CHAPTER 9

EVALUATING THE EFFICACY OF PROJECT TND: EVIDENCE FROM SEVEN RESEARCH TRIALS

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There is a tremendous need for ongoing dialogue as to whether drug abuse prevention programs work in the manner hypothesized. This crucial discussion gives traction to the field with regard to factors that may enhance or impede program efficacy. Toward this end, the present chapter provides the primary developer's perspective on how Project Towards No Drug Abuse (TND) may be working to reduce drug use among youth. First, the history of the project is described. This is followed by discussion of the intervention theory, a motivation enhancement, life-skills decision making (MSD) model of behavior change. Program contents are then described within the context of the intervention protocol. Seven cluster-randomized controlled trials (C-RCTs) using Project TND are then summarized in chronological order. Next, the chapter includes a broad discussion outlining how program material provides a social-interactional context through which behavioral "change talk" is elicited, leading to behavior change. The chapter closes with a discussion of notable similarities and differences between Project TND and motivational interviewing (MI) and provides suggestions for future process research that can enhance youth drug abuse prevention.

Project TND is a 12-session school-based prevention program developed to deter youth from smoking cigarettes; drinking alcohol; and using illicit substances, including marijuana and other drugs (e.g., cocaine, methamphetamine, painkillers). The program was developed specifically for older teens, particularly those at relatively high risk for drug abuse (e.g., alternative high school youth). Since its inception in 1992, Project TND has undergone seven different C-RCTs that have experimentally manipulated different aspects of the program. A consistent body of evidence has shown favorable program effects on 30-day substance use at the 1-year or longer follow-up (Dent, Sussman, McCuller, & Stacy, 2001; Rohrbach, Sun, & Sussman, 2010; Sun, Skara, Sun, Dent, & Sussman, 2006; Sun, Sussman, Dent, & Rohrbach, 2008; Sussman, Dent, Simon, Stacy, & Craig, 1998; Sussman, Dent, & Stacy, 2002; Sussman, Sun, McCuller, & Dent, 2003; Sussman, Sun, Rohrbach, & Spruijt-Metz, 2012; Valente et al., 2007). Favorable program effects on hard drug use (a composite of cocaine, hallucinogens, stimulants, inhalants, ecstasy, painkillers, tranquilizers, and other drugs [i.e., PCP, steroids, GHB, and K]) have been found in all seven trials at 1-year follow-up. In addition, favorable program effects on hard drug use have been demonstrated in the two RCTs that involved 2-year follow-up and likewise in one 5-year follow-up study (Sun et al., 2006; Sussman, Sun, et al., 2003). A composite of hard drug use is often necessary analytically because of the relatively low base rates for

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many hard drug types. Bundling these drug types is one means of offsetting the highly skewed responses associated with hard-drug types, providing sufficient variance to examine—and not strain—the robustness of the statistical analyses. Conceptually speaking, aggregating across several drug categories captures a propensity toward extreme—and often risky—involvement with multiple drugs.

The program's ability to achieve preventive effects with other substances has been less consistent across trials, with favorable effects on alcohol use observed in four of seven trials (Sussman et al., 1998, 2002, 2012; Sussman, Sun, et al., 2003; Valente et al., 2007), favorable effects on marijuana use obtained in three trials (Rohrbach et al., 2010; Sussman et al., 2002; Sussman, Sun, et al., 2003; Valente et al., 2007), and favorable program effects on cigarette smoking demonstrated in two trials (Sussman et al., 2002, 2012; Sussman, Sun, et al., 2003), at 1- or 2-year follow-up. Many practitioners use Project TND in their school systems without considering the collective body of evidence from all seven trials, which span a 20-year period. Given the spurious, albeit favorable, nature of the program evaluation findings, it seemed prudent to revisit the conceptual framework underlying the experimental manipulations, critically explore the program's "active ingredients," and reexamine what might be responsible for the varied pattern of findings. As a result of a trial-by-trial analysis, we may be poised to make stronger inferences regarding why the program works—when it does work.

