antisocial conduct involved more serious forms of violent conduct.

In the conceptual model guiding this longitudinal research, perceived self-regulatory efficacy was posited as a significant determinant of violent conduct in concert with communication with parents (Figure 1).

For reasons given earlier, it was hypothesized that perceived efficacy to resist peer pressures for transgressive activities would reduce engagement in violent conduct both directly and by fostering open communication with parents. By acting on beliefs that they can manage peer pressures, adolescents reduce the likelihood of engaging in violent conduct and feel free to discuss with their parents the predicaments they face outside the home. Open familial communication enables parents to provide guidance and social support, and identifies potential problem situations that may warrant some monitoring and control. Supportive parental communication, in turn, operates as a social safeguard against detrimental involvement in risky activities. By contrast, adolescents who have a weak sense of self-regulatory efficacy are not only less successful in resisting detrimental peer pressures, but are reluctant to discuss their transgressive activities with their parents. The influence of self-regulatory efficacy operating in concert with open communication would longitudinally reduce likelihood of violent actions. Given the differential opportunities and consequences for engaging in delinquent conduct for girls (Loeber & Stouthamer-Loeber, 1998), the

role of gender in the posited conceptual scheme was examined separately. Although boys were expected to engage more highly in delinquent conducts than girls, the posited paths of influence were hypothesized to be similar across gender.

## Method

### Participants

The participants were 350 adolescents with a mean age of 16 years in the initial phase of this longitudinal study and 18 years in the subsequent phase of the study. There were 170 boys and 180 girls.

The participants were drawn from high schools in a residential community located near Rome. The community represents a socioeconomic microcosm of the larger society, containing the families of skilled workers, farmers, professionals, local merchants and their services staff. The adolescents were contacted by phone and invited to participate in the study, for which they received a small payment. Ninety-five percent of the adolescents agreed to participate in the study. They were administered the set of scales measuring the variables of theoretical interest by three female researchers during specially scheduled sessions in the school to groups of about 30 participants.

### Self-Regulatory Efficacy

Adolescents' perceived self-regulatory efficacy to resist peer pressure to engage in high-risk activities that can get them into trouble was measured by thirteen items.

**Table 1**

Means, standard deviations, and interrelations matrix for self-regulatory efficacy beliefs, familial communication and adolescents' violent behavior assessed concurrently and longitudinally.

	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5
	Males		Females						
1. Perceived Self-Regulatory Efficacy	3.79	.69	4.32	.58	–	.19*	.26**	–.34**	–.29**
2. Open Communication with Mother	36.32	6.78	38.37	7.09	.30**	–	.65**	–.29**	–.08
3. Open Communication with Father	35.63	6.83	35.38	8.48	.22**	.77**	–	–.24**	–.10
4. Violent behavior 1	17.19	6.92	12.56	3.34	–.36**	–.25**	–.20**	–	.42**
5. Violent behavior 2	17.64	6.92	12.91	4.10	–.39**	–.24**	–.19**	.47**	–

Notes: Correlation coefficients for boys ( $N = 170$ ) are below the diagonal, those for girls ( $N = 180$ ) are above the diagonal. Violent behavior scores were normalized by logarithmic transformation. \* $p < .05$ , \*\* $p < .01$

For each item, participants rated on a 5-point scale their beliefs in their level of efficacy to withstand pressure to engage in the designed activity. *Examples*: "How well can you resist peer pressure to use drugs?" and "How well can you resist peer pressure to do things in school that can get you into trouble?" This set of items was shown in factor analysis to be a separate factor in a larger set of multifaceted self-efficacy scales (Bandura et al., 1996). The  $\alpha$  reliability coefficient of the scale was .75.

#### Open Communication with Parents

Communication with parents was measured by a 10-item subscale from the 20-item Parent-Adolescent-Communication Scale developed by Barnes and Olson (1982) to assess adolescents' open and problematic communication with both parents. The adolescents rated, on a 5-point scale, the extent to which they felt free to discuss problems with their parents and that they would respond in an understanding, supportive way. *Examples*: "If I were in trouble, I could tell my mother/father," and "It is very easy for me to express all my true feelings to my mother/father." Factor analysis confirmed a two-factor structure of the scale: one factor representing open communication and the other problematic communication. In the present study only the open communication subscale was used. The  $\alpha$  reliability coefficient of the sub-scale was .83 for communication with both mother and the father.

#### Violent Conduct

The extent to which the adolescents engaged in violent conduct was assessed by 11 items (Caprara, Mazzotti, & Prezza, 1990). For each item adolescents rated on a 6-point scale how often they engaged in violent actions,

such as fighting, vandalism, or used weapons. *Examples*: "Have you participated in violent actions of 'gangs'?" and "Have you ever had the occasion to use violence when there are arguments?" Factor analysis confirmed the presence of a single factor. The  $\alpha$  coefficient was .91 in the initial phase of assessment and .89 for the second assessment, two years later.

## Results

Table 1 presents the means and the standard deviations for the different set of variables and the matrix of relations among them.

One-way ANOVAS of gender variations revealed significant sex differences on all the variables except open communication with father. The degrees of freedom for these analysis are  $df = 1,348$ . Compared to boys, girls had a stronger sense of self-regulatory efficacy ( $F = 50.25, p < .001$ ), and reported better communication with their mothers ( $F = 7.64, p < .005$ ). Boys engaged in more violent activities both in time 1 ( $F = 50.25, p < .001$ ) and time 2 ( $F = 70.42, p < .001$ ) than did the girls.

