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EVALUATION OF A CHILDHOOD VIOLENCE PREVENTION PROGRAM IN CHICAGO

Report to the Office of Juvenile Justice and Delinquency Prevention

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EVALUATION OF A CHILDHOOD VIOLENCE PREVENTION PROGRAM IN CHICAGO

Through a grant from Office of Juvenile Justice and Delinquency Prevention, an evaluation of the violence prevention program, *Let's Talk About Living in a World with Violence*, was undertaken in two diverse settings -- low violence communities in Ithaca, New York, and moderate and high violence communities in Chicago, Illinois. The project evaluated the impact of the program on third and sixth grade children's aggressive behavior and legitimization of aggression (Bolger, Collins, Darcy & Garbarino, 1997). Results from the Chicago evaluation are presented in this report.

Background

Violence is currently one of the biggest challenges facing American children. Millions of children in the United States now live in communities where shootings, stabbings, and assaults occur at epidemic rates. Children also experience violence in their homes: more than three million children were reported abused last year, and more than three million children witnessed violence against family members. Experiencing and witnessing such chronic violence affects children's psychological and social development in a number of ways: extreme anxiety, phobic reactions, sleep

disturbances, intrusive thoughts, somatic disturbances, difficulties with peers, regressive behavior, problems learning in school, withdrawal, truncated moral development, and chronic stress syndrome can result (Garbarino, Kostelny & Dubrow, 1991; Garbarino & Kostelny, 1996a, 1996b, 1996c, 1997a, 1997b; Osofsky, et al., 1993; Straker, 1987).

One of the more serious consequences of children experiencing chronic violence, however, is that children can become missocialized into a model of fear and violence, and become aggressive and violent themselves (Garbarino, Dubrow, Kostelny & Pardo, 1992). Moreover, research reveals that by age eight, patterns of aggression are so well established in children that aggression is likely to continue unless there is intervention (Eron, Gentry & Schlegel, 1994).

In response to this increasing problem of children experiencing violence, both as victims and witnesses, an educational tool for school-age children, *Let's Talk About Living in a World with Violence*, was developed (Garbarino, 1993). The goal of the workbook-based program is to help children process their thoughts, feelings and experiences related to violence through child-adult and child-child discussion about the meaning, effects of, and alternatives to violence in all domains of the child's life. The workbook also provides help to children in changing the way they think about violence

(i.e., that violence is acceptable and justifiable), as well as to change their aggressive behavior.

RESEARCH METHOD

Socioeconomic and Demographic Profile of Participants

A total of 416 children living in moderate and high violence communities in Chicago participated in the study during the period September 1995 through June 1996. The children came from six schools (17 classrooms) in six different neighborhoods. Twenty classrooms were originally in the study, but three did not complete the study (one teacher was suspended, one teacher took a leave of absence, and one teacher chose not to continue the program).

The children were evenly divided between third and sixth grade -- 50% of the students were in third grade (ages 8-10, mean = 8.7 years of age), and 50% were in sixth grade (ages 11-13, mean = 11.4 years of age). Fifty-two percent of the students were boys, and 48% were girls. Additionally, 40 % of the students were African American, 47% were Hispanic (Mexican, Central American, South American, and Puerto Rican), 7% were Caucasian, 4% were Asian American, and 4% were classified as other or unknown.

Four schools (5 third grade classes and 2 sixth grade classes, comprising 33% of the sample) were in high violence communities (i.e., communities having violent crime rates in the highest 20% of the city of Chicago's total). Two schools (5 third grade classes and 5 sixth grade classes, constituting 67% of the sample) were in moderate violence communities (i.e., communities having violent crime rates above the city average, but below the high crime communities' rates). Three of the schools consisted primarily of African American students, two schools consisted primarily of Hispanic students, and one school was mixed racially between African American, Hispanic, Caucasian, and Asian American students.

The economic class level, according to teacher ratings, revealed that 53% of the students were ranked at poverty level, 38% were ranked as lower middle class, and 9% were ranked as middle class. There were no ratings of upper middle class or upper class in the sample. According to information reported by the child, 7% of the children did not have their mother living with them, and 37% of the children did not have their father living with them.

Research Questions and Hypotheses

Hypothesis I: Children experiencing family violence will exhibit higher legitimization of aggression and aggressive behavior than children not experiencing family violence. The correlation will be stronger for boys and younger children.

Hypothesis II: Children experiencing high levels of community violence will exhibit higher legitimization of aggression and aggressive behavior than children not experiencing high levels of community violence. The correlation will be stronger for boys and younger children.

Hypothesis III: Post-test legitimization of aggression scores will be significantly lower than pre-test scores for children completing the *Let's Talk About Living in a World with Violence* program.

Hypothesis IV: Post-test aggressive behavior scores will be significantly lower than pre-test scores for children completing the *Let's Talk About Living in a World with Violence* program.

Hypothesis V: The magnitude of the change in aggressive behavior and in the legitimization of aggression will be significantly correlated with teachers' motivation and comfort using the program.

Operationalization of Terms

Independent Variables

Exposure to Family Violence: Children's exposure to violence in the home was measured using six items from Richters and Martinez' (1990) *Things I Have Seen and Heard* instrument. Children responded to each item using a five-point ordinal scale: 0 = never, 1 = one time, 2 = two times, 3 = three times, and 4 = many times. The variables were:

- 1) Grownups in my home yell at each other
- 2) Grownups in my home hit each other
- 3) I have seen drugs in my home
- 4) I have seen a gun in my home
- 5) Grownups in my home threaten to stab or shoot each other
- 6) I have seen someone in my home get shot or stabbed.