HISTORY OF PROJECT TND

Project TND was originally developed to apply to older at-risk teens. The term at-risk was intended to broadly include youth unable to remain in the regular/comprehensive school system. Functional roadblocks that impeded attending normal high schools for many youth included achieving insufficient school credits (related to absenteeism, or poor academic performance), exhibiting conduct problems (e.g., repeated suspensions), or violating zero tolerance drug use policies. In many of our nation's school systems, youth meeting these criteria are transferred to an alternative high school (AHS).

From an educational standpoint, the concept of the AHS was intended to address the academic and emotional needs of these high-risk youth, through more individualized instruction in addition to group instruction, short school days (e.g., 4-6 hours per day), and relatively high teacher-to-student ratios.

Despite the good intentions of educators, a higher prevalence of negative health-related behaviors has been previously documented among youth from AHSs compared to regular high schools (RHSs). Examining 30-day drug use, researchers have found that students in AHSs are much more likely than students in RHSs to have smoked cigarettes (70.1% vs. 36.3%), drank alcohol (64.9% vs. 50.8%), engaged in episodic heavy drinking (51.5% vs. 33.4%), used marijuana (53.9% vs. 26.2%), and used cocaine (15.9% vs. 3.3%). Unfortunately, very few drug abuse prevention or cessation programs have been conducted with this population of youth (for a review, see Sussman, Arria, & Grigsby, in press). Project TND was originally developed to combat drug misuse within the AHS population, although three out of seven Project TND trials examined the generalizability of the program to an RHS context, as is discussed below.

The state education system in California uses the term continuation to reference AHSs. There is concrete evidence showing that youth attending continuation high schools (CHSs) follow the pattern of youth in AHSs and that compared to the general population of high school youth are at relatively high risk for drug abuse and risky sexual behavior (Black, Sun, Rohrbach, & Sussman, 2011; Sussman, Dent, Simon, et al., 1995). The fact that these youth experience with a variety of drugs at a much higher prevalence than the RHS system suggested that prevention efforts were needed that went beyond addressing the gateway drugs (i.e., tobacco, alcohol, and sometimes marijuana) addressed by primary prevention programs.

Additional concerns include whether the type of social resistance or comprehensive social influences programming would benefit older at-risk teens in these specialized educational environments. In fact, both preliminary program development efforts (Sussman, Dent, Simon, et al., 1995) as well as more recent findings (Sussman, Farleywine, et al., 2004)
indicated that older teens asked to practice drug refusal offers during classroom activities might react negatively. Older teens are more focused on examining their identity and developing a worldview rather than on examining social pressures. Also, social influences activities are generally more suitable for contexts in which a majority of youth don’t use drugs. In these contexts, social resistance skills serve to inoculate youth prior to engaging the behavior in question. Within at-risk contexts like CHSs, a greater number of youth are likely to have already misused drugs. These contextual and program development concerns suggested that a different prevention approach, relevant to older, at-risk teens, was needed. This led to the MSD approach (Sussman, Earleywine, et al., 2004).

THEORETICAL RATIONALE AND CONCEPTUAL FRAMEWORK

Project TND was initiated with a series of four program development studies from 1992 to 1993. This work used a total of 1,326 continuation (alternative) high school students from 21 schools, and 706 regular (comprehensive) high school students from six schools, located in Southern California (see Sussman, 1996; Sussman, Rohrbach, & Mihalic, 2004). This opportunity fueled development of a drug prevention model that blended previous theory with instructional methods believed to have greater relevance for at-risk teens. The Project TND curriculum drew from behavioral-therapy-related, cognitive psychology, social psychology, sociology, and recovery or chemical dependency treatment-related approaches (for details, see Sussman, 2010; Sussman, Earleywine, et al., 2004; Sussman, Rohrbach, & Mihalic, 2004). The model incorporated (a) prosocial motivation enhancement, (b) life and social skills, and (c) decision-making components as intermediate cognitive behavioral processes that decrease vulnerability to a wide range of deviant outcomes (Sussman, Earleywine, et al., 2004). Modification of these intermediate processes was considered optimal to reduce risk and protect continuation students from drug misuse and engagement in other high-risk behaviors that can interfere with learning and can also be personally destructive.

