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Community-Based Participatory Approaches and a Social Ecological Model for School-Based Sex Education

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ABSTRACT

Research supports that participatory strategies are central to the success of school-based sex education. Community-based participatory approaches are increasingly recognized as a central strategy for school-based sex education for their orientation towards participant engagement in program planning, content development, implementation, and evaluation. In combination with the community-based participatory approaches, a social ecological model holds values as a tool for facilitation and planning, and potentially as an evaluation aide for school-based sex education programs. This paper describes core concepts and principles of the community-based participatory research; illustrates a social ecological model organized for school-based sex education based on qualitative evaluation results of an abstinence education program in the United States ; and suggests application strategies of the presented approaches in school-based sex education in Korea.

Key Words: sex education, participatory, approaches, social ecological model

Ⅰ. Introduction

As health education topics and settings diversify, program development and application processes arise as important as program contents and structures in order for the success of the program. Even a best health education program may need modifications in response to program environment and participants' readiness, culture, background, and experience with the education topics and methods. In this sense, community-based participatory approaches are recognized for their emphasis on involving participants as equal partners throughout a health education process. In conjunction with a social ecological

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model for public health programming that addresses social determinants of health and interrelations of multi-levels in the society that affect human behavior, these approaches are getting an attention increasingly in public health programming. This paper is intended to: (1) describe core concepts and principles of the community-based participatory research and social ecology; (2) illustrate a social ecological model for school-based sex education, which is structured based on the evaluation results of an abstinence education program; and (3) suggest applications of the presented strategies and model in school- based sex education in Korea.

Ⅱ. Community-based participatory approaches

Opposite to a top-down, community-based approach where expert researchers outside of the community develop a program and bring it to the community for implementation, community-based participatory research (CBPR) is recognized for its emphasis on community involvement and empowerment throughout public health programming and practice (Goodman, 2000; Goodman, Yoo & Jack, 2006; Minkler & Wallerstein, 2003). CBPR, as in the name, is a participatory process in which community members, agencies, groups, and researchers are engaged as equal partners to contribute to health promotion program development, implementation, and evaluation (Israel, Eng, Schulz & Parker, 2005; Israel et al., 2003).

Israel and colleagues (2003) present nine key principles of CBPR for public health:

1. CBPR recognizes community as a unit of identity.
2. CBPR builds on strengths and resources within the community.
3. CBPR facilitates collaborative, equitable partnership in all phases of the research.
4. CBPR promotes co-learning and capacity building among all partners.
5. CBPR integrates and achieves a balance between research and action for the mutual benefit of all partners.
6. CBPR emphasizes local relevance of public health problems and ecological perspectives that recognize and attend to the multiple determinants of health and disease.
7. CBPR involves systems development through a cyclical and iterative process.
8. CBPR disseminates findings and knowledge gained to all partners and involves all partners in the dissemination process.
9. CBPR involves a long-term process and commitment.

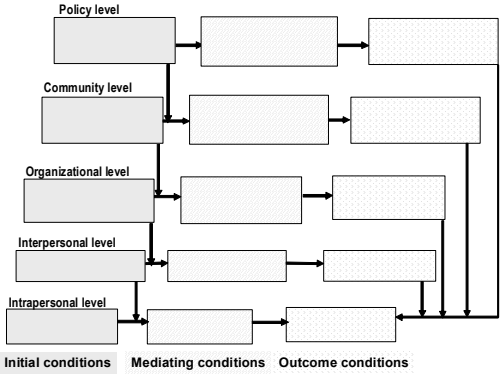
When following these CBPR principles, gaining community's buy-in and committed participation subsequently are crucial steps and conditions for health promotion with any participant groups on any health topics. Success of a behavioral intervention largely depends upon participants commitment to practice healthier behaviors persistently, and CBPR assumes that people are more likely to participate in activities that they identify to be important, beneficial, and engaging. Yoo and colleagues (2004; 2006) recognized that gaining an entry to community with

