THOUGHT MAPPING: AN HIV PREVENTION APPROACH FOR DRUG ABUSERS

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ABSTRACT

This article presents an individualized HIV prevention approach for drug abusers which is theoretically grounded (Prochaska & DiClemente, 1986), incorporates a commonly used HIV intervention for drug abusers (Wechsberg et al., 1997), and includes Thought Mapping as a way of relating thoughts, feelings, and expectations, to behaviors and actions. Thought Mapping is diagramming or mapping problems in a way to link thoughts to specific behavioral consequences. The intervention was developed using focus groups and initially piloted with drug abusers not in treatment. The intervention targets drug abuse and unhealthy or high-risk sexual behaviors, which are identified by those who participate in the intervention.

Key word: prevention, VIH, Thought Mapping.

RESUMEN

Este artículo expone un enfoque individualizado a la prevención de VIH para las poblaciones de drogodependientes basado en la teoría (Prochask y DiClemente, 1986), incorpora una intervención realizada frecuentemente con los drogodependientes infectados por el VIH (Wechsberg et al, 1997), e incluye el concepto de Mapas Cognitivos como una estrategia para relacionar los pensamientos, los sentimientos y las expectativas con las conductas y acciones. Los mapas cognitivos representan
The intervention was developed with focus groups and pilot tested in Kentucky with drug abusers who received an enhanced intervention as part of the National Institute on Drug Abuse Cooperative Agreement Program. The approach and methods presented in this article are adapted from Dansereau et al. (1993); Monti et al. (1989); and Leukefeld and Godlaski (1997). The purpose of this intervention is to give drug abusers an understanding of HIV and to present personalized strategies that drug abusers can use to protect themselves and others from the HIV virus. Understanding what HIV is and learning what constitutes personal risk are essential steps toward learning how an individual can protect him or herself.

THEORETICAL ORIENTATION

There are several theories and models that have been used as the foundation for HIV prevention interventions. These models and theories include: (1) Health Beliefs Model (Rosenstock, Strecher, & Becker, 1994);
(2) Theory of Reasoned Action (Fishbein & Middlestadt, 1989); (3) Social Cognitive Theory (Bandura, 1994); (4) AIDS Risk Reduction Model (Catainia, Kegeles, & Coates, 1990); (5) Diffusion of Innovation (Rogers (1983); (6) Harm Reduction (Brettle, 1991), and (7) Stages of Change/Transtheoretical Model (Prochaska, DiClemente, & Norcross, 1992).

The Stages of Change Transtheoretical Model is the theoretical underpinning for the thought mapping intervention which includes six stages of change: (1) Precontemplation; (2) Contemplation; (3) Preparation; (4) Action; (5) Maintenance, and (6) Relapse. Thought Mapping specifically incorporates the first three stages of change (Prochaska & DiClemente, 1986).

The Stages of Change Transtheoretical Model suggests that an individual will not be prepared to change behavior without first acknowledging the negative consequences of the behavior. Assuming a sequential perspective of behavior change, Prochaska and DiClemente’s model includes the following six stages of change and the associated intervention approach:

1. In the **Precontemplation Stage**, an individual is unaware of his or her problem and is consequently unprepared and unmotivated to change. Intervention focuses on raising doubt and increasing perception of the risks and problems associated with current behaviors.

2. The **Contemplation Stage** represents the point when an individual begins to consider the negative consequences of behavior, with vacillation between acknowledging and denying the need to change. Intervention focuses on moving the balance in favor of change, presenting reasons for change, emphasizing the risks of not changing and reinforcing self-efficacy.

3. The **Determination Stage** is achieved when a person’s ambivalence shifts to recognizing the negative consequences of a behavior. Intervention is to assist the person to develop a plan for bringing about desired change with concrete, specific, and effective change strategies.

4. The **Action Stage** is when a person chooses to initiate change. Intervention focuses on helping to take specific behavioral steps toward the desired change and reinforcing movement. Intervention focuses on developing individualized strategies for change.

5. The **Maintenance Stage** represents achieving sustained behavioral change. This stage may be the most challenging of the behavior change process for drug use and associated HIV risk behaviors (Marlatt & Gordon, 1985).

