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# Neighborhood Perceptions and Parent Outcomes in Family Based Prevention Programs for Thai Adolescents: The Role of Program Engagement*

**Hilary F. Byrnes, Ph.D.**[1,2], **Brenda A. Miller, Ph.D.**[2], **Aphichat Chamratrithirong, Ph.D.**[3], **Orratai Rhucharoenpornpanich, Ph.D.**[3], **Pamela K. Cupp, Ph.D.**[4], **Katharine A. Atwood, MS., ScD.**[4], **Warunee Fongkaew, Ph.D.**[5], **Michael J. Rosati**[7], and **Warunee Chookhare**[8]

[2]Prevention Research Center, Pacific Institute for Research and Evaluation, Berkeley, CA [3]Institute for Population and Social Research, Mahidol University, Thailand [4]Pacific Institute for Research and Evaluation, Louisville Center 1300 South Fourth Street, Suite 200, Louisville, KY [5]Chiang Mai University, Chiang Mai, Thailand [7]Thailand Ministry of Public Health, Department of Mental Health, Rajanukul Institute, Bangkok, Thailand [8]CSN & Associates Co., Ltd., Bangkok, Thailand

## Abstract

Due to concerns over Thai adolescent risky behaviors, effective prevention strategies are needed. Determining the role neighborhood context plays in program engagement and outcomes may inform these strategies. This study includes 170 mother-adolescent pairs ($M$ = 13.44, $SD$ = .52) in Bangkok, Thailand in a prevention program for adolescent substance use and sexual risk. Neighborhoods were related to engagement, which was critical to outcomes. Neighborhood disorganization was related to confidence in program effects and program completion. Completion was related to increased ATOD communication. Neighborhood cohesion was related to less program enjoyment, while neighborhood social control was related to more enjoyment. Enjoyment was related to increased ATOD communication and formation and monitoring of alcohol rules. Prevention strategies should focus on neighborhood contexts and enhancing engagement.

Youth in disadvantaged neighborhoods may be at increased risk for poor health outcomes, such as delinquency and substance use (Byrnes, Chen, Miller, & Maguin, 2007; Frank, Cerda, & Rendon, 2007; 2004; Leventhal & Brooks-Gunn, 2000). Social disorganization is an aspect of disadvantaged neighborhoods described as the inability of residents to control both social and physical disorder in the neighborhood (Shaw & McKay, 1942), and thus may adversely influence youths' outcomes. Adolescent problem behavior can be considered to be the result of both physical (e.g., abandoned buildings) and social (e.g., excessive public drinking) disorder (Wandersman & Nation, 1998). Thus neighborhood characteristics that reflect high levels of disorder make it difficult for parents to ensure their children are exposed to healthy norms.

In contrast to neighborhoods with social disorganization, socially organized neighborhoods can be characterized by collective efficacy, which include neighbors' expectations for active

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[1]To whom correspondence should be addressed at Prevention Research Center, 1995 University Ave., Suite 450, Berkeley, CA 94704; hbyrnes@prev.org..

engagement facilitated by the social ties, and shared information and norms that support positive outcomes for youths (R.J. Sampson, Morenoff, & Earls, 1999; Robert J. Sampson, Raudenbush, & Earls, 1997). Neighborhoods that exhibit the high social cohesion in areas with collective efficacy provide intergenerational closure gained through links with parents of their child's friends (James S. Coleman, 1988; R.J. Sampson et al., 1999). This affords support and control over the behavior of neighborhood children by exchanging information with other parents (Sandefur & Laumann, 1998), which can be helpful in rearing their children (J.S. Coleman, 1990; R.J. Sampson et al., 1999). Residents who actively impose shared norms for behavior also help parents by implementing this informal social control (R.J. Sampson et al., 1999). These features of neighborhood social organization are also thought to be possible mechanisms by which community structural characteristics (e.g., poverty) are related to adolescent outcomes (Kubrin & Weitzer, 2003).

Parents in neighborhoods with high social disorganization do not benefit from a neighborhood social network of other adults that can help share information, support, and provide control over their children, making the contribution of the individual parents even more crucial (Beyers, Bates, Pettit, & Dodge, 2003). Further, neighborhood disorganization has been shown to disrupt effective parenting behaviors (Simons, Johnson, Conger, & Lorenz, 1997), so parents who view their neighborhoods as more disorganized may perceive a need for greater support, including prevention programs or interventions. Highly disorganized neighborhoods may also increase the risk for poor adolescent outcomes by making access to preventive health care especially difficult. Providing access to youth prevention services is critical for lowering individual and community costs from problem behaviors such as substance use and delinquency.