Motivation Enhancement

Motivation enhancement focuses on techniques to clarify desire for change and reduce ambivalence toward change. This may include, but is not restricted to, a specific strategy such as MI (Miller & Rollnick, 2002), which is described later in this chapter. The motivation enhancement approach dedicates a significant amount of programming to dissuade youth from starting drug use (i.e., change a youth’s intentions, for those curious about starting drug use), decrease their intentions to escalate drug use, or increase their willingness to quit drug use. Motivation enhancement approaches assist individuals in clarifying their direction of change and increase their willingness to change. One central feature of motivation enhancement in Project TND is to make youth aware of their equivocation regarding using drugs. Once this equivocation is made explicit, the participant can examine how using or not using drugs may be associated with other likely life outcomes. The goal here is for youth to realize that upon close examination (using a step-by-step analysis) their rationale for using drugs is flawed, leading to the conclusion that not misusing drugs is the best course of action (Sussman, Earleywine, et al., 2004). Project TND uses several motivation enhancement activities including drug use myth correction, counteracting stereotyping, valuing health and achievement of health goals, and clarification of attitudinal perspectives. Each of these motivation enhancement program strategies is briefly explained below (Sussman, 1996).

Drug use myths. This program strategy describes questionable or dysfunctional expectancies and beliefs that serve to justify drug use. For example, users may mistakenly believe that the ability to regulate subjective drug use effects affords them control over their drug use. In reality, true cessation of bodily warning signals (e.g., coughing, dizziness, nausea) experienced the first few times youth try a drug such as cigarettes or alcohol may indicate physical deterioration as addiction begins. So, as drug users acclimate to the effects of a drug (i.e., no longer feel sick), they may actually be experiencing tolerance to the drug—one of several physical dependence symptoms. Furthermore, a drug user
may require increasingly larger amounts to gain the felt experience of being high. Challenging a person's drug use myths should help prevent them from continuing to use drugs to the point of dependence. The process of cognitive restructuring is used to target the correction of faulty or self-defeating cognitive structures ("myths"). In particular, elaborating on the logical steps involved in the construction of a drug use myth may help prevent youth from engaging in detrimental behaviors. Program materials address the "kernel of truth" embedded in a myth (subjective experiences that indicate tolerance) and why it is still a myth (signs of physical dependence).

To illustrate this program goal, a common myth suggests that having trouble finding one's car after getting drunk is a humorous event. Many adults recall situations where a friend or close associate had one too many drinks and could not remember where they parked their car. When the module is taught, students are challenged regarding certain myth elements. For example, posing the following questions: (a) "Did you want to find your car?" (b) "Were you too drunk to find it for a long time?" and (c) "And that's funny?" Confronted by these myth elements, the apparent humor of the situation may dissipate. Furthermore, students can be taught to delineate the kernel of truth in the myth (not finding one's car is an odd event) and separate this from the false aspects of the myth (not finding one's car indicates failure of functioning, which is sad, not funny; Sussman, 2010; Sussman, Farleywine, et al., 2004).

Stereotyping. Lower risk and more conventional peers tend to perceive AHS students as more deviant than they actually are. Of course, younger children and even adults may view high school youth in general as more deviant than they really are. High school students often test their newfound freedoms by rebelling against conventional standards. Many youth test limits by pushing curfews, engaging in alternative personal mores, and experimenting with radical changes to their appearance such as adopting unique clothing styles (e.g., the Goth look). Delinquency increases during this developmental period (Hasking, Scheier, & Abdallah, 2011), and many youth report greater levels of parental conflict particularly as they test the extent of parental control in moral, personal, and prudential domains (Smetana & Asquith, 1994). Indeed, this premise was suggested in early interview work that preceded the development of Project TND modules (cf. Sussman, 1996).