the buy-in is an important initial step of CBPR. CBPR approaches hold additional values for: enhancing relevance of data, facilitating participant recruitment and retention; increasing community capacity with the knowledge gained, actions taken, and partnerships formed; and the potential to guide intervention development and policy change (Israel, 2002). Being acknowledged for the values, CBPR has been applied to health education and promotion projects with a variety of health issues and communities (Cheatham & Shen, 2003; Clements-Nolle & Backrach, 2003; Krieger et al., 2002; Potvin, Cargo, McComber, Delormier & Macaulay, 2003; Schulz, Israel, Parker, Lockett & Hill, 2003; Yoo, Butler, Elias & Goodman, 2006; Yoo et al., 2004).

Ⅲ. Social ecological model

Public health is now regarded as a social issue (Lee, 2005; Marmot, 2005). Wellbeing of people and the community is influenced by social determinants of health such as unemployment, poverty, housing, health systems, and health literacy. Social ecological frameworks view human behavior in the social and cultural context, and guide interventions to address the social determinants of health (Goodman, 2000; Yoo et al., 2004). Social ecology informs public health programs to address the interdependencies between the determinants of health that range from social to biological to psychological (Stokols, Allen & Bellingham, 1996). Goodman (2000) introduces a diagrammatic social ecological model with a virtual example of substance abuse prevention strategies for youth. Then the model has been utilized as part of community empowerment and intervention strategies for environmental health, after-school programming (Yoo et al., 2004), and health promotion of older adults (Yoo, Butler, Elias & Goodman, 2006).

<Figure 1> is an adaptation of the Goodman's social ecological model. The model is blank as shown in <Figure 1> when it is presented to community partners. The participants are then guided to fill in the blank boxes in <Figure 1> with self-identified community health issues, solutions, and outcomes. Horizontal levels in this model represent multiple layers of a human society. Individual behavior or health is influenced by interpersonal situation such as family support and reactions of peers. The interpersonal level is interdependent upon organizational and community factors. In many cases, policies are associated with public health issues and solutions for the issues. These layers, however, are not limited to 5 levels as shown in <Figure 1>: there can be more or fewer levels depending on the health issue and community situation. Vertical levels of the model represent condition that each horizontal layer encounters. Boxes in the left column are current conditions that each layer of the society wants or needs to resolve. Those in the right column are outcomes to the initial conditions that each layer desires to achieve, which are usually the opposite of what are described in the initial condition boxes. Middle boxes are for interventions that each horizontal level suggests to implement in order to lead the initial conditions to the outcome conditions.



<Figure 1> Social ecological model: Base model

Nate: The original model is available inthe following articles: Goodman RM. (2000). Bridging the gap in effective program implementation: From concept to application.Journal of Community Psychology, 2(3), 309-321. Yoo S, Weed NE, Lempa ML, Mbondo M, Shada RE & Goodman RM. (2004). Collaborative community empowerment: An illustration of a six-step process.Health Promotion Practice (3), 256-265.

Ⅳ. School-based sex education

Schools are ideal places for sex education as they have regular contacts with sizable groups of youth before they engage in sex (Kirby, 2002; Silva, 2002). Depending on surveys, percentages of Korean adolescents with the experience of sexual intercourse range from 3.3 to 10.8 (Kim & Lee, 2002; Kim, 2005; Munwha Broadcasting Corporation, 2000). Surveys show that male students have sexual intercourse experiences one to four times more than female counterparts do (Kim & Lee, 2002; Munwha Broadcasting Corporation, 2000). Although a great majority of once or currently sexually active students had their first intercourse with their boy/girl friends at the time, 21 percent of once or currently sexually active male students had their first sexual intercourse with someone that they were not familiar with (Kim & Lee, 2002). In the same survey, over 80 percent of the respondents did not use any types of protection or birth control when they were engaged in sexual activities. Korea lacks official statistics of teen pregnancy. It is estimated that there are approximately 6 thousand adolescent mothers in Korea (DataNews, 2006; Hankyoreh, 2006; Shin, 2006). The National Health Insurance Corporation reports a total of 11,456 teen pregnancies in the recent 5 years (Newsis, 2006).