Neighborhoods have been conceptualized through two different major approaches. One approach focuses on neighborhoods as physical locations (Burton & Jarrett, 2000), often ascribing neighborhood characteristics using structural variables from the census. Alternatively, the second approach emphasizes residents' perceptions of neighborhood conditions as more important in influencing outcomes of residents (Burton & Jarrett, 2000). This view, consistent with contextual theories emphasizing the significance of residents' own personal interactions and interpretations (Bronfenbrenner, 1992; Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995), can be important because residents' perceptions of their own neighborhood are derived largely from personal experiences and could be more influential than “objective” classifications. In particular, parents' perceptions of neighborhood characteristics may impact how parents determine what prevention strategies are needed for their children, as well as influence their access to or willingness to engage in potential interventions.

## The Role of Neighborhoods for Thai Youth

As few neighborhood studies have been conducted in Asian countries (Chuang, Li, Wu, & Chao, 2007), or in Thailand in particular, it is unknown whether neighborhoods affect youths in the same way as in the U.S., and whether conceptualizations of neighborhood disorganization and collective efficacy would be related to outcomes in similar ways. However, given concerns over recent increases in Thai adolescent substance use and delinquency (Assanangkornchai, Pattanasattayawong, Samangsri, & Mukthong, 2007; Ruangkanchanasetr, Plitponkarnpim, Hetrakul, & Kongsakon, 2005), it is important to determine the role the neighborhood plays in adolescent substance use and delinquency so that appropriate prevention strategies can be developed for Thai youth, particularly taking into account contextual risk and protective factors. Other research (B. A. Miller et al., under review) indicates that risk and protective factors in the family context important for American adolescent problem behaviors are also important for Thai adolescents. Thus,

larger contextual risk and protective factors (e.g., the neighborhood) that are important for American adolescents may be important for Thai adolescents as well.

Studies conducted in Asian countries have shown a relationship between the neighborhood environment and risky behaviors. In Japan, less safe neighborhoods were related to more deviant behavior in 18–19 year-olds (Laser, Luster, & Oshio, 2007). Similarly, studies conducted in Taiwan and India have shown relationships between neighborhood disorganization and adolescent mental and physical health, including alcohol use (Chuang et al., 2007; Pillai et al., 2008; Suchday, Kapur, Ewart, & Friedberg, 2006). Studies from Thailand suggest that the neighborhood context may be important for Thai youth and parent behaviors as well. For example, prior research has shown that adolescents' perceptions of greater disorganization are related to higher levels of minor and serious delinquency (Byrnes, Miller, Cupp, Zimmerman, & Chookhare, Under review). Qualitative interviews from a study of juvenile detainees in Northern Thailand revealed that the neighborhood environment was considered by the youth to have contributed to their arrest (Krissanakriangkrai, Mikanmak, Pinkrue, Kitreerawutiwong, & Chayodom, 2008). In particular, youth noted that exposure to gangs and drug-using neighbors were influential in their own drug use and criminal activities. Research in Bangkok has also shown that community of residence is related to rates of Thai adolescent delinquent and sexual behaviors (Chamratrithirong et al., 2009). In addition, a study in Northern Thailand reported that rural communities had half the risk for initiation of injection drug use among adults than did urban communities (Cheng et al., 2006).

## Neighborhoods and Program Engagement

In addition to the risk for problem behaviors already present in disadvantaged neighborhoods (Byrnes et al., 2007; Frank et al., 2007), these neighborhoods could intensify the potential problems for youths by lowering access to and the ability to engage in preventive care, such as family-based alcohol prevention programs. To date, far more studies have examined the impact of family-level risks on engagement in prevention programs (R. L. Spoth & C. Redmond, 2000) than have addressed the influence of neighborhood risks. Prior studies that have looked at neighborhood-level risks have reported that neighborhood disorganization is related to the lowered use of preventive health services (Ansari, Carson, Ackland, Vaughan, & Serraglio, 2003; Wells & Horm, 1998). As such, neighborhoods could influence outcomes of family-based prevention programs by impacting engagement in such programs, although few studies have examined the influence of the neighborhood context on engagement in prevention programs in particular. Other barriers to engagement in preventive programs in disorganized neighborhoods may include less availability of services and lowered knowledge or means to use them (Andersen, 1995; Ellen, Mijanovich, & Dillman, 2001), as well as stressors that require families to prioritize immediate needs over preventive health concerns. Unfortunately, in this population preventive care is often ignored, with no help-seeking health behaviors occurring until issues become severe (Eslami, Zayaruzny, & Fitzgerald, 2007; Pappas, Hadden, Kozak, & Fisher, 1997).