Scores on the six scales were added for a Family Violence score, ranging from 0 - 24.

Exposure to Community Violence: Eleven variables from the *Things I Have Seen and Heard Instrument* were used to measure children's exposure to Community Violence:

- 1) I have heard guns being shot
- 2) I have been beaten up
- 3) Someone threatened to stab me
- 4) Someone threatened to shoot me
- 5) Someone threatened to kill me
- 6) I have seen someone beaten up
- 7) I have seen drug deals

- 8) I have seen somebody arrested
- 9) I have seen somebody get shot
- 10) I have seen somebody get stabbed
- 11) I have seen a dead body outside

Scores for the eleven variables were added for a Community Violence score, ranging from 0 - 44. Additionally, low, moderate and high violence exposure categories will be assessed. The moderate violence exposure category will consist of Community Violence scores falling within one standard deviation of the mean, the low violence exposure category will include scores falling below one standard deviation of the mean, and high violence exposure scores will include scores that are more than one standard deviation above the mean.

Total Violence: The Family Violence score and the Community Violence score were added for a composite Total Violence score, ranging from 0 - 68.

Perception of Safety and Support from Adults: Children's perception of safety and support from adults was assessed using three items from the *Things I Have Seen and Heard* instrument:

- 1) I feel safe at home
- 2) I feel safe at school
- 3) Grownups are nice to me

Scores ranged from 0 to 4 for each item: 0 = never, 1 = 1 time, 2 = 2 times; 3 = 3 times; 4 = many times.

Accumulation of Family Risks: Family risks which were predictive of aggressive behavior, based on the stepwise regression analysis, were added for an Accumulation of Family Risks score. Presence or absence of each factor was used. A score of 0 was given if the child had never experienced the risk, or a score of 1 if the child had experienced the risk at least one time.

Accumulation of Community Risks: The absence (0) or presence (1) of community risks which were found to be predictive of aggressive behavior based on the stepwise regression analysis were added for a Community Risk Accumulation score.

Teacher Comfort with Program: The teachers' comfort using the workbook was assessed using a five point scale (1 = very uncomfortable; 2 = somewhat uncomfortable; 3 = neutral; 4 = somewhat comfortable; 5 = very comfortable).

Integration of Program into other Subjects: The teachers' integration of concepts from the workbook into other areas of study was measured using a dichotomous scale (0 = no, 1 = yes).

Integration of Program During Conflict: Integration of concepts from the workbook during conflict at school was also measured using a dichotomous scale (0 = no; 1 = yes).

Grade: Third grade (children ages 8-10) and sixth grade (children ages 11-13) participated.

Gender: Boys and girls.

Level of Violence in Community: Two levels of community violence were defined: high violence communities were those being in the highest 20% of the city of Chicago's violent crime rates; moderate violence communities were those above the city's average, but below the high violence communities' rates.

Dependent Variables

Legitimization of Aggression: Legitimization of Aggression was assessed using a 16 item questionnaire (Erdley & Asher) to measure children's beliefs about the legitimacy of aggression in social relations. The items were:

- 1) It's ok to hit someone if you don't like that child.
- 2) It's ok to say something mean to someone if that child really makes you angry.
- 3) It's ok to say something mean to someone to get what you want.
- 4) It's ok to hit someone to protect yourself.

- 5) It's ok to say something mean to someone to get even with that child.
- 6) It's ok to hit someone if that child really makes you angry.
- 7) It's ok to say something mean to someone if you don't like that child.
- 8) It's ok to say something mean to someone if that child does something mean to you.
- 9) It's ok to hit someone if that child hits you first.
- 10) It's ok to say something mean to someone to show you can't be pushed around.
- 11) It's ok to hit someone to get even with that child.
- 12) It's ok to hit someone if that child does something mean to you.
- 13) It's ok to say something mean to someone to protect yourself.
- 14) It's ok to hit someone to get what you want.
- 15) It's ok to say something mean to someone if that child hits you.
- 16) It's ok to hit someone to show you can't be pushed around.

A scale from 1 (really disagree) to 5 (really agree) was used for each item, and a composite score resulted. The range of possible scores was 16 to 80.

Aggressive Behavior: Aggressive behavior was measured using four items from the *Peer Assessment of Behavior* scale (Rockhill & Asher, 1992):

- 1) Who starts fights?
- 2) Who hits, pushes and kicks?
- 3) Who is mean?
- 4) Who gets mad easily?

Each student reported on their classmates' behavior on these four items. For each item, a class roster was presented, and children were asked to circle the names of those children who fit the description, with no restriction put on the number of names that could be circled. The range of possible scores was 0-100.

Change in Legitimization of Aggression Over Time: This was defined as the post-test score minus the pre-test score on the Legitimization of Aggression instrument.

Change in Aggressive Behavior Over Time: This was defined as the post-test score minus the pre-test score on the four items from the Peer Assessment scale.

Data Collection

Data were collected pre-test and post-test from 416 students in the third and sixth grades, as well as from the 17 teachers of the students by the principal Chicago investigator and four trained, graduate student research assistants. Post tests were conducted 4-6 weeks after completion of the program.

Implementation of Program

After pre-testing, teachers provided the *Let Talk About Living in a World with Violence* program in their classrooms over a 2-3 month period. Prior to implementing

the program, teachers received two hours training in the use of the workbook, and in concepts relating to the developmental consequences of violence by a qualified trainer.