According to a recent news report based on a national survey (Hankook Ilbo, 2006), a great majority of Korean students from elementary to high schools receive insufficient, unsatisfactory sex education. Although the Ministry of Education and Human Resources Development of Korea recommends school-based sex education for 10 hours a year, 15 percent of the survey respondents did not have any sex education at all in their school curricula in the past year. Fifty percent received only 1-3 hours of sex education in the same period. In the meantime, half of the respondents have been exposed to sexually explicit adult materials. Percentages of such students are highest among high school students, reaching 80 percent. The exposure to adult materials is greater among those who did not have sex education (67%) than those who did (48%). As unsatisfied with the sex education at

school, students seek information on sex mostly from friends and media (Kim & Moon, 2005). Parent involvement in adolescent sex education is reported to be none to minimal (Kim & Moon, 2005), particularly for male high school students (Kim & Lee, 2005).

Despite the insufficient amount and content of sex education at school, Korean students still seek sex education mostly from school teachers (Hankook Ilbo, 2006; Kim, Kim & Park, 2005), while some report teachers and parents as the sources of sex education (Han & Jang, 2006). School-based sex education in Korea focuses mostly on physical, physiological, and psychological changes during adolescence although the students want to learn about sexual activities, birth control, pregnancy, and sexually transmitted diseases (Choi, Kang & Yeau, 2004; Kim & Moon, 2005). Choi and colleagues (2004) add that a number of school subjects besides science and physical education in Korean middle school curricula cover sex education in varying degrees besides science and physical education, but they lack logical links between the topics that they cover.

In the United States, sexual activities of teenagers are reported to be decreasing since its peak in the early 1990s. Even with the decrease, half of U.S. high school students have experience of sexual intercourse (CDC, 2006b). Over a third is currently sexually active, and 14 percent have had sexual intercourse with more than 4 persons in their lives. Most teenagers have their first sexual intercourse in family homes of theirs, their partners, or friends in the evening hours (National Campaign to Prevent Teen Pregnancy, 2003b). About 40 percent of sexually active teenagers did not use condoms during their last sexual intercourse, and 23 percent used drugs or alcohol before their last sexual intercourse. Even at its lowest level in 30 years, almost 750,000 teenage women aged 15-19 become pregnant in the United States each year (Guttmacher Institute, 2006). Drug-using teens are four times more likely to have sex than non drug-using teenagers (National Campaign to Prevent Teen Pregnancy, 2003a). It is estimated that almost 4,900 young people in their teens and early twenties were diagnosed of HIV infection or AIDS in 2004, which represents 13% of those who were diagnosed in the given year (CDC, 2006a).

Consistent reinforcement of a clear message about abstinence and condom use is the most important aspect of effective programs on sexual health (Kirby, 2001). Effective programs should also address: reduction of sexual behaviors, theoretical basis, accurate information about the risks of teen sexual activity, methods of abstinence and protection, social pressures, communication skills, participatory education strategies, appropriateness for age, sexual experience, and culture, sufficient length, and adequate teacher/peer leader training. Safer-sex programs and abstinence-only programs appear to be blending as the former tend to encourage abstinence and delayed initiation of sexual activity more, and likewise, more abstinence-oriented programs incorporate protection and contraception in their curricula. Although a debate is still on,