6. **Relapse Stage** is return to use. Intervention focuses on assisting the person to review the stages of contemplation, determination, and action in order to develop new plans, without becoming demoralized or discouraged.
This HIV intervention, which targets drug use and sexual behavior, emphasizes the first three stages of change. The interventionist will specifically: (1) Facilitate awareness of the negative consequences of the questionable behaviors—current drug use and sexual practices—that can lead to HIV infection; (2) Help each individual make a comprehensive assessment of the context leading to these behaviors; (3) Provide individualized HIV risk reduction strategies, and (4) Help identify specific individualized actions a person can take to change the risky behaviors they initially identified.

The intervention incorporates the finding that knowledge alone is a poor predictor of behavior (DiClemente, Lanier, Horan & Lodico, 1991). Change related to education-oriented prevention efforts tends to be short-lived (Leukefeld & Bukoski, 1991; Leukefeld, Battjes & Amsel, 1990) and, particularly with regard to sexual behaviors, relapse to previous risk levels is common (Ekstrand & Coates, 1990). The regression to high-risk behavior occurs despite long-term retention of the factual information presented in a prevention intervention (McCoy, Chitwood, Page, & McCoy, 1997). Although the basic information presented in the National Institute on Drug Abuse (NIDA) standard intervention addresses the primary means for reducing HIV risk, the goal of this intervention is to supplement that information with individualized, focused prevention information designed to heighten awareness of HIV risk and increase motivation to change (Gordon, 1989).

Two representative studies of attitude and behavior change highlight the thrust of the message in this focused intervention using cognitive node mapping: (1) The impact of a persuasive message/information is enhanced with active, rather than passive, participation (Watts, 1967), and (2) Messages and information which are personally relevant are more likely to effect changes in attitudes and behaviors than messages of lesser personal relevance (Sivacek & Crano, 1982). Dees, Dansereau, Peel, Boatler, and Knight, (1991) reported findings that the individuals best suited to personalize information are drug abusers themselves. Without guidance, however, those who hear expert-generated information about HIV prevention can distort and/or selectively accept certain portions of the communication (Leukefeld, Battjes & Amsel, 1990; McCron & Budd, 1979).

In summary, the literature which focuses on change indicates that effective HIV prevention interventions can be increased if the thrust and target is the individual's own personal HIV risk behavior(s). This is also supported by Knight, Simpson, and Dansereau (1994) who provided
relapse prevention training to probationers using interactive cognitive node maps. They reported that subjects who received cognitive node mapping were more likely to complete the program, had greater knowledge about the information presented, and had significantly fewer positive urine tests after the cognitive node mapping, when compared with subjects who received a didactic presentation of the same basic education. Thus, cognitive mapping enhanced the impact of the factual information in this study.

**THOUGHT MAPPING**

Thought mapping is grounded in Cognitive Node Mapping research. Thought mapping like Cognitive Node Mapping is a method of helping individuals learn from their own experience by organizing their personal thoughts and behaviors to personalize learning. This is particularly important for drug abusers since many may have difficulty with reading. In fact, drug abusers generally have problems with understanding, learning, and managing abstract ideas (Grant et al., 1978; Meek et al., 1989; Czurchry et al., 1995). In addition, research indicates that cognitive node mapping is an effective way of overcoming cognitive problems (Knight et al., 1995). For example, cognitive node mapping has been found to be effective with cocaine abusers (Joe et al., 1994), for those with attention deficit problems (Czurchry et al., 1995) and for those with little education (Pitre et al., 1996).

The individuals with whom cognitive node mapping is most effective—those with lower literacy, lower verbal skills, and less education—suggest that incorporating Thought Mapping into an HIV prevention intervention targeted at high risk drug abusers will facilitate behavior change.

**THE APPROACH TO THOUGHT MAPPING**

The major focus of Thought Mapping is the idea that drug abusers have difficulties with storing and retrieving information through a series of associations. Experiences with persons, situations, and events both external and internal are linked to one another through associations. This is why a new experience, which is similar to an old experience, can trigger memories for drug abusers to use. These experiences and their links form a complex map.
of experience, which is relied on for interpreting, learning, and changing. For example, if a person with whom we are communicating has experiences and an "internal map" that is similar to ours, that communication can take place far more easily and with less risk of misunderstanding. If, on the other hand, that person's experience is very different or if his or her internal map has different links, then communication becomes difficult. Thought Mapping focuses on making this internal and unconscious process external and conscious. Thus, participants are asked to link pathways, which lead to either constructive or destructive behaviors.