Instruments

Child Measures

- 1) Demographic Questionnaire
- 2) Things I have Seen and Heard: An Interview for Young Children About Exposure to Violence (Richters and Martinez, 1990)
- 3) Peer Assessment of Behavior (Rockhill and Asher, 1992)
- 4) Legitimization of Aggression (Erdley and Asher)

Teacher Measures

- 1) Teacher-Child Rating Scale
- 2) Teacher Questionnaire

Statistical Analyses

First, children's exposure to family and community violence, as well as their perception of safety and support from adults, were assessed using descriptive statistics. Next, the relationship between children's experiences of family violence, community violence and legitimization of aggression were examined using a series of one-way analysis of variance (ANOVAs) and stepwise regression analyses. Likewise, to examine the relationship between children's experiences of family violence, community

violence and aggressive behavior, a series of ANOVAs and stepwise regression analyses were conducted. The accumulation of family and community risk factors were analyzed using a series of ANOVAs. In addition to examining main effects of exposure to violence on the legitimization of aggression and aggressive behavior, interaction effects of gender, age, and level of violence in the community were also assessed.

To evaluate the effectiveness of the *Let's Talk About Living in a World with Violence* intervention in reducing aggressive behavior and the legitimization of aggression, a series of stepwise regression analyses and ANOVAs were used to measure change over time. The variables of age, gender, level of violence in the community, exposure to violence, and teacher characteristics of comfort with program, integration of program into other subjects, and integration of concepts from program during conflict situations were also examined.

RESULTS

Children's Exposure to Family and Community Violence

Responses reveal that children in the Chicago sample are exposed to extremely high amounts of community and family violence (See Table 1). In the communities

where they live, 89% of children have heard gunfire, 43% have seen someone shot, and 38% have seen a dead body outside. Of the 416 children in the study, only 4 children -- less than 1% -- had *not* been exposed to any of the eleven types of community violence that were assessed. Children also experience a high amount of violence within the family: 24% of children reported that they have seen adults in their home hit each other, 16% reported that grownups in their home have threatened to shoot or stab each other, and 16% of the children have seen someone in their home get stabbed or shot.

Family Violence

On the six family violence items of the *Things I Have Seen and Heard* instrument, children's Family Violence scores ranged from 0 to 24 (24 possible), with a mean score of 4.2. While boys had higher mean scores of 4.5, compared to girls' mean scores of 3.9, this difference was not statistically significant. Significantly more children who lived in the high violence communities, however, experienced family violence (mean = 5.9) than did children who lived in the moderate violence communities (mean = 3.6) ($p < .0001$).

Community Violence

For the eleven community violence items on the *Things I Have Seen and Heard* instrument, children's Community Violence scores ranged from 0 to 40 (44 possible),

with a mean score of 15.2. Consistent with our definition of “moderate violence” and “high violence” communities, there were significant positive correlations with level of violence in a community and the amount of violence children were exposed to for all three types of violence (Family Violence = .21, Community Violence = .26, Total Violence = .28 ($p < .0001$)).

Significantly more boys than girls had exposure to community violence. The mean community violence score for boys was 16.3, compared to 13.9 for girls ($p < .001$). As would be expected, children who lived in high violence communities had significantly more exposure to community violence (mean score of 18.0) than did children who lived in moderate violence communities (mean score of 13.5) ($p < .0001$).

Total Violence

Children’s Total Violence scores ranged from 0 – 61 (68 possible), with a mean score of 19.2. Boys had significantly higher total violence scores (mean score = 20.7) than did girls (mean score = 17.5) ($p < .05$). Finally, a significant difference in children’s exposure to violence was found by level of violence in community -- the mean score was 23.9 for children living in high violence communities, compared to a mean score of 16.9 for children living in moderate violence communities.

Perception of Safety and Support from Adults

Children's perceptions of safety and support from adults were related to the amount of violence at home and in the community that they were exposed to. 76.7% of the children indicated that grownups were nice to them "many times," while 4.1% indicated that grownups were "never" nice to them (mean = 3.5). 79.3% of children indicated that they felt safe at home "many times", while 6.1% of children said they "never" felt safe at home (mean = 3.5). 58.2% of children said they felt safe at school "many times" while 16.7% said they "never" felt safe at school (mean = 2.9). Feeling safe at home (-.21) and having grownups be nice to them (-.19) were negatively correlated with family violence. Feeling safe at home (-.14), having grownups be nice to them (-.14) and feeling safe at school (-.14) were negatively correlated with community violence ($p < .01$) (See Table 2). As children experienced more violence, feelings of safety at home and at school decreased, as well as their perception of support from adults.

Legitimization of Aggression

The children's scores on the Legitimization of Aggression scale ranged from 16 to 80 (16 to 80 possible), with a mean pre-test score of 48.1. A positive correlation was found between exposure to violence and legitimacy of aggression (family violence = .31; community violence = .32, total violence = .35) ($p < .001$). Furthermore, a

correlation exists between the legitimization of aggression and aggressive behavior (.13; $p < .05$) (See Table 3). There were no significant differences by gender or grade. However, a significant trend emerged with regard to level of violence in the community and legitimization of aggression: children in high violence communities had higher mean scores (49.3) than did children from moderate violence communities (46.6) ($p < .09$).