However, for some living in disorganized neighborhoods, motivation to access prevention services may also be increased, due to perceptions of increased need. Youths in these neighborhoods are more likely to have problems with substance use or other problem behaviors (Byrnes et al., 2007; Lambert et al., 2004; Winstanley et al., 2008), and so parents may recognize the need for assistance in preventing these problems from occurring. In turn, parents who perceive their child is more likely to engage in problem behaviors are more liable to perceive greater potential benefits from and to be willing to participate in prevention programs (Spoth & Redmond, 1995). In addition, disorganized neighborhoods

may have few resources for prevention, so parents might be more motivated to take advantage of them when they are offered.

Examining determinants of participant engagement in prevention programs is critical, as it might be a predictor of success in programs (R. Spoth & C. Redmond, 2000). As specified in theories of behavior change used in Motivational Interviewing (W. R. Miller & Rollnick, 1991, 2002) and Self-determination Theory (Deci & Ryan, 1985, 2000), a family's satisfaction with prevention programs could be critical for successful outcomes because the programs increase parents' motivation to change parenting behaviors by addressing needs for competence, autonomy, and relatedness (Vansteenkiste & Sheldon, 2006). Perceptions of competence and autonomy may be bolstered by learning new skills to prevent their child from engaging in problem behaviors, while feelings of relatedness may be increased through support and empathy from program facilitators or other participants. In addition, feelings of competence may be enhanced through recognition for program achievements by other participants/facilitators. Once these needs have been met, parents may then have more motivation to implement program components more actively and to keep implementing them once the formal program has ended, which may improve long-term outcomes.

## Hypotheses

As displayed in Figure 1, the current study examines the relationship between neighborhood perceptions and parent outcomes in a family-based prevention program for youth risky behaviors in Thailand, including the role of program engagement. Based on neighborhood social organization theory (Shaw & McKay, 1942), we expect that higher levels of perceived collective efficacy (i.e., neighborhood social cohesion and social control) will be related to improved program engagement, as neighborhoods with collective efficacy are characterized by shared expectations for active engagement in promoting norms that support healthy outcomes for youth (R.J. Sampson et al., 1999; Robert J. Sampson et al., 1997). In contrast, it is expected that neighborhood disorganization will be associated with lowered engagement, as disorganized neighborhoods often present barriers to accessing and engaging in prevention services (Ansari et al., 2003; Wells & Horm, 1998). In turn, we hypothesize that families who are more engaged in the program (as indicated by satisfaction and participation) will show improved parenting outcomes, as consistent with theories of behavior change (W. R. Miller & Rollnick, 1991, 2002) (Deci & Ryan, 1985, 2000).

## Methods

### Sampling and Procedures

The current study is part of a larger project designed to identify risk and protective factors for Thai adolescent problem behavior and to adapt and pilot test a U.S. family-based prevention program for the Thai culture. The probability proportional to size (PPS) sampling method (with case multiplication technique) was used to randomly and proportionally sample 340 families from Bangkok, Thailand. Based on the former Bangkok Metropolitan Administration, sampling of families was conducted from seven districts, and three zones (inner, middle, and outer) in each district. First, the Central Registration Bureau of the Department of Provincial Administration, Ministry of Interior provided the population for each district as of the end of 2006. Second, using the PPS sampling method, one district was sampled from the inner zone, four from the middle zone, and two from the outer zone. Third, 35 blocks per district were sampled, resulting in a total of 245 blocks (35 blocks × 7 districts). These 245 blocks contained the target households, which consisted of 31,036 households total across all seven districts, approximately 4,400 households per district. The National Statistical Office (NSO) in collaboration with Mahidol University researchers conducted the fourth step, which involved sampling blocks. Using maps provided by NSO,

data collection teams conducted household census and enumerations in each block to identify households with adolescents 13–14 years old at the time of the census (N = 872). One adolescent was 12, yet about to turn 13 later in the month and was allowed to participate. Of these 872 households, 753 (86.4%) were willing to participate. In the final step, 340 were randomly selected to be interviewed (about 50 households per district). Half of the sample (N = 170) were assigned to the experimental conditional and half were assigned to a control condition.