Thought Mapping, like cognitive node mapping, is a visual technique that has been used by drug abuse counselors (Czuchry, Dansereau, Dees, & Simpson, 1995). This approach uses nodes or boxes to represent feelings, thoughts, and actions. Links or lines are used to visually show relationships between nodes (See Appendix B). With the Thought Mapping approach, the interventionist and the participant jointly complete a map by filling in the "thought map" which is a visual presentation of the participants thoughts, feelings, and actions.

The main purpose of incorporating thought mapping into an HIV education intervention is to acquaint participants with a personal understanding of HIV and sexual behavior so each participant can identify his/her own individual strategies which can be used to protect them and others.

Specifically, Thought Mapping is used to facilitate: (1) problem recognition -understanding how drug use and sexual behavior - specify those circumstances, feelings, and values which contribute to drug use and sexual behaviors related to HIV (contemplation stage); (3) Consider various solutions—identify behavioral options available for solving two specifically targeted behaviors, drug use and sexual behavior related to HIV (contemplation stage); (4) Select best alternative—make a choice of action based on a rational projection of probable outcomes associated with sexual and drug use behaviors related to HIV (action stage), and, (5) Assess the effectiveness of a solution—set criteria to determine whether specific behaviors can be successfully achieved for sexual behavior and drug use related to HIV (action stage).

**INTERVENTION GOALS**

At the end of the session, participants will be able to:
1. Understand how two of their own problems are related to HIV -- **Recognize Two Problems**.
2. Specify feelings, thoughts, and actions by others and themselves, which contribute to drug use and sexual behaviors, related to HIV -- **Personalize Two Problems**.
3. Identify two positive behavioral options available for their own drug use behavior and their own sexual behavior related to HIV -- **Consider Two Positive Solutions**.

**INTERVENTION MESSAGE**

AIDS or the Acquired Immune Deficiency Syndrome is a health problem. Drug abusers are at greater risk of HIV infection and AIDS even though they are not drug injectors. Drug injection in the U.S. has received attention since about one-third of AIDS cases are related to injecting in the U.S. according to the Centers for Disease Control and Prevention. What is important for this session is to help participants recognize that HIV risk is associated with the consequences and the relaxing or disinhibiting effects of drug use. The most important consequences of drug and alcohol use include blackouts and impaired judgement which can put an individual in contact with others who are at high risk for HIV.

These sessions target HIV/AIDS and the ways that drug abusers can protect themselves. HIV/AIDS can be a highly charged subject and many people can find it difficult to discuss HIV and the behaviors which are associated with AIDS, especially those related to the safe use of needles and teaching ways to clean injection equipment. The focus of this intervention is not to enter into controversy, but to present the most current information about HIV and AIDS using the public health approach.

**INTERVENTION**

The individual face-to-face intervention is separated into two parts. The first part is the NIDA standard intervention, which has been modified by Wechsberg et al. (1997). The second part of the intervention is individualizing drug abuse and sexual behaviors using Thought Mapping.
INTERVENTION PART ONE--NIDA CUE CARDS

The goal of the first part of the intervention is to provide the most current information about AIDS, routes of infection, drug use and sexual risk behaviors, use of condoms, safe sex, cleaning needles, the benefits of drug treatment, and the HIV test.

For drug abusers, it is important to begin by asking each person to talk about his/her knowledge of HIV and AIDS. After the initial discussion, the interventionist will review and discuss the Cue Cards (see Appendix A). Each cue card must be discussed individually taking time for the person to understand the points being made on each cue card.

A1 What is AIDS?
A2 Usual Course of HIV Infection and AIDS
A3 How Does Someone Get Infected?
A4 What Behavior Puts You at Risk?
A6 What About Cocaine and Crack?
A7 Why Use Condoms?
A8 What About Female Condoms?
A9 How To Talk With Your Partner About Safer Sex
A10 Why Clean Needles and Syringes?
A12 The Benefits of Drug Treatment
A13 The HIV Test

The person carrying out the intervention should also emphasize the nature of HIV disease, routes of transmission, risk factors, and linkage with drug use during the cue card presentation. This discussion will be reinforced using Thought Mapping in the second part of the intervention to personalize the HIV prevention message.