Perception of Safety and Support from Adults

Children's feeling safe at home, safe at school, and perceiving grownups as nice to them was negatively correlated with legitimacy of aggression (-.20 for grownups being nice to them, and -.14 for feeling safe at home). Children who felt safe at home had mean



scores of 45.4 compared to children who never felt safe at home (52.8). Children who perceived grownups as nice had mean scores of (45.2) compared (55.3) for children who never perceived grownups as being nice to them.

Family Violence

Four Family Violence variables -- *Grownups in my home hit each other, I have seen a gun in my home, Grownups in my home threaten to stab or shoot each other, and I have seen drugs at home* -- predicted legitimization of aggression ($r^2 = .08$). The most powerful predictor of legitimization of aggression was I have seen a gun in my home ($r^2 = .04$) ($p < .001$).

Community Violence

Five Community Violence variables were found to predict legitimization of aggression -- I have heard guns shot, I have seen someone shot or stabbed, I have seen a dead body, Someone threatened to shoot me, Someone threatened to kill me ($r^2 = .12$). The most powerful predictor of legitimization of aggression was I have heard guns shot ($r^2 = .06$) ($p < .001$).

Accumulation of Risk Factors and Legitimization of Aggression

Family Violence Risks

A significant difference between children experiencing no family violence risks, and children experiencing at least one form of family violence risk was found ($p < .05$). For the four Family Violence Risks that were found to predict legitimization of aggression, the mean score for children with no family violence risks was 44.1 compared to 48.9 for one risk, 49.6 for two risks, 50.5 for three risks, and 54.2 for four risks.

Community Violence Risks

A significant difference was found between children experiencing 0 community violence risks, and children experiencing 1 or more community violence risks. The mean score for children experiencing 0 risks was 34.5, compared to 46.8 for 1 risk, 48.7 for 2 risks, 49.0 for 3 risks, and 52.3 for 4-5 risks. No significant differences were found between increasing numbers of risks.

Change in Legitimization of Aggression Over Time

A significant difference in change in legitimization of aggression over time ($p < .05$) was found. Mean scores decreased 4.4 points -- from 48.1 pre-test, to 43.7 post-test.

No differences were found for change in legitimization of aggression over time by grade, gender, or level of violence in community.

Aggressive Behavior

Children's aggressive behavior scores (from the four items on the *Peer Assessment of Behavior*) ranged from 0 - 83, with the mean score being 15.4.

Aggressive behavior was also examined for gender, grade, and level of violence in community.

Gender

A significant difference in aggressive behavior was found between boys and girls, with boys displaying a significantly higher amount of aggressive behavior. Boys had a mean score of 17.5, compared to the mean score for girls of 13.3 ($p < .01$).

Grade

A significant difference in aggressive behavior was also found between younger and older children. Third grade children received significantly higher mean scores for aggressive behavior (19.3) than sixth grade children (11.4) ($p < .0001$).

Level of Violence in Community

A significant difference in aggressive behavior was found between moderate violence communities and high violence communities, with children living in high violence communities having significantly higher aggressive behavior -- mean aggression score of 17.9, while the mean score of children in moderate violence communities was 13.8 ($p < .005$).

Exposure to Violence

Aggressive behavior was also assessed by type and amount of exposure to violence: Family Violence, Community Violence, and Total Violence. A significant positive correlation was found between all three types of exposure to violence and peer reported aggression (Family Violence = .39; Community Violence = .27; Total Violence = .36). Teacher reports of aggression were also positively correlated with peer reports of aggression (.44; $p < .0001$) as well as with all three types of violence (See Table 3).

Perception of Safety and Support from Adults

Feeling safe at home and safe at school was negatively correlated with aggressive behavior (-.13) -- the safer children felt, the less aggression they exhibited. Children who felt safe at home "many times" had mean aggressive scores of 14.6, compared to mean scores of 21.2 for children who "never" felt safe at home ($p < .01$).

In addition to composite scores for Family Violence, Community Violence, and Total Violence, a series of stepwise regression analyses were performed for the 6 Family Violence variables, the 11 Community Violence variables and the 17 Total Violence variables to determine which variables were the best predictors of aggressive behavior.

Family Violence

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J.J.
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Five Family Violence variables -- *Grownups in my home hit each other, I have seen someone shot or stabbed in my home, I have seen a gun in my home, Grownups in my home threaten to stab or shoot each other, and I have seen drugs at home* -- predicted aggressive behavior ($r^2 = .14$). The most powerful predictor of peer reported aggression was *I have seen a gun in my home* ($r^2 = .09$) ($p < .0001$).

Community Violence

Seven Community Violence variables -- *I have seen drug deals, I have seen someone shot, Someone threatened to stab me, I have seen someone beaten, I have been beaten, I have seen a dead body, someone threatened to shoot me, and I have seen arrests* -- predicted aggressive behavior ($r^2 = .19$). The variable *I have seen drug deals* was the single most powerful predictor of aggression ($r^2 = .07$) ($p < .0001$).

Total Violence

Of the 17 Total Violence variables, ten variables -- *seeing a gun in the home, seeing drug deals, seeing someone shot, grownups hitting each other, someone threatening to stab them, someone threatening to shoot them, seeing a dead body, being beaten, seeing someone shot in the home, and grownups threatening to stab or shoot each other* -- were the most powerful predictors of aggression ($r^2 = .23$). As with Family Violence, having a gun in the home was the most powerful predictor of aggressive behavior ($r^2 = .09$).