Separate and private interviews were conducted with one adolescent and his/her mother before the program intervention and again six months later (98.2% of families were retained at follow-up). Adolescent interviews were completed through the use of an audio computer-assisted questionnaire (ACASI) on a laptop computer. Mothers had three options to complete the interview: 1) to self-administer the interview with paper and pencil, 2) to listen to a tape recording of the questions while documenting answers with paper and pencil, or 3) to have a trained interviewer administer the interview. Mothers reported their perceptions of neighborhood disorganization and collective efficacy (i.e., social cohesion and social control), program engagement, and parenting outcomes. Health educators also provided reports of mothers' program engagement. The Institutional Review Board at the Pacific Institute for Research and Evaluation (PIRE) approved study procedures.

**Prevention Program—**The program implemented was Thai Family Matters (TFM), a program adapted for use in Thailand based on the original U.S. version of the program, Family Matters (FM) (K. E. Bauman, V. A. Foshee, S. T. Ennett, K. Hicks, & M. Pemberton, 2001). FM is a theory-based program, designed to be a universal program not targeted at any specific risk group. It has been found in randomized experimental designs to be effective for the prevention of adolescent alcohol and tobacco use (Bauman et al., 2002; Karl E. Bauman, Vangie A. Foshee, Susan T. Ennett, Katherine Hicks, & Michael Pemberton, 2001; K.E. Bauman et al., 2001). The program content is derived from health promotion practice principles, focusing on risk and protective factors in the environment (Glanz, Lewis, & Rimer, 1997; Medicine, 1989). Parents lead the FM program in their home using a set of four booklets that are mailed to them sequentially upon completion of the previous booklet. The format also includes contact via telephone to parents from health educators in order to review activities completed, encourage completion, and help with any issues that arise. Health educator calls are only to the parent, as the parent is responsible for leading the activities with their family at times that fit their own schedule.

A full description of the process of adapting the U.S. program into the TFM program is provided elsewhere (Cupp et al., Under review; Rosati et al., Under review), but a brief description follows. Adaptations included: 1) adding an additional booklet to TFM to address sexual risk-taking among Thai adolescents; 2) tailoring activities to fit the risk profile of the adolescents; 3) making scenarios more culturally relevant; and 4) promoting conversational styles that parents find comfortable; and 5) addressing issues in a manner that showed respect for the family values, beliefs, and structures in Thailand. Working with a team that included both U.S. and Thai investigators, quantitative and in-depth qualitative interviews were conducted with Thai parents and teens, as well as focus groups with parents, teens, and health educators/practitioners involved in the prevention of risky behavior in Thailand. These sources provided information regarding family and other contextual risk and protective factors important in the Thai culture, as well as attitudes and beliefs about youth ATOD use and sexual risk-taking.

As with the original FM program, the booklets are designed to strengthen parent-child communication, enhance an understanding of the role of developmental stage in risky behaviors, and to encourage families to develop rules and consequences for risky behavior

that fit with their own family values. The first booklet is for parents to review by themselves, and presents an overview of the program as well as an opportunity for parents to test their knowledge of ATOD and sexual behavior risks and consequences for youth. For the remaining booklets, parents, teens, and any other family members are encouraged to be involved. The second booklet emphasizes the importance of the family and parent-child communication. The third booklet focuses on adolescent alcohol and drug use, while the fourth booklet focuses on sexual behavior. The fifth booklet addresses influences outside of the family, such as peers and the media.

## Sample Characteristics

Since the current study examined issues of program engagement, only the experimental group was included in current analyses. This sample includes 170 mother-adolescent pairs ($M$ = 13.44, $SD$ = .52). Half (50.6%) of the adolescents were female. While the adolescents were predominantly ethnic Thais (91.4%), 8.0% reported their ethnicity as Thai-Chinese, and 0.6% reported Other ethnicity. On average, the mothers were 40.39 years of age ($SD$ = 5.48), with 83.5% married. On average, mothers had completed 5.52 years of education (SD = 8.21). Monthly family incomes in our sample ranged from 5,000 baht to 80,000 baht per month, which is currently equivalent to approximately $155 to $2,473 U.S. dollars. The mean family income was 18,937.65 baht (SD = 13,412.68), which approximately matches the average monthly income in Thailand (18,660 baht per month), and is currently equivalent to approximately $585 U.S. dollars (Thailand, 2007).