Understandably, high school students may resent this stereotype, which casts a negative pall on their activities. Addressing this stereotype may help prevent drug abuse. If high school students are persuaded to this negative stereotyping through conformity processes, the situation could lead to a self-fulfilling prophecy, as if they were buying into the stereotype. For instance, a delinquent youth may think, "You think I'm bad—I'll show you how bad I can be." A stereotype-oriented lesson may accomplish an important goal. If high-risk youth do not view themselves as deviant as they assume others have judged them, possibly, reactions against this stereotype—such as rebelling against it—may energize an effort to avoid drug use as well as portray oneself in a more favorable and conventional limelight. Further, correcting the misperception that regular drug use is normative among teenagers, especially among their peers, can go a long way toward modifying erroneous perceptions and encourage youth to not buy into the stereotype.

Valuing life and health goals. Many AHS youth report that they plan to graduate from high school, pursue additional education, or find a job. In fact, there is evidence showing that most high school youth do not view "hanging out," absent life goals, as a desirable option (Sussman, Rohrbach, & Mihalic, 2004). Many youth also recognize that drug use can interfere with achieving their life's goals by interfering with their personal health. The TND program builds on this premise by suggesting that enhancing consideration of the value of health in deliberate cognition can increase motivation for learning adaptive coping strategies that can positively direct youth toward maximizing life goals (which precludes drug misuse).

Attitudinal perspectives. Consistent with attitudinal perspective theory (Upshaw & Ostrom, 1984), most youth view themselves as holding moderate views (i.e., occupying the political middle, balanced on most attitudes). These same youth tend to identify regular drug use as a form of deviant,
immoderate ("radical") behavior (Olds, Thombs, & Tomasek, 2005; Sussman, Earleywine, et al., 2004). Showcasing for these youth the disparity between their general self-attitude ratings as "moderates" versus engaging in more extreme specific behaviors (e.g., drug use) can push the pendulum and motivate them to engage in more temperate behavior.

**Intervention Skills**

Even if at-risk youth desire not to misuse drugs, there may be social-contextual variables that serve as barriers to being able to engage in lower risk behaviors. The central goal of skills training is to help youth create bridges to a wider (prosocial) network of peers. Direct instruction, modeling, practice, and group reinforcement enhance learning of social and life skills (Hansen, Watson-Perszel, & Christopher, 1989; Sussman, Rohrbach, & Mihalic, 2004). At least three basic kinds of skills require instruction: self-control, communication, and resource acquisition. The ability to control one's behavior in sensitive situations, communicate effectively to achieve certain goals, and acquire needed resources from one's social and physical environment are paramount to a comfortable transition into adulthood, and deviations from a productive transition may lead to drug misuse (Arnett, 2004).

**Social self-control skills.** Good self-control protects against substance use and buffers against the impact of risk factors (e.g., Cooper, Agha, & Sheldon, 2000; Wills, Walker, Mendoza, & Ainette, 2006). As several other chapters in this handbook suggest, poor self-control contributes to behavioral, affective, and cognitive deficits. Self-control strategies cross physiological and personality boundaries because self-control also relates to coping motives for substance use—a strong malleable predictor of substance use problems (Cooper et al., 2000; Wills et al., 2006). In certain situations, youth lack restraint or fail to plan accordingly. In these situations, coping skills instruction may help increase individual self-control. In social self-control programming, youth learn to assess their self-control in social situations (e.g., learn to modulate their tendency to make provocative statements, blurt out or say things they "did not mean" in stressful situations, suppress their tendency for attention-grabbing opportunities; Sussman, McCuller, & Dent, 2003). Youth learn the importance of thinking ahead and anticipating problem social situations so that they are prepared beforehand to deal with problems that may arise. They also learn the importance of social context and to respect cultural mores (e.g., not seeming joyful or not laughing at a funeral). Finally, they learn assertiveness and anger management to help them better control their reactions in social settings (Sussman, Rohrbach, & Mihalic, 2004).