Accumulation of Risk Factors and Aggressive Behavior

As the number of risks related to Family Violence increased, the level of aggressive behavior also increased significantly: children who had 0 family violence risks had mean scores of 11.9 for aggressive behavior, compared to 14.6 for 1 risk, 19.3 for 2 risks, 20.2 for 3 risks 28.2 for 4 risks, and 25.7 for five risks ($p < .005$) (See Figure 1).

Likewise, as the number of risks related to Community violence increased, the level of peer reported aggression increased significantly: the mean for children with 0 risks was 5.2; 1 risk = 8.9; 2 risks = 11.4; 3 risks = 13.5; 4 risks = 16.8; 5 risks = 16.6; 6 risks = 18.6; 7 risks = 24.7 (See Figure 2).

Finally, when Family Risks and Community risks were combined, the level of aggressive behavior increased even more. The mean for 0 risks was 6.2; 1 risk = 8.5; 2 risks 11.9; 3 risks 11.3; 4 risks 14.6; 5 risks 15.9; 6 risks 15.3; 7 risks = 18.6; 8 risks = 16.6; 9 risks = 22.6; and for 10 or more risks = 32.3 (See Figure 3).

Change in Aggressive Behavior Over Time

A main effect was found between pre-test and post-test scores of aggressive behavior: children displayed significantly less aggressive behavior after the intervention. ($p < .0001$). Children's mean scores had decreased an average of 2.1,

from 15.4 to 13.3. Furthermore, differences were also found according to grade, level of violence in the community, exposure to violence, and teacher characteristics.

Grade

Third grade children displayed more of a decrease in aggressive behavior after



participating in the intervention than did sixth grade children ($p < .0001$). Third graders mean scores had decreased by 3.4, while sixth graders mean scores decreased only .9.

Level of Violence in Community

The intervention was also more effective with children from moderate violence communities than children from high violence communities. A significant difference was found between children living in moderate violence communities and high violence communities, with children in moderate violence communities having a 3.0 decrease, compared to a 1.4 decrease in high violence communities ($p < .001$).

Further differences were found when grade and level of violence in community were analyzed. Third grade children from moderate violence communities had mean change scores of -6.1, compared to -2.0 for third grade children in high violence communities, -1.4 for sixth grade children in moderate violence communities, and .25 for sixth grade children in high violence communities ($p < .0001$) (See Figure 4).

Exposure to Family and Community Violence

While no significant difference was found between children who experienced family violence and children who did not experience family violence in change in aggressive behavior over time, a significant difference was found in relation to children

who experienced low and moderate levels of community violence compared to children who experienced high levels of community violence ($p < .01$). Level of violence was assessed according to three levels on the Community Violence scale: low violence exposure (less than one standard deviation below the mean; scores of 0-6) moderate violence exposure (within one standard deviation of the mean; scores of 7-23) and high

violence exposure (more than one standard deviation above the mean; scores of 24 - 44) . A curvilinear effect was found: children experiencing moderate community violence had the most profound change score (mean of -3.1), while children who experienced low amounts of violence had a mean change score of -1.8. There was no significant change for children experiencing high levels of community violence (mean of -.26) (See Figure 5).

Teacher Characteristics

Significant differences were found for all three teacher variables. For teachers' comfort with using the intervention program, scores ranged from 3 to 5 (with 3 = neutral; 4 = comfortable; 5 = very comfortable). None of the teachers rated themselves as uncomfortable or very uncomfortable using the program. For teachers who were very comfortable using the program, students had a mean change in aggressive behavior over time of -4.1; for teachers who were comfortable, the mean change score was -2.0; and for teachers who were neutral, the mean change score was 2.0 ($p < .0001$).

A significant difference was also found in change in aggressive behavior over time for integration of the program into other subjects ($p < .0001$). For teachers who integrated the workbook into other subjects, the mean change score was -4.0, compared to -.3 for teachers who did not integrate the workbook with other subjects.

Finally, a significant difference was found for integrating workbook concepts into conflict situations that occurred during class ($p < .0001$). The mean for peer reported aggression for students whose teachers integrated the workbook into conflict situations was -5.1, compared to .46 for teachers who did not integrate the workbook.

Additionally, a stepwise multiple regression analysis was conducted to predict

change over time in aggressive behavior using the three demographic variables (gender, grade, level of violence in community), the three exposure to violence variables (family violence, community violence, total violence) and the three teacher variables (comfort with program, integration of program into other subjects, integration of concepts into conflict situations). Five variables were found to predict peer reported aggression ($r^2 = .23$). In order of significance they were: *teacher integrating the workbook concepts into conflict situations*; *grade level*; *teacher comfort using the workbook*; *level of violence in community*; and *teacher integrating concepts from the workbook into other subjects*.

DISCUSSION

The purpose of our study was threefold. First, we examined the extent to which children in six Chicago communities were exposed to violence. Second, the effects of family and community violence on children, specifically as it related to children's aggressive thinking and aggressive behavior were explored, as well as the relationship of violence to feelings of safety and support from adults. Finally, the effects of a violence prevention program, *Let's Talk About Living in a World with*

Violence, was assessed in terms of changing children's aggressive thinking and aggressive behavior.