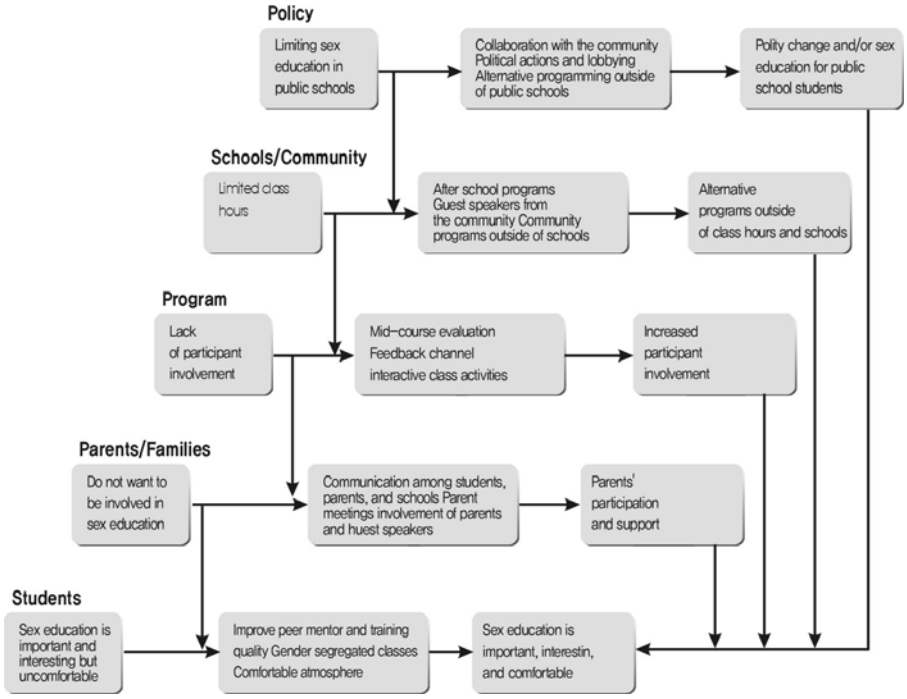
a meta-analysis argues that it does not make a difference in abstinent behavior outcomes whether a program is abstinence-oriented or safer sex-oriented (Silva, 2002).

Research shows that small-scale interventions with younger female students who have not initiated sexual activity tend to be effective (Silva, 2002). Parental participation appears to be associated with their children s abstinence, but few studies have demonstrated success in involving parents in sex education programs or identifying characteristics of involved parents. Peer leaders in school-based sex education are more likely to be effective than adult teachers in building conservative norms and attitudes among students (Mellanby, Newcombe, Rees & Tripp, 2001). However, adult teachers are more effective than peer leaders in planting information and raising class participation.

Ⅴ. Participatory approaches, social ecological model, and school-based sex education

Participatory approaches has been suggested as effective strategies for sexual health research, particularly among ethnic minorities (Fenton, 2001), and AIDS prevention in Africa (Kinsman et al., 2001). In fact, participatory education has been adopted by HIV prevention programs for African communities for years (Fenton, Chinouya, Davidson & A Copas for the MAYISHA study team, 2002; Gallant & Maticka-Tyndale, 2004). Reece and Dodge (2004) applied the CBPR principles identified by Israel et al. (2003) to study sexual behavior and HIV transmission of college men.

A qualitative evaluation of an abstinence education program conducted in a southern state of the United States (Yoo, Johnson, Rice & Manuel, 2004) also presents the need and appropriateness of CBPR approaches in school-based sex education. In this evaluation 8 focus groups with student participants in the program were moderated in order to discuss the students' experience with the program. Simultaneously, one-on-one interviews were performed with teachers and principals of the participating schools as well as with peer mentors of the program. The federally-funded program was implemented from 1997 to 2001 in five randomly selected middle and high schools in a predominantly white rural community. Classes from seventh-to ninth-grades were involved in the program. The program was based on the Managing Pressures before Marriage series (Howard & Mitchell, 1997a, 1997b), a curriculum approved by the Office of Adolescent Pregnancy Programs in the United States Department of Health and Human Services. The program was delivered monthly, mostly by trained high school peer mentors from the community. Adult program staff members who were social workers and counselors joined some of the sessions as supplementary instructors. A total of seven 50-minute monthly sessions were implemented per class to new students each academic year. Influenced by the Social Cognitive Theory, the program strategy employed role play, contracting,



<Figure 2> Social ecological model of the sex education evaluation results

Note: <Figure 2> is constructed for this paper, based on the evaluation results reported inYoo, Johnson, Rice & Manuel. A qualitative evaluation of the Students of Service (SOS) Program for sexual abstinence in Louisiana. Journal of School Health, 2004. 7(8), 329-334.

media presentations, as well as didactic lectures.