## Measures

In order to ensure that survey items were culturally appropriate for the Thai culture, researchers from both the U.S. and Thailand worked in collaboration to develop measures. The measure development procedure began with a review of the U.S. measures by the Thai team members, who provided their interpretations of the meaning of items. To ensure that items had equivalent meanings in both cultures, the Thai researchers suggested any necessary modifications. Only items that were relevant for the Thai culture were kept in the instrument. Next, the instruments were translated into Thai and then back-translated into English, using two different people for the translation and back-translation to avoid bias. In the next step, the back-translated version and original English version were compared to make certain that the questions still reflected their original intent. Further modifications were made in any cases where the intent was no longer comparable to the original version. In the last step of the procedure, feedback was gained through piloting the instruments with Thai parents and adolescents not involved in the study. The measures used in the interview instruments are described below.

### Neighborhood Perception Measures

**Neighborhood disorganization:** Neighborhood disorganization was assessed through mothers' report of items adapted from Elliott (1983). The 20 items asked how problematic certain characteristics were in their neighborhood (e.g., unsupervised children; run down or poorly kept buildings; drug use/dealing in the open), with responses ranging from “not a problem” to “big problem” on a 4-point scale. The items were averaged to create a disorganization scale (Cronbach's $\alpha$ = .96).

Neighborhood *collective efficacy* was assessed with two scales adapted from Sampson, Raudenbush, and Earls (1997). The scales reflect two aspects of collective efficacy, social cohesion and social control.

**Neighborhood social cohesion:** To measure social cohesion, mothers were asked four items reflecting social ties and trust among neighbors. Items included how strongly mothers

agreed with statements such as “people around here are willing to help their neighbors,” and “this is a close-knit neighborhood” (possible responses ranged from “strongly disagree” to “strongly agree” on a 4-point scale). Items were averaged to create a social cohesion scale (Cronbach's alpha = .71).

**Neighborhood social control:** Informal social control was measured through mothers' responses to four items about the likelihood that their neighbors would intervene in situations such as children writing graffiti on public places/a wall or children showing disrespect to an adult. Possible responses ranged from “very unlikely” to “very likely” on a 4-point scale. Items were averaged to create a social control scale (Cronbach's alpha = .84).

### Program Engagement

**Confidence in preventing ATOD/risky sex after doing program:** After each booklet, mothers reported their confidence in preventing ATOD and risky sex (1 = less confidence, 2 = about the same, 3 = more confidence). Items were averaged for analyses.

**Importance of program:** Mothers also reported how important they now thought the TFM program was after completion of each booklet (1 = less confidence, 2 = about the same, 3 = more confidence). A mean score was created by averaging the items.

**Liked program:** After each booklet, mothers reported how much they liked each activity in the booklet. Response options ranged from “Not at all” to “A lot” on a 4-point scale. Items were averaged for analyses.

**Participation level:** Participation was assessed as the number of booklets (0 – 5) the families completed.

### Parent Outcomes

**General communication:** Six items reflecting mothers' report of their discussion of general issues with their child were used to assess general communication. Items were adapted from Spoth, Redmond, Haggerty, and Ward (1995) and Spoth, Redmond, and Shin (1998). Example items include “I sit down with my child and discuss his or her problems” and “I regularly discuss the values and beliefs our family holds with my child.” Response options ranged from “Never” to “Most of the time – almost daily” on a 4-point scale. Items were averaged to create scales for each time point (Cronbach's alpha = .73 for Time 1 and .72 for Time 2).

**Alcohol rules and monitoring:** Alcohol rules and monitoring was assessed by five items adapted from Ennett et al., (2001). Mothers reported how many times they had done things such as “told their child he/she cannot use alcohol” and “checked their child's room or clothes for evidence of alcohol use.” Response options were from 1 (“Never”) to 5 (“More than five times”). Scales for each time point were created by averaging items from that time period (Cronbach's alpha = .84 for both Times 1 and 2).