**Listening and communication skills.** Youth genuinely benefit from listening to information with an open mind and asking open-ended questions to keep a conversation going. They can improve their communication skills by learning how to ask various types of open-ended questions, establish eye contact appropriately (i.e., when listening and when speaking, the latter to observe reactions to what they are saying), nodding their head to indicate active listening, and orienting their body toward the other speaker. Overall, increasing communication skills will have protective effects for high-risk teens (Cooper et al., 2000).

**Resource acquisition.** Adults often assume that teens can access community services (e.g., vocational, educational, recreational, transportation, mental health and drug counseling; see Sussman, Skara, & Pumpuang, 2008) with little effort. In fact, few teens recognize the availability of health services or other community assistance. Learning how to obtain simple information, including phone numbers and locations, can assist teens immensely (Sussman et al., 2008). Coaching teens on techniques for receiving assistance can prove productive. Public assistance for drug problems and other life problems can help tremendously. Negotiating the bureaucratic difficulties inherent in many of these systems can require considerable skill, but learning how to make attempts to acquire assistance is a major step forward towards getting one's needs met.

**Decision Making**

Learning how to make good decisions is an important part of transitioning through older adolescence and into emerging adulthood (Arnett, 2004). Indeed, youth must learn to make self-fulfilling choices and
engage in a future orientation that goes beyond the here and now (e.g., Barnett et al., 2013). As a result, drug misuse prevention programs have employed decision-making strategies that help youth develop goal adaptation skills and think about the consequences of their actions (Beyth-Marom, Fischhoff, Quadrel, & Furby, 1991; Byrnes, 2002). In keeping with these themes, Project TND's decision-making session involves four steps: (1) brainstorming (making a list of ideas without judging them); (2) weighing the pros and cons (learning how to evaluate the benefits and costs of each idea); (3) selecting the best option; and (4) following through (trying a particular option and then reevaluating the decision). Training in decision making by design operates on variables that are intermediate in the causal process and thereby strengthen individual profiles of self-control abilities so that youth are more resilient in the face of proximal risk factors for drug use, such as life stressors (Slovic, Lichtenstein, & Fischhoff, 1988).

BRIEF DESCRIPTION OF THE PROJECT TND INTERVENTION

The MSD model guided program development efforts and construction of the Project TND curriculum. The current version of the Project TND curriculum contains 12 separate 40-minute interactive sessions. Session 1 (Active Listening) teaches youth how to communicate effectively and listen to material with an open mind (motivation and skills material). Session 2 (Stereotyping) targets making high-risk youth aware that they may increase their vulnerability to substance abuse by engaging in a self-fulfilling prophecy and that they can counteract negative stereotyping by not abusing drugs. Youth are also provided current prevalence information regarding their own age cohort with the intent of demonstrating to them their tendency to overestimate drug use among peers, perhaps reflecting the beginnings of a self-fulfilling prophecy (motivation material).

Session 3 (Myths and Denials) confronts myths, using the myth deconstruction strategy described earlier, that facilitate drug use (e.g., people get used to a drug). In addition, this session confronts denial regarding drug use (i.e., tendency to blame others, deny injury, deny effects on others, reinterpret negative effects as not so bad or even funny), to minimize the perceptions of positive functions of drug use (motivation and decision-making material). Session 4 (Chemical Dependency) uses the acronym TRAP (Trial use, Recreational use, Abuse, “Pinned” down [addicted]) in order to provide information about the course of negative consequences associated with chemical dependency. In addition, Session 4 discusses the family and social contexts of drug abuse (family roles, enabling) and the availability of assistance to individuals who may be affected by a drug abuser (motivation material and self-assistance toolkit—some skills material).