The qualitative evaluation found that the program was short of participation and involvement strategies. It was suggested in the focus groups and interviews that the program needed: interactive class activities, involvement of teachers and students in programming, participant feedback channels, and mid-course evaluation for program improvement; all of which are community-based participatory approaches. It was also raised in the discussions with the program participants that teen pregnancy was not an isolated health problem at an individual youth level. The participants acknowledged that teen pregnancy should be considered and dealt with in broader contexts of poverty, society, policy, and values, which indeed matches the principles of social ecology and the notion of social determinants of health.

These results can be constructed into the social ecological model introduced in <Figure 1>, for they encompass suggestions for program improvement at multiple participant levels that need to be addressed simultaneously and synergistically. A completed model is shown in <Figure 2>.

At a students-level, which is the bottom layer in <Figure 2>, the evaluated program was deemed necessary and interesting, but

uncomfortable. To make the program be more approachable, student participants in the program suggested improving the quality and training of peer mentors who led the classes. The peer mentors agreed that they were indeed uncomfortable to address certain topics and to handle class situations at times. Other ways for program improvement informed by the students included: holding sex education classes for boys and girls separately so that they could feel more comfortable about participating actively; not criticizing and humiliating students about their comments or questions in class; and protecting students' privacy more carefully.

Parental involvement was identified by the teachers and principals of the program as an influential factor for student participation and motivation (See the 2nd level from the bottom in <Figure 2>). To increase parental participation and involvement in school-based sex education, implementation of direct communication was suggested between school and parents. In association, communication between parents and students was encouraged. A series of parent meeting might be a venue for regular communication between school and parents. It was also suggested to invite parents as guest speakers in the program to share their perspectives and experience. The program in fact had attempted monthly meetings with parents and students but the attempt failed due to low attendance. Probing why and how the attempt failed might provide insightful tips for future efforts.

Ready and willing students and their families should be partnered with an engaging program to accomplish their common goals (See the middle layer in <Figure 2>). The evaluated program lacked regular feedback opportunities for students and teachers to share their opinions with the program personnel, and the efforts of the program to communicate with the parents failed. Mid-course or process evaluation could have offered such feedback opportunities. Teachers suggested that report cards might be a medium for periodic communication with parents. More interactive class activities were needed to engage students and teachers in each sessions of the program.

A participatory school-based sex education program with involved participants needs a supportive school system (See the 2nd layer from the top in <Figure 2>). In the case of evaluated program, class hours for sex education were limited to a 50-minute session per month although the participants at all levels felt that they needed more. The teachers and principals suggested developing alternative programs outside of regular class hours in collaboration with the community as a potential solution for supplementary sex education. At a policy level, the top layer in <Figure 2>, state law was challenging for the program because it prohibited sex education about contraceptives and safer sex in public schools. Along with the development of alternative community-based sex education programs, political actions were needed to influence related policies.

The case described so far illustrates why and how the participants of an abstinence education program at varying levels

identified the need for community-based participatory approaches in school-based sex education. The program was in fact community-placed in terms of development and implementation, thus it was recognized in the evaluation that it needed to engage the participants and community in planning and implementation to be effective. Teen pregnancy was understood in social contexts, and the participant responses fit the social ecological model founded upon the interrelationships between multiple levels of the community and the social determinants of health. In addition to the values as a planning tool demonstrated in prior applications (Yoo, Butler, Elias & Goodman, 2006; Yoo et al., 2004), the social ecological model exhibited a potential as an evaluation aide that can organize perspectives of program participants from different aspects into one diagrammatic matrix.