Ecological Perspective

Our current study built upon our previous research using an ecological framework, recognizing the multiplicity of factors that influence children's development (Garbarino & Kostelny; 1993; 1996a; 1996b; 1996c; 1997). Such an approach views child development as proceeding from the interaction of an active, purposeful, and adaptive child with an array of social systems (Bronfenbrenner, 1979; Garbarino & Associates, 1992). Beyond the individual characteristics of the child, we examined the microsystems of the child's family, school, and community as they related to the child's experiences with violence. Such an approach provides the context for the child's emerging social map of events, relationships, and processes which help him make sense of the world. Thus, seven sets of variables related to individual characteristics of the child, the child's home, school, and community were examined: gender, age, community level of violence, personal exposure to family violence, personal exposure to community violence, the child's perception of safety and support from adults, and teacher characteristics.

Exposure to Violence

Children in our sample of moderate and high violence communities in Chicago are exposed to multiple types of violence, both in their families and in their communities. The rates of exposure are extraordinarily high, approaching that of children in war zones. For example, during the war in Lebanon, Macksoud reported that 93% of children had experienced shelling (Macksoud & Aber, 1996). In our Chicago sample, the rate of children hearing gunfire where they lived was 89%. Similarly, in Lebanon, 45% of the children had witnessed “violent acts”, and in our research of Palestinian children during the Intifada, we found that 43% of children had experienced a violent Intifada event (Garbarino & Kostelny, 1996). In Chicago, 43% of the children in our sample had witnessed the violent act of seeing someone shot. And while Lebanese children during wartime experienced an average of 5-6 war related events, children in our Chicago sample also experienced an average of 5-6 violence related events. Thus, as is the case in foreign war zones, children in our “urban war zones” generally do not experience a single violent event, but instead are subjected to prolonged, ongoing violence.

Effects of Violence

Our study found a strong link between children experiencing violence – both family and community -- and aggressive behavior. Moreover, the effects were more pronounced for boys and younger children, confirming prior research that boys and younger children are more vulnerable to risks than are girls and older children (Garbarino & Kostelny, 1996a; Werner, 1990).

Of concern is the extremely strong relationship between the presence of a gun in the home and children's aggressive behavior -- seeing a gun in the home was the single most important predictor of aggressive behavior in children. Moreover, having a gun in the home was the most important family risk variable for children's legitimacy of aggression. While we know the risks of injuries and fatalities associated with guns, the relationship between guns and its effects on children's thinking and behavior has not been sufficiently examined up to this point. Our results suggest that the presence of a gun in the home increases children's justification of violence as a means to solve problems, as well as increases their aggressive behavior. This has profound implications as more than a third of the children in our sample were exposed to guns in their homes. What is not known is the relationship of exposure to guns in the home, and children using guns in a violent way in the future. Are children who are exposed to guns in the home more likely to obtain a gun of their own? At what age? Under what conditions will they use guns? What are the intervening factors that will make it

less likely for them to justify and use guns in the future? These are questions for future research.

The accumulation of violence in a child's life must also be considered, as the effects of violence are cumulative – the more children are exposed to violent events, the more negative developmental consequences they manifest (Kostelny & Garbarino, 1994; Garbarino & Kostelny, 1996). As the number of risks related to family or community violence increased, the level of child aggression also significantly increased. Children with 0 family risks had a mean aggression score of 11.9, compared to 28.2 for children who experienced four family violence risks. Likewise, children with 0 community violence risks had a mean aggression score of 5.2, compared to a mean aggression score of 24.7 for children experiencing 7 community violence risks. Unlike acute violence, which is short-lived and where children can go back to their usual routines after the stressful or traumatic event, chronic violence imposes a requirement for developmental adjustment – including major changes in patterns of behavior and ideological interpretations of the world.

Of special concern is the issue of children experiencing both community violence *and* family violence. In our sample, 63% of the children experienced *both* types of violence. Moreover, the higher the accumulation of risks, the greater the negative effects -- for children who experienced 10 or more family and community

risks, the mean aggression score was 32.3, compared to 8.9 for one community violence risk, or 14.6 for one family violence risk. The combination of living in high-risk families within high-risk communities creates a situation of special danger for children because the compensatory factor in the child's life of a warm and supportive family that could remediate the effects of a violent community are severely limited (Garbarino, Kostelny, Grady, 1993). Families can provide the emotional context for the necessary "processing" to make positive moral sense of stressful and traumatic events. But to do so they must be functioning well to start with. Maltreated children are generally denied that processing with their family. Additionally, for children in violent communities, these communities are often not able to help process stressful events in the child's life. Findings by clinical researchers studying the impact of extra-familial trauma indicate that one of the mediators of PTSD in children exposed to trauma is the quality of the child's family relationship prior to the trauma (Pynoos & Nadar 1988; Terr, 1990).

Furthermore, children who live in communities plagued by violence also experience additional risks in their environment. In addition to risks from violence, children in crime-ridden communities also experience risks relating to poverty, living in a single parent household, low parent education, substance abuse and maternal depression. More than 50% of the children in our sample lived below poverty level,

44% lived in single parent homes, and 67% lived in communities where drugs abound. As other research has found, permanent development damage is more likely to occur when multiple risks are present in a child's environment (Rutter, 1987; Sameroff, 1987). The risk of development harm from exposure to violence increases when that exposure is compounded by other risks.

Effects of Intervention

Aggressive Behavior

Younger children responded better to the *Let's Talk About Living in a World with Violence* intervention than did the older children (a decrease in aggressive behavior of 3.4 points for third graders vs. .9 points for sixth graders). Thus, it is critical to reach children early. While older children still benefited from the intervention, the more effective time to intervene was in the earlier years. Further research is needed to determine if even earlier intervention would have even more pronounced effects.