INTERVENTION PART TWO--PERSONALIZED THOUGHT MAPS

The goal of the second part of the intervention is to help each participant individually examine two of his or her own HIV related drug use and sexual behavior problems and develop personal action plans.

After the initial discussion and presenting the cue cards (A1 to A13), personal questions are asked about HIV/AIDS-related sexual risk and drug abuse problems (Leukefeld & Godlaski, 1997). The interventionist
then "maps" one personal problem for the participant's sexual risk behavior and a problem related to his/her drug abuse to create separate "maps" of the subject's behaviors, feelings and consequences. This map provides a personal and visual presentation of how problems can lead to desirable behavioral outcomes as well as undesirable outcomes using a problem solving approach. The map is used to help the participant focus clearly on linking his or her own actions with others actions and feelings as well as with problems and solution(s).

The specific steps for the interventionist to use in Thought Mapping are:

- Use a blank map as the focus for discussion -- Appendix B.
  (This map is modified from Dansereau, D. et al. 1993, p. 66.)
- Briefly introduce the Thought Mapping approach.

APPROACH NOTE: Emphasize that the mapping discussion should be as "straight forward" as possible using two different problems, identified by the participant, that are related to their own sexual behavior and their own drug use, by focusing on one of the two problems at a time. The information presented in the Cue Cards should serve as a guide to identify the person's own problems. If appropriate, the interventionist should use an identified drug abuse or sexual problem, which was discussed initially in the session and can now be personalized for the individual.

- With a Thought Map on a clipboard, folded in half with the top half of the map showing, begin the mapping, using the map in Appendix B. Start by asking the person about the last problem he or she had when they had sex. You can either refer to a problem related to the person's sexual behavior, which the person gave when reviewing the cue cards, or you can probe/question to get a problem related to his/her sexual behavior. The interventionist, for example, can ask the person to talk about "The last time they were high, horny and went looking for sex—or --"The last time they had sex that caused a problem for them."

1. Write the person's own problem in the problem oval on the map after asking question 1:

   (Question 1) What is the problem?

   APPROACH NOTE: For this first map, ask for a problem related to the participant's sexual behavior, and for the second map, a problem related to drug use.
2. Write on the map in the separate boxes the person’s feelings, pressures, others actions, and what led to the problem after asking question 2:

(Question 2) What led to the problem?
Then ask:
What were your feelings about the problem?
(Starting question for women)
What did others think about the problem?
What did others do about the problem?
What did you do about the problem?
(Starting question for men)

APPROACH NOTE: Experience with the Thought Map indicates that the intervention will be most efficient if:

Males are first asked: What did you do about the problem? (His actions) which is followed by what others thought and what others did about their problem and ending with the question -- What were your feelings about the problem?
Females are first asked: What were your feelings about the problem? which is followed by what others thought and what others did about their problem and ending with the question -- What did you do about the problem? (Her actions).

3. Write on the map the consequences of the problem in the box after asking question 3:

(Question 3) What are the consequences of the problem? OR What happened to you?

4. Unfold the paper so the person can see the entire map. Tell the person that he or she is now looking at a positive solution to this same problem -- which they could have done differently to have positive consequences.
Write on the map in the box what the person says he or she could have done differently that would have made a positive/good change in the consequences after asking question 4:

(Question 4) What could you have done instead to make the situation better?

5. Write on the map in the box the consequences of the "good choice" after asking question 5:
(Question 5) What are the consequences of this good/positive choice?

6. Write on the map in the box the person's feelings, pressures on them, other's actions, and their actions after asking question 6:

(Question 6) How will things be different as a result of your good/positive choice?

Then ask:
- What were your feelings about the problem?
  (Starting question for females)
- What would others think about the problem?
- What would others do about the problem?
- What would you do about the problem?
  (Starting question for males)

APPROACH NOTE: Remember to start with the feelings for women and actions for men when discussing how things would be different.

7. Write on the map in the box the specific things the person says he/she can do to help solve the problem after asking:

(Question 7) What can you do now to change this problem?

8. Repeat the mapping process on a new map folded in half for a problem related to the person's own drug use. Ask the person to talk about: "The last time you used drugs that caused a problem for you."