Session 5 (Talk Show) has the goal of providing students with an empathetic and cognitive understanding of the negative consequences of drug abuse, through the use of a “talk show” activity. The talk show session is constructed like a Dr. Phil or Oprah television segment. Guests on the show (student volunteers from the class) enact various roles (e.g., current alcoholic/drug addict, alcoholic/drug addict’s girlfriend/boyfriend, parent of teenager who was a victim of a drunk driving accident, recovering drug addict/alcoholic, DUI jail inmate, and best friend of someone who died from an accidental overdose). This session also permits active review of prior information (e.g., applies the TRAP sequence to marijuana use specifically) and teaches perspective taking (how to experience empathy) regarding drug abuse effects (motivation and decision-making material). Session 6 (Stress, Health, & Goals) emphasizes the importance of health as a long-term value for a happy life and ties youths’ ability to attain near-future life goals to health. Youth are taught that living a healthy life in pursuit of personal goals requires balance, and to also recognize that drug abuse can injure their current health. The decisions they must make about healthy living pivot around the need to temper drug use or give up their near-future goals. In addition, program content provides coping alternatives to drug abuse to help people proactively or reactively deal with stress, using a mnemonic: Consider Lifestyle alternative, Other's support, Problem solving, and Esteem building, or COPE (motivation and skills material). Helpful resource information is provided, as well (e.g., websites for general drug information, drug abuse recovery groups, emotional support).
Session 7 (Tobacco Basketball and Use Cessation) provides information on the consequences of cigarette smoking using the framework of a "tobacco basketball" question game. Two teams play competitive basketball with questions worth 1 to 3 points, and the team scoring the most points wins. Afterward, youth read a brief quit manual (e.g., how to withdraw from nicotine, motivation and skills material). Project TND also references other quit material from the National Cancer Institute. Session 8 (Self Control) has the goal of teaching youth to be aware of different social contexts and match the social behavior to the context. This session also teaches youth to not act in ways that alienate others (e.g., social self-control, prosocial assertiveness) and improve their chances of creating durable social bonds and achieve personal goals (skills material).

Session 9 (Marijuana Panel) teaches students about the consequences of marijuana use through a group panel activity involving a talk show format with students playing different roles, such as an ex-user, a boy/girlfriend of a marijuana user, a parent of a marijuana user, and a scientist (motivation material). Session 10 (Positive & Negative Thought & Behavior Loops) shows how positive thinking, making choices, and resulting behavior—or negative thinking—choices, and behavior are tied together as process "loops" (motivation and decision-making material). In addition, reasons why people get exposed to violent situations and methods for avoiding violence (e.g., make use of trusted adult mediators, learn to keep calm, practice assertiveness) are presented (skills and decision making material).

Session 11 (Perspectives) considers that most people generally portray themselves as "moderates" (in between, less extreme, balanced; as opposed to "radicals," who want major changes, or "conservatives," who desire limited change). Accordingly, most people also use appropriate self-statements to reflect this position. When students examine their specific attitudes and behaviors toward drug use in the context of their general self-statements, they can form a more conservative, anti-drug-abuse perspective (motivation and decision-making material). Session 12 (Decision Making and Commitment) involves motivating youth to think through the pros and cons of drug use and to make a healthy commitment to their own lives. This commitment is regarding whether or not they desire to avoid drug abuse or engage in other anti-drug-use behaviors (e.g., think about the dangers or consequences of drug use, discuss dangers of drug use with others). Since students may choose any number of commitments, it is likely that they can select one antidrug commitment they feel comfortable endorsing (decision-making material).

EFFICACY EVALUATIONS OF PROJECT TND

To date, seven independent research trials have evaluated the efficacy of Project TND. Each of these trials examined an experimental manipulation in a C-RCT design. Together, these trials suggest a mixture of favorable and less-than-optimal findings supporting the efficacy of Project TND. Certainly, there are many confounders that can limit interpretability or comparison across trials (e.g., time, regional location, type of school, number of sessions increased from nine to 12 beginning with the third trial). However, all of the trials compared programmatic variations to a standard care control condition, and a general pattern of effects does emerge. This section of the chapter briefly describes each of the seven trials, presented in chronological order. Underlying reasons why programming is working emerge across trials, as is discussed.