Furthermore, children having personal experiences with violence at a low or moderate level, or living in communities with moderate violence, responded better to the intervention than did children who had experienced high amounts of violence or lived in communities with high levels of violence. Our study suggests that there may be a threshold effect in terms of the amount of violence a child can experience, and still be able to change his aggressive behavior and thinking. Once that threshold is passed, it may be extremely difficult to change children's thinking and behavior. Thus, the intervention worked best for young children (third grade) with moderate exposure to violence. It was least effective for older children (sixth grade) with high amounts of

exposure to violence. Future research is needed to determine if the reduction in aggression will be lasting.

Legitimization of Aggression

Our study found a moderate relationship between children's legitimacy of aggression and aggressive behavior ($p < .05$). However, our study suggests that most children in our sample have not yet formed strong beliefs -- either approving or disapproving -- of aggression. The pre-test mean score of 48.1 fell in the "neutral" category (although the level of aggressive behavior was high). This effect may indicate that children first model the aggressive and violent behavior they see in their homes and in their communities, before their beliefs about aggression are formed.

It is noteworthy that the intervention did have a modest effect in shifting third grade children's thinking from *neutral* towards the belief in the *disapproval* of aggression, indicating this is an important developmental time to help shape children's belief systems. The intervention did not have an effect on sixth grade children's belief in the legitimacy of aggression.

While Tolan and Guerra (1994) have found that changing aggressive attitudes is essential to changing aggressive behavior for adolescents, for younger children the relationship is not as clear. Our results suggest that, for younger children, changing behavior may precede attitudinal change. In our sample, children had a much stronger

decrease in aggressive behavior than they did a decrease in their legitimization of aggression. Changing behavior may be easier than changing thinking for young children, the cognitive shift in thinking occurring after behavioral rehearsal. Further research is needed to explore if children's legitimization of aggression as well as aggressive behavior will become stronger or weaker with time.

Teacher Characteristics

Teachers differed in three important ways in terms of the effectiveness of the intervention. First, the program worked best with teachers who were comfortable with the program, with the most significant results coming from teachers who felt the most comfortable. Second, integrating the program into other topics was associated with more effectiveness of reducing aggressive behavior and thinking. As was found in the Ithaca sample, such an approach conveys greater seriousness on the part of the teacher, and provides more teachable moments for the material. Finally, the strongest link of the program's effectiveness for children in moderate and high violence communities was the use of program concepts in actual conflict situations. Such behavioral rehearsal allowed children to see the utility of effective communication in action, to learn more appropriate ways to assert personal needs, to develop empathy, and to learn compromise and cooperation in real life situations.

Conclusion

Results of this study lend credence to the *Let's Talk About Living in a World with Violence* program. For urban children who are well positioned (third graders in moderately violent communities) teachers who use the curriculum as intended (i.e., comfortable with the program, integrating the curriculum with other subjects, and using program concepts in conflict situations) can make a difference in aggression. These results are encouraging, both the violence prevention field in general and for the use of *Let's Talk About Living in a World with Violence* in particular.

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How a child responds to violence depends on age and developmental level. While school age children may show more aggression, older children and adolescents may engage in acting out and self destructive behavior, such as substance abuse, delinquent behavior, promiscuity, and life-threatening re-enactments.

In summary, the violence prevention intervention was effective in reducing children's aggressive behavior and thinking. However, most effective with younger children, not overwhelmed with highest levels of violence, and where teachers are comfortable using the program and actively integrate the intervention in other aspects of the child's school environment, especially around issues of conflict.

Table 1

Children's Exposure to Violence in Six Chicago Communities

	At least One Time	Many Times
Seen Someone Being Beat Up	86%	51%
Heard Guns Being Shot	89%	65%
Seen Somebody get shot	43%	18%
Have been beaten up	39%	11%
Someone Threatened to Shoot Me	21%	07%
Someone Threatened to Kill me	19%	05%
Someone Threatened to Stab Me	18%	06%
Seen drug deals	67%	41%
Seen a dead body outside	38%	13%
Seen somebody arrested	84%	65%
Seen somebody get stabbed	38%	14%
Seen a gun in my home	34%	15%
Grownups in my home yell at each other	58%	28%
Grownups in my home hit each other	24%	11%
Grownups in my home threaten to shoot or stab each other	16%	06%

Seen somebody in my home shot	16%	06%
or stabbed		
Seen drugs in my home	20%	08%

Table 2

Correlation Matrix for Type of Violence and Children's Perception of Safety

	Family Violence	Community Violence	Total Violence
Family Violence	1.00	.50	.79
Community Violence	.50	1.00	.93
Total Violence	.79	.93	1.00
Grownups are Nice to Me	-.19**	-.14**	-.18**
Safe at School .14**	-.09		-.14**
Safe at Home	-.21***	-.14**	-.19**

** $p < .01$

55

*** $p < .001$

Table 3

Correlation Matrix for Type of Violence, Legitimacy of Aggression, and Aggressive Behavior

	Family Violence	Community Violence	Total Violence	Legitimization of Aggression	Peer Report Aggression
Teacher Report Aggression					
Family Violence .31	1.00	.57	.84	.30	.39
Community Violence .28	.57	1.00	.92	.32	.27
Total Violence .33	.84	.92	1.00	.35	.36
Legitimization of Aggression .09	.30***	.32***	.35***	1.00	.13*
Peer Report Aggression .44***	.39**	.27***	.36***	.13	1.00
Teacher Report Aggression 1.00	.31***	.28***	.33***	.09	.44***