**ATOD communication frequency:** Mothers' report of one item developed for the current study, “How often did you discuss with your son/daughter about drinking alcohol, smoking cigarettes or other drugs?” was used to assess ATOD communication frequency. Possible responses ranged from “Never” to “Frequently” on a 4-point scale.

**Background Variables—**Background variables included mothers' reports of family income (baht per month) and marital status (married = 1, other = 0), and adolescents' reports of age and sex (male = 1, female = 2). To avoid computational problems due to the range of

family incomes being on a much larger scale than the other items, income was divided by 1,000, to represent thousands of bahts.

**Data Analysis—**EM estimation was used to impute missing data. Path modeling implemented with EQS (Bentler, 1985–2004) was used to examine the relationships between neighborhood perceptions and program engagement (i.e., satisfaction and participation) with parent outcomes, taking into account baseline parent outcomes and background variables reported by parents and adolescents (e.g., family income). Lagrange Multiplier (LM) and Wald tests were used to help modify the models. As recommended by Hu and Bentler (1999), model fit was assessed by using the ML-based comparative fit index (CFI) and root mean squared error of approximation (RMSEA). Good model fit was considered to be indicated by a CFI value over .90 and a RMSEA value ≤ .05. Due to non-normal distributions of the data, robust estimates of the standard errors were obtained.

## Results

### Descriptive Analyses

Table 1 presents means and standard deviations for the neighborhood perceptions, program engagement, and parent outcome variables.

**Neighborhood perceptions—**As shown in the table, parents perceived a range of neighborhood conditions, but on average parents reported moderate amounts of disorganization in their neighborhoods, high levels of cohesion, and moderately high levels of social control.

**Program engagement—**Parents were also very engaged with the program, reporting very high levels of confidence, perceived importance of the program, and liking of the program. On average, parents completed 4.63 out of the 5 booklets. In addition, 85.3% completed all five booklets and all families completed at least one booklet.

**Parent outcomes—**Parents reported high levels of general communication, reporting that they “frequently” discussed general issues with their teen. Parents reported moderate levels of alcohol rules and monitoring, in that they had engaged in the behaviors about twice on average. ATOD communication frequency was high, as parents on average reported that they had discussed ATOD issues with their teen “several times.” Both alcohol rules and monitoring and ATOD communication frequency increased slightly at Time 2, while general communication declined slightly.

### Path Model

An initial structural model was specified consistent with the conceptual model wherein parents' outcomes were associated with neighborhood perceptions (i.e., cohesion, control, and disorganization) through program engagement variables (i.e., confidence in preventing risky behaviors, importance of program, liked program, and number of completed books). The model also specified that neighborhood perceptions were related to background variables and baseline values of parents' outcomes to control for these variables. All background variables were allowed to co-vary with each other and with the neighborhood variables. In addition, the residuals for the outcome variables were allowed to co-vary. Non-significant paths were then eliminated from the model. Based on LM tests and conceptual relevance, the following paths were added to the model: relationships between teen gender and Time 2 ATOD communication frequency, Time 1 ATOD communication frequency with Time 2 alcohol rules and monitoring, and Time 1 alcohol rules and monitoring with

Time 2 ATOD communication frequency. Figure 2 displays the final structural model, which fit the data well [CFI = .97; RMSEA = .027 (90% CI = .000 –.062)].

Findings reveal that, taking into account baseline values and demographics, neighborhood perceptions are important for parent outcomes, through relations with indicators of program engagement, how much the parents liked the program and their level of participation. Specifically, perceptions of neighborhood cohesion were negatively related to how much parents liked the program, while perceptions of neighborhood control were positively related. In turn, parents who reported liking the program more showed improvements in Time 2 alcohol rules and monitoring behaviors and in Time 2 ATOD communication frequency. Perceived neighborhood disorganization was related to increased parental confidence in preventing their child's engagement in ATOD use and risky sexual behavior and to the completion of a greater number of booklets. Completing more booklets was then related to greater Time 2 ATOD communication frequency. No program engagement measures were related to general communication at Time 2, and importance of the program was not related to neighborhood or parent outcome measures. In addition, teen gender was related to ATOD communication frequency at Time 2, as parents of girls talked to their children less often about ATOD than did parents of boys.