APPROACH NOTE: Remember to start with the problem, then the things that led to the problem, followed by the consequences and choice for solving the problem. Encourage the person to discuss a specific problem related to his/her own drug use. When the person talks about his/her problem behavior, discuss the problem behavior by filling in the blanks on the map as the person talks. (Appendix C presents examples of completed maps which can be used to help the person if cuing is necessary.)

• Make sure enough time is allowed to reinforce the process. Point out that Thought Mapping is important before solving problems. Emphasize that most of the time there are several ways to deal with a problem. Make sure the person hears the message that a small amount of time to think about the consequences of their drug use and risky sex can help avoid getting and/or giving HIV or other sexually transmitted diseases.
• Ask the person if he/she has any questions or comments? If the person does, answer as directly as possible. If you do not know the answer say that you will find out the answer.
• Ask the person if he/she would like to keep the two maps. If so, give the two personalized maps to the person and thank the participant.

CONCLUDING REMARKS

Preventing HIV among drug abusers is critical in the U.S. since almost one-third of those infected with HIV are injecting drug users. The theoretically grounded HIV prevention intervention protocol for drug abusers presented in this article was developed and refined with focus group input and was piloted with drug abusers who were not in treatment. Thought Mapping is a modification of node-link mapping, which incorporates tailored and individualized drug and sexual prevention information. The approach is straightforward so participants can examine antecedents to their personal drug abusing and sexual behaviors as well as the consequences of these behaviors in order to change behaviors.

REFERENCES


APPENDIX A. HIV/AIDS CUE CARDS -- A1 TO A13

A1

WHAT IS AIDS?

- AIDS stands for Acquired Immune Deficiency Syndrome. This disease is a serious health problem in our country and around the world.
- National and Local Statistics.
- AIDS is caused by the human immunodeficiency virus, commonly known as HIV.
- HIV can destroy the body’s ability to fight off infections and disease.

A2

USUAL COURSE OF HIV INFECTION AND AIDS

Window period 6 to 24 weeks

1 to 10 years
Incubation Period

Person becomes infectious  No Symptoms  First HIV Related Illnes (AIDS)  Death
HOW DOES SOMEONE GET INFECTED?

• HIV, the AIDS virus, is present in semen, blood, and vaginal fluid.
• HIV is transmitted
  --by sexual acts like oral, anal, and vaginal intercourse
  --by sharing needles and other drug injection equipment
  --or by receiving blood from an infected person
• HIV is transmitted from mother to child during pregnancy or the birth process. It is possibly also transmitted by breast-feeding.
• You can’t get HIV through everyday contact such as shaking hands or hugging.
• You can’t get HIV from saliva, sweat, tears, urine, or feces.
• You can’t get HIV from clothes, a telephone, or a toilet seat.
• You can’t get HIV from a dry kiss.
• You can’t get HIV from a mosquito bite or other insect bites.

WHAT BEHAVIOR PUTS YOU AT RISK?

• Sharing needles and syringes.
• Sharing cookers, cotton, and rinse water.
• Not using a condom or barrier during vaginal, oral, or anal sex.
• You increase your chances of getting HIV if you have unprotected sex with:
  --someone who has several sex partner, or
  --someone who injects drugs.
• Using alcohol or other drugs can be risky because:
  --alcohol and drugs may increase your desire to have sex and make you less careful;
  --alcohol and drugs may weaken your immune system, making it easier to get HIV and other infections.
WHAT ABOUT COCAINE AND CRACK?

Sometimes people smoke crack or snort cocaine rather than inject it. But that doesn’t mean they are safe. Even if they only smoke or snort, heavy cocaine users are still increasing their risk for HIV infection. Here’s why:

--People often have more sex when they use cocaine, and they often forget to wear latex condoms or to ask their partner to wear a condom.
--Some people sell sex to get cocaine or to get money for cocaine. This may mean they have more sex or unprotected sex.
--Crack and cocaine may weaken the immune system, making it easier to get HIV and other infections.

• If you are a crack or cocaine user, you can decrease your chances of getting HIV by getting off drugs.
• If you can’t get off drugs, be sure to wear latex condoms or make sure your partners do. Your life depends on it!

WHY USE CONDOMS?