* $p < .05$
** $p < .01$
*** $p < .001$

58

Figure 1

Aggressive Behavior as a Function of Number of Family Risk Factors

35

30

25

20

15

10

5

0

0

1

2

3

4

5

Number of Risk Factors

Risk Factors:

Grownups in my home hit each other
I have seen someone shot or stabbed in my home
I have seen a gun in my home
Grownups in my home threaten to stab or shoot each other
I have seen drugs at home

Figure 3

Aggressive Behavior as a Function of Number of Family and Community Risk Factors

35

30

25

20

15

10

5

60

0

0
10

1

2

3

4

5

6

7

8

9

Number of Risk Factors

Risk Factors:

I have seen drug deals

I have seen someone shot

I have seen someone beaten

I have been beaten

I have seen drugs at home

I have seen a gun in my home
home

I have seen a dead body

Someone threatened to shoot me

I have seen arrests

Grownups in my home hit each other

Grownups in my home threaten to stab or shoot

I have seen someone shot or stabbed at

61

Figure 2

Aggressive Behavior as a Function of Number of Community Risk Factors

35

30

25

20

15

10

5

0

0

1

2

3

4

5

6

7

Number of Risk Factors

Risk Factors

I have seen drug deals
I have seen a dead body
I have seen someone shot
Someone threatened to shoot me
I have seen someone beaten
I have seen arrests
I have been beaten

Figure 5

Change in Aggressive Behavior as a Function of Level of Exposure to
Community Violence

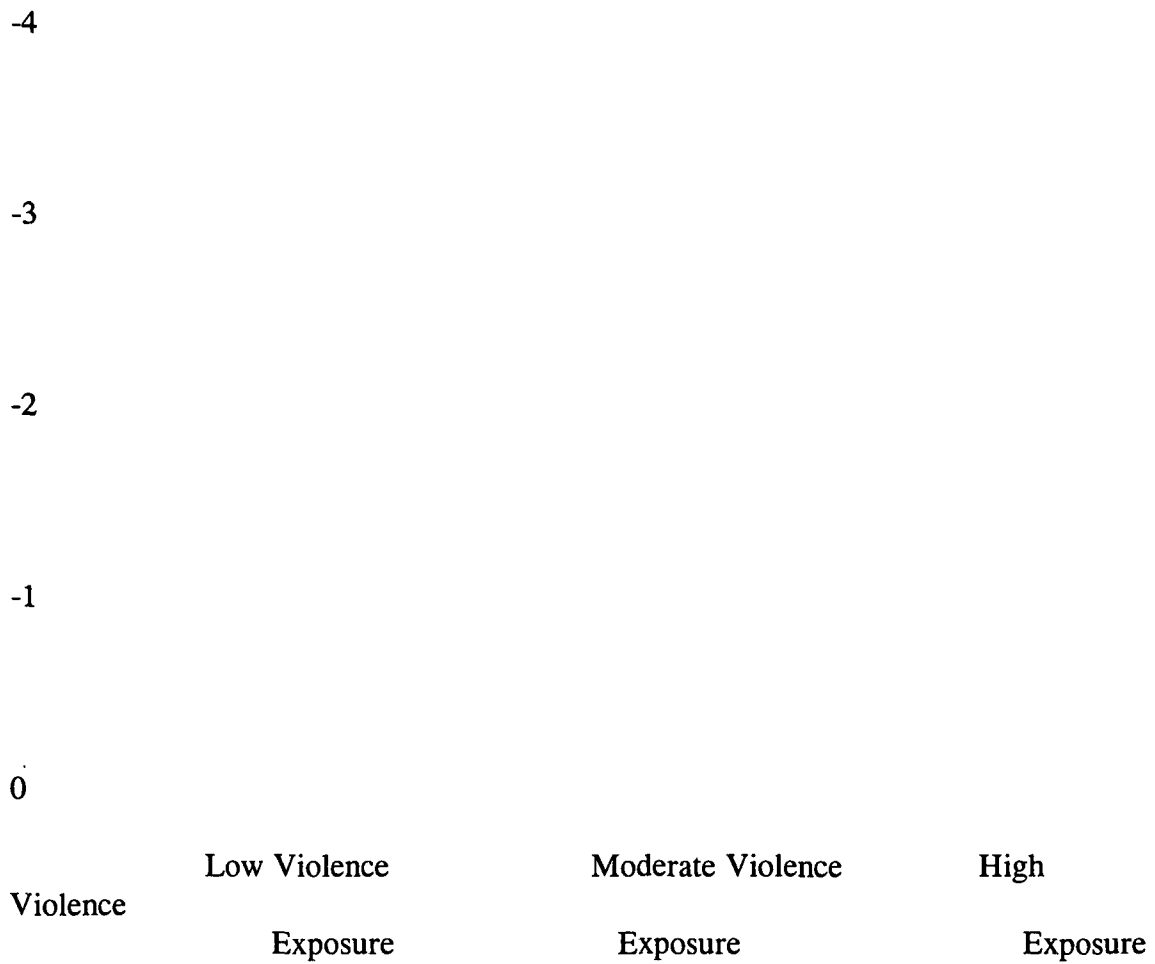


Figure 4

Change in Aggressive Behavior as a Function of Grade and Level of Violence in the Community

-7

-6

-5

-4

-3

-2

-1

0

1

3rd grade	moderate	violence
6th grade	high	violence
6th grade	moderate	violence
6th grade	high	

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