## Discussion

Findings indicate that Thai neighborhoods are related to family engagement in the prevention program and this engagement is critical to outcomes. Contrary to hypotheses, higher levels of neighborhood disorganization actually increased the level of engagement of the family in the prevention program, including confidence in the program's effects and the level of program completion. Higher levels of family engagement resulted in better outcomes; parents more frequently communicated regarding ATOD. These findings are the opposite of expectations based on social disorganization theory (Shaw & McKay, 1942), as disorganized neighborhoods would be expected to pose barriers to program engagement and interfere with effective parenting practices (Simons et al., 1997). Although the need may be higher, barriers in such neighborhoods often prevent the people who need it the most from engaging in prevention services (Ansari et al., 2003; Wells & Horm, 1998). One possible explanation for these findings is that disorganized neighborhoods create a greater perceived need by parents, given that youth problem behaviors are often higher and/or more visible in such areas (Byrnes et al., 2007; Lambert et al., 2004; Winstanley et al., 2008). A second possible explanation is that typical barriers in disorganized neighborhoods were not as great a problem because this specific program was a parent-led, home-based program. These findings highlight the utility of such programs as a way to reach and engage families who may have difficulty accessing preventive services.

A second major finding in this study was that, contrary to our hypotheses, parents who perceived greater levels of cohesion in their neighborhood reported liking the program less. Based on collective efficacy theory, neighborhoods in which residents trust and have close ties with each other would be expected to be related to increased support for engagement in healthy behaviors and parenting strategies (R.J. Sampson et al., 1999; Robert J. Sampson et al., 1997). However, there may have been less perceived need for prevention programs in cohesive neighborhoods. Alternatively, it may be that a different program type would be a better match for cohesive neighborhoods. For example, in cohesive neighborhoods, preventive services that make use of the connections among residents, such as interactive group programs, might be better able to engage families. Conversely, residents of neighborhoods with high levels of disorganization may be more engaged by such home-based programs because they may not trust their neighbors (Ross, Mirowsky, & Pribesh, 2001) and so would not feel comfortable in an interactive group program.

A third finding, consistent with expectations and theories of collective efficacy (R.J. Sampson et al., 1999; Robert J. Sampson et al., 1997), was that parents who perceived greater levels of informal social control in their neighborhoods also reported liking the program more. Neighborhoods with higher levels of informal social control are distinguished by residents who expect their neighbors to be actively involved and engaged in imposing norms for healthy behavior. Findings for social control may differ from those for social cohesion because social control tends to be characterized by more “active” community engagement than social cohesion is. For example, social cohesion usually refers to how close neighbors are to each other and whether they share the same values, while social control refers to how likely neighbors are to actually intervene to impose these shared values (e.g., whether they'd intervene if a fight broke out in front of their house). Residents of high social control neighborhoods may be more likely to enjoy participating in prevention programs, since they are actively engaging in preventive behavior.

Parents who liked the program more also showed improvements in how frequently they communicated about ATOD, as well as showing improvement in their alcohol rules and monitoring at follow-up. This finding is consistent with research showing that program satisfaction is related to better outcomes (Carlson & Gabriel, 2001; Ringwalt, 2009), and may reflect satisfied parents' efforts to continue implementing program content even after the program has ended.

While alcohol rules and monitoring and ATOD communication frequency were related to engagement variables, engagement was not related to general communication outcomes. This may be because the program is more targeted at ATOD-specific communication and behaviors, rather than communication in general. In addition, while neighborhood perceptions were related to confidence in preventing youth problem behaviors, confidence and perceived importance of the program were unrelated to any outcomes. Very little variability existed in the confidence and importance variables, a limitation that may help explain why relationships with these variables and outcomes were not found. However, little variability was found for most engagement variables in the study. The program had very high engagement compared to U.S. programs. For example, in the implementation of the original U.S. version of the program, 61.8% completed all of the booklets (4 in the U.S. program) (K. E. Bauman et al., 2001), while 85.3% of Thai families completed all five of the booklets. Another limitation is the small size of the sample in this pilot test of the TFM program. Power for detecting significant relationships may be reduced, and replication on a larger sample will be able to determine generalizability of findings for Thai youth.