In Korea where school-based sex education is experiencing the gap between what students want to learn and what school curricula teach, the social ecological model could be used for assessments of the gap. Then to bridge the gap, participatory approaches need to be employed for program development to incorporate what program participants want and need to learn in effective manners. Mediating conditions identified in the social ecological model can provide directions for promising educational contents and methods. For example, the social ecological model can be used to collect prospective participants' input of male students, female students, parents, teachers, school administrators, and school health personnel, respectively, about sex education needs, contents, and methods at school. A variety of group process techniques and/or individual survey methods can be employed to fill each box of the social ecological model per participant group. Then social ecological models constructed by different participant groups are to be synthesized into one comprehensive model that incorporates multiple participant levels, their needs, and suggested solutions by them. The comprehensive model will serve as a blueprint for school-based sex education programming that guides program contents, techniques, tools, and delivery. Outcome conditions in the comprehensive model will be goals of the sex education program, and mediating conditions will be program activities to be implemented. For monitoring whether each mediating condition in the model is executed and each outcome condition is accomplished as planned, the comprehensive model can also work as an evaluation aide. This entire process should adhere to participatory principles that value active participation, collaboration, equal partnership, system development, iteration, and commitment of those who are involved.

Ⅵ. Discussion and Conclusion

Sexual activity of adolescents is a growing issue in Korea, and school health education and public health system are in demand to keep pace with the reality. The demand is for school-based sex education of better quality and quantity that starts at earlier age. Official statistics of sexual

health of Korean adolescents is in great need to support development of sex education and teen pregnancy prevention programs.

Community-based participatory approaches are increasingly recognized as a central strategy for school-based sex education for their orientation towards participant engagement in program planning, content development, implementation, and evaluation. Research has shown that parental involvement is instrumental for adolescent sex education, particularly for male adolescents, while school is an ideal setting for sex education of adolescents. School-based sex education programs should include: opportunities for participant feedback on a regular basis; interactive and engaging class activities; ongoing close communication between students, parents, teachers, and the program staff; collaboration with the community and school system to support school-based sex education; comfortable climate for both conducting and participating in school- based sex education; and quality control of educational message delivery. Such efforts are directed to address the importance of parental involvement in programming, gender differences in the amount and orientation of conventional sex education, interrelations between sex education topics that are taught in different school curriculum subjects, and bridging the gaps between what are wanted to be taught versus what have been taught in sex education in Korean schools.

In line with the community-based participatory approaches, the social ecological model presented in this paper can assist needs assessment in school-based sex education programming and evaluation by facilitating the organization of multiple interdependent strategies raised by multiple constituency groups in a single matrix. The model has been utilized in participatory planning for public health as completion of the model is solely dependent upon program participants' input. It is suggested to utilize the model for school-based sex education in order to involve students, parents; and teachers in program development and to incorporate program ideas and solutions suggested by them. The social ecological model also has a potential as an evaluation aide for organizing participants' responses to the program as well as for assessing whether program activities are implemented as planned. In Korean schools, adoption of the social ecological model for sex education is anticipated to increase student participation in programming and to encourage communication between students, parents, and teachers.

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〈국문초록〉

학교 성교육을 위한 지역사회 참여형 접근법과 사회생태학 모델

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성공적이고 효과적인 학교 성교육을 위하여 참여형 기법의 중요성이 부각되고 있는 가운데, 지역사회 참여형 연구 기법이 주목받고 있다. 지역사회 참여형 기법은 피교육자가 교육프로그램의 기획, 수행, 평가 전 과정에 동등한 협력자로서 적극적으로 참여할 수 있도록 여건을 구비하고 제공하는 것이 그 목적이자 방법이다. 사회생태학 모델은 이러한 참여형 기법을 적용할 때 유용한 도구로서, 사전조사 및 교육프로그램 기획 뿐 아니라 평가도구로서의 가능성도 가지고 있다. 학교 성교육의 과제 중 하나인 교육요구와 실제 간의 간극 해소를 위한 시도의 일환으로, 본 논문은 지역사회 참여형 연구의 주요 개념과 원칙, 사회생태학 모델의 원리를 설명하고, 실제 학교 성교육 평가 사례에 입각한 사회생태학 모델의 용례를 제시하였다. 아울러, 학교 성교육 현장에서 프로그램 기획 및 평가에 참여형 기법을 통하여 사회생태학 모델을 적용하는 방안을 논의하였다.