• Condoms, used all the way through sex, help prevent the spread of sexually transmitted diseases including HIV, the virus that causes AIDS. Lambskin, sheepskin, and other natural condoms do not protect you from HIV.
• Sexually transmitted diseases often cause lesions or sores. When these occur, it’s easier to get infected with HIV.
• Besides not having sex, the best ways to protect yourself against AIDS are non-penetrative sex or mutual masturbation (not oral sex). Using latex
• For receiving oral sex, men should use condoms, and women should use dental dams or a barrier such as Saran Wrap.
• To reduce your risk of getting HIV/AIDS:
  --Best method: no sex.
  --Next best: no sex involving penetration.
--Next best: use condoms with all sex involving penetration.
• Spermicdes like diaphragm jelly and contraceptive sponges do not kill HIV.
• Demonstration and rehearsal.

A7

WHAT ABOUT FEMALE CONDOMS?

• Female condoms have been shown to reduce the risk of getting sexually transmitted diseases and pregnancy, including HIV, the virus that causes AIDS.
• Female condoms (like Reality) are polyurethane, bag-like devices that are placed in the vagina to catch the male ejaculate (cum).
• Female and male condoms should never be used together at the same time.
• Each female condom can be used only one time. It must be thrown out after each sex act.

A8

HOW TO TALK WITH YOUR PARTNER ABOUT SAFER SEX

• Learn as much as you can about HIV. That will make it easier to talk.
• Decide when you want to talk. The best time is not just before having sex.
• Decide in your own mind what you will and won’t do during sex.
• Give your partner time to think about what you’re saying. Don’t rush.
• Pay attention to how your partner is understanding what you’re saying. Slow down if you need to.
• Talk about the times that make it hard to have safe sex. These are times when you don’t have condoms or have used alcohol or drugs. Try to decide what to do at those times so you can both be safe from HIV.
• If your partner does not want to practice safe sex, ask yourself if this is the type of person you really want to have sex with.
WHY CLEAN NEEDLES AND SYRINGES?

You can get infected with HIV by sharing works another person has used. You can also get HIV by sharing cookers, cotton, or rinse water.

- Merely rinsing used works in water, even hot water, will not kill HIV. You must use bleach.
- To reduce your risk of infection:

  --Best method: stop using drugs.
  --Next best: stop using needles.
  --If you can't stop using needles, don't share needles. Use a new needle or a needle only you have used before.
  --If you do share needles, clean the needle every time before you inject drugs. Clean it the way we are showing you today.

- Do not put your needles in someone else's rinse water, cotton, or cooker. HIV can live in blood in all these places.
- Demonstration and rehearsal.

THE BENEFITS OF DRUG TREATMENT

- Can help you get off drugs and teach you ways to stay off drugs.
- Can change your life, improve your health, and reduce your risk for HIV.
- Can provide counseling and support for you and your family members who may also need help.
- Can provide referrals for other health and social services.
- Even if you can't get into treatment now, you can be given information on support groups that will help you until a treatment program can be found for you.
**THE HIV Test**

- The test screens for the presence of antibodies that have developed in your system in response to the virus.
- A positive test shows that you are infected with HIV and can give it to others.
- A negative test may mean that you are free of the virus. There is a period of time between infection and when the test shows that you are infected. This is called the window period. During this time, you can’t test “negative” for HIV but you may really be “positive.” It’s a good idea to have another HIV test in 6 months to be sure you don’t have the virus. (Between testing, if you have sex, make sure you use latex condoms. If you use needles, make sure you don’t share works – clean works.)
- We recommend you take the test and learn your test results because:
  --Treatment is available for HIV infection.
  --You can plan a course of action that is best for you, your family and friends, and your community.

- Some people are anxious about taking the HIV test or getting results. Our staff is prepared to discuss all concerns you may have about getting tested. Please feel free to ask any questions, so you can feel better about getting the test.
APPENDIX B. BLANK THOUGHT MAP

1.) What led to the problem?

- My Feelings
- Pressures on Me
- Other’s Actions
- My Actions

Leads to:

2.) What is the problem?

PROBLEM

3.) What are the consequences?

CONSEQUENCES

4.) What could you have done instead?

5.) What are the consequences?

6.) How will things be different?

- My Feelings
- Pressures on Me
- Other’s Actions
- My Actions

7.) What can you do now?
APPENDIX C. COMPLETED THOUGHT MAP EXAMPLE

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