Overall, these findings contribute to the beginning of an understanding of the importance of the neighborhood context in improving Thai parenting behaviors. The ways Thai parents view their neighborhood is an important determinant of how engaged they will be in prevention programs, which may significantly improve parenting outcomes. Prevention strategies should include a focus on the neighborhood context, and the neighborhood environment should be considered in helping parents access and engage in programs. Future studies should also focus on examining determinants of program engagement, as that is important to successful program outcomes. A full efficacy study of TFM is planned, and research will be able to be extended to include additional data collection time points to determine how child outcomes are influenced by the targeted parenting behaviors. Our work adds to the literature on the importance of contextual influences for Thai families and contributes to an increased understanding of the determinants of program engagement. Although studies have addressed family factors that impact prevention program engagement (R. L. Spoth & C. Redmond, 2000), few previous studies have examined the influence of neighborhood features. The current study is one of the few studies to examine the effects of neighborhoods on prevention of youth problems in Thailand.

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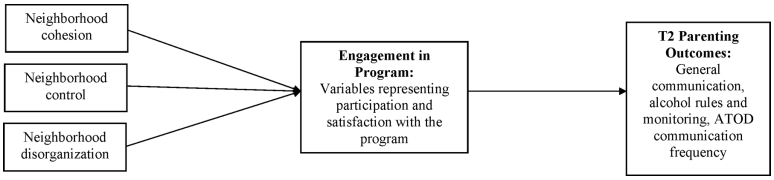


**Figure 1.**
Simplified Conceptual Model of Neighborhood Perceptions, Engagement, and Parenting Outcomes (Controls for demographics and baseline values of parenting behaviors not shown)

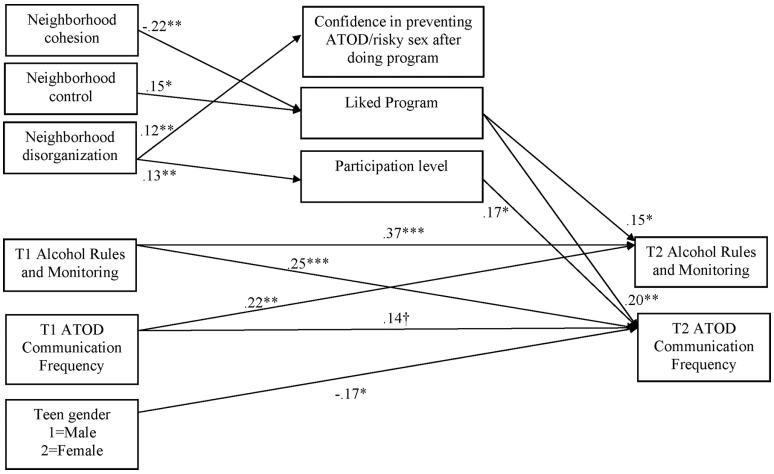


**Figure 2.**

Final Model of Neighborhood Perceptions, Engagement, and Parenting Outcomes. Standardized coefficients are shown. Not shown in the figure are the covariances between constructs on the far left side, between the residuals for the engagement variables and between the outcomes variables. Model fit: CFI=.97; RMSEA=.027 (90% CI = .000 – .062). † p < .10, * p < .05, ** p < .01, *** p < .001.

**Table 1**

Descriptive Statistics for Key Variables

| Variables | *M* | *SD* | Minimum | Maximum |
|---|---|---|---|---|
| *Neighborhood Perceptions* | | | | |
| Neighborhood disorganization | 1.84 | 0.80 | 1.00 | 4.00 |
| Neighborhood social cohesion | 3.13 | 0.50 | 1.00 | 4.00 |
| Neighborhood social control | 2.88 | 0.72 | 1.00 | 4.00 |
| *Program Engagement* | | | | |
| Confidence in preventing ATOD use/risky sex after program | 2.97 | 0.11 | 2.20 | 3.00 |
| Importance of program | 2.98 | 0.07 | 2.40 | 3.00 |
| Liked program | 3.58 | 0.23 | 3.00 | 4.00 |
| Number of completed books | 4.63 | 0.97 | 1.00 | 5.00 |
| *Parent Outcomes* | | | | |
| T1 General communication | 3.07 | 0.57 | 1.67 | 4.00 |
| T2 General communication | 2.99 | 0.55 | 1.33 | 4.00 |
| T1 Alcohol rules and monitoring | 2.96 | 1.36 | 1.00 | 5.00 |
| T2 Alcohol rules and monitoring | 3.34 | 1.25 | 1.00 | 5.00 |
| T1 ATOD communication frequency | 3.04 | 1.03 | 1.00 | 4.00 |
| T2 ATOD communication frequency | 3.17 | 0.99 | 1.00 | 4.00 |