The pattern of relationships among the variables was examined by means of structural equation modeling (Bollen, 1989) using the EQS program (Bentler, 1995). We conducted analyses of the structural model using the multiple groups model approach, which estimated simultaneously the same pattern of relationships among variables in the two sample of boys and girls. Figure 1 presents the results of the structural equation modeling.

As shown in Figure 2, for both boys and girls, perceived self-regulatory efficacy reduced the likelihood of violent conduct concurrently and longitudinally both di-

## Figure 2

Path analysis of the patterns of influence through which perceived self-regulatory efficacy and communication with parents affect violent conduct. The first path coefficient on each of the structural links is for boys; the second coefficient in brackets is for girls. All the coefficients are significant beyond the  $p < .05$  level.

rectly and mediationally through enhanced communication with parents. Open communication with parents operated as a protective influence for violent behaviors concurrently but did not affect violent conducts over time. The causal structure was the same for boys and girls.

The model provided an excellent fit to the empirical data as shown by several goodness of fit indices considered. These tests yielded a nonsignificant  $\chi^2 (15, 350) = 13.45$ ,  $p = .56$ , a comparative fit index (CFI) of 1.00, a nonnormed fit index of 1.00 and RMSEA of .00. The model accounted for 21% of the variance in Time 1 violence for both boys and girls, and 38% of the variance in Time 2 violent conduct for boys, and 37% of the variance in the girls.

Alternative causal models were also tested. In one model, prior violence is assigned causal primacy affecting later violence directly and through its impact on regulatory self-efficacy and parental communication. The second model confers causal primacy on communication with parents, which affects violence concurrently and longitudinally both directly and through self-regulatory efficacy. These alternative models provided a satisfactory fit to the empirical data. However, there are two consistent findings across the alternative causal structures. Communication with parents counteracted engagement in violent conduct concurrently, but had no enduring effect over time. By contrast, perceived self-regulatory efficacy predicted violent conduct both concurrently and longitudinally, regardless of whether it was assigned causal primacy or whether familial communication or prior violent conduct were considered to be the precursors of subsequent violent conduct.

## Discussion

The findings of this prospective study lend additional support to the influential role of perceived self-regulatory efficacy in counteracting violent conduct over the course of adolescence. These findings corroborate and extend the paths of influence previously found concurrently (Caprara et al., 1998). Regardless of where self-efficacy was placed into the causal structure, it consistently predicted violent conduct both concurrently and longitudinally for boys and girls alike. It made independent contribution to violent conduct after controlling for the influence of the other determinants, including prior violent conduct and openness of parental communication.

Beliefs of efficacy to resist peer pressure had a longitudinal impact on engagement on violence both directly and through the mediation of communication with parents. To the extent that open communication with parents promotes mutual confidence and reciprocal commitments, adolescents are less inclined to seek to prove their identity by challenging parental guidance either through involvement in high risk or by joining deviant peers. In contrast, adolescents who have low efficacy to resist peer pressure for risky activities do not talk with their parents about what they are doing outside the home. This shuts out a source of assistance on how to manage an expanding social world centered heavily around peers, some of whom get themselves into highly risky situations. Boys and girls differed in their level of engagement in violent activities, but, in accord with prediction, the causal structures were the same.

Contrary to expectation, parental communication was related to violent conduct only concurrently. There are several factors that may account for the lack of a significant longitudinal link. One possible explanation is the reduction over time for the need for parental monitoring and guidance. This is shown in a research examining familial factors that deter development of aggressive lifestyles (Bandura & Walters, 1959). By late adolescence the youngsters had adopted the parental prosocial standard of conduct and were quite capable for guiding and assuming responsibility for their own conduct outside the house. The parents had trust in their sons' judgment and felt that external monitoring and guidance were, therefore, largely unnecessary.

In the present study we measured the extent to which parents talk freely with their adolescents about matters of concern to them but not the specific content of their conversations. Examinations of the quality of the familial transactions and parents' sense of efficacy that their efforts can make a difference in their children management of predicaments outside the home is important to a full understanding of the enabling and protective function of open familial communication. Thus, an appropriate next step in this research is to examine the kinds of social predicaments the adolescents divulge and the types of guidance the parents provide. In the spheres of academic and occupational development, the parents own sense of efficacy enhances their impact on their children's developmental course (Bandura et al., 1996, 2001). Perceived parental efficacy to help their adolescents to manage the social and moral dilemmas they face outside the home may shed further light on how well they navigate the transition to adulthood.

Another fruitful direction in which to extend this research is to examine the role of perceived collective efficacy of families to manage the challenges of adolescents' transitional development. Social cognitive theory extends the conception of agentic causality to collective agency exercised through people's shared belief in their efficacy to affect the quality of their lives (Bandura, 1997, 2000). A growing body of research shows that the higher the perceived collective efficacy the greater the groups' investment in their undertakings, the stronger their staying power in the face of impediments and adversities, and the greater their accomplishments.

The family operates as a social system with multiple interlocking relationships, rather than simply as a collection of members. We have devised a large set of efficacy scales that measure the perceived capabilities of the family as a whole to carry out the various familial functions that promote achievement of the developmental tasks

that adolescents face. Some of the assessments concern adolescents' perceived efficacy to manage different aspects of their relationship with their parents. Results of preliminary research indicate that adolescents' perceived family efficacy predicts their prosocial and antisocial conduct independently of family variables like communication and styles of familial conflict (Regalia, Pastorelli, Barbaranelli, & Gerbino, in press). Analysis of perceived efficacy to manage dyadic family relationships and the families' perceived capabilities to promote each others' well-being hold promise of furthering understanding of how perceived collective family efficacy shapes the course of adolescent development.

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