Trial 1: Efficacy of School-as-Community Component in CHSSs

The first trial evaluating Project TND involved a nine-session program and was conducted from 1992 to 1997. In this trial, a three-group C-RCT design was used, with a total of 21 CHSs, comparing TND with or without use of a limited outreach to the community component ("school-as-community"), against a standard care control condition (Sussman et al., 1998, 2002; N = 1,074 students). The school-as-community component was derived from notions that suggest that preventive effects can be obtained through encouraging participants to engage in more healthful interconnections with others throughout a school and beyond its borders (Sussman et al., 1998).

The standard care condition involved whatever program the school usually provided as drug abuse prevention material (i.e., primarily health class
textbook material, Red Ribbon Week). The school-as-community component involved weekly Associated Student Body (ASB) meetings (for 4 to 8 months; an average of 10 student ASB members per school), six school-wide drug-free events (e.g., field trips to nearby community worksites, fundraisers, drug-free sporting events, drug-free dances, environmental events worksite, recreational activities), a newsletter that was provided to the seven schools assigned to that condition, and school-wide assemblies (Sussman et al., 1997).

The program evaluation failed to find a significant incremental effect for the school-as-community condition. In addition, there was also no main intervention effect for cigarette, alcohol, and marijuana use when comparing the program conditions (combined) with the standard care control condition. However, there was a significant and favorable program effect for hard drug use (a composite of stimulant and depressant pill use, cocaine, psychedelics, and club drugs). Indeed, students exposed to the intervention reported nearly half the monthly hard drug use frequency at follow-up compared with those in the control group. Furthermore, the same evaluation indicated a significant interaction between pretest alcohol use level and condition. No favorable program effect was obtained among pretest nonusers of alcohol and at the lower levels of consumption, with the regression intercept values all roughly equal (average value = 11.64, standard error of the alcohol intercepts = 2.33). These findings notwithstanding, at higher pretest levels of alcohol use, intervention students exhibited significantly lower alcohol use at 1-year follow-up compared with the control condition students at comparable pretest drinking levels (Sussman et al., 1998). Results generalized to victimization and weapons-carrying among males at the 1-year follow-up (Simon et al., 2002). In addition, there was a durable program effect on hard drug use maintained at the 5-year follow-up (Sun et al., 2006).

In summary, the initial program evaluation of Project TND offered several important pieces of evidence suggesting that conducting drug abuse prevention with continuation students was feasible and efficacious. For one thing, prior to engaging in this project, it was not at all clear that at-risk youth could be engaged in a drug-abuse-related study, or for that matter any research due to either lack of cooperat

tion or high truancy. Contrary to our initial concern, these at-risk youth were willing to complete questionnaires and also were motivated to participate in a structured prevention study. In addition, the evaluation showed that it was possible to elicit changes in drug use behavior (at least for hard drug use and alcohol use among baseline drinkers) via exposure to a theory-based drug prevention program.

We also learned that attempts to elicit incremental effects via changes in the school environment outside of the classroom were not successful even though manipulation checks indicated the school-as-community component successfully expanded drug prevention efforts outside the classroom (Sussman et al., 1997). Findings such as these led to speculation that something favorable happens in the classroom that potentially elicits behavior change. However, it was unknown what specific behavior change processes mediated classroom program effects. Tentatively, it was assumed that the MSD model guided the effects obtained, as it served as the theoretical template for program development and curriculum construction (Sussman, Rohrbach, & Mihalic, 2004).

**Trial 2: Generalization Trial of Classroom Program to RHSs**

Having achieved a favorable 1-year program effect in the CHS context, we inquired whether the program would be able to achieve program effects among regular (comprehensive) high school youth who were older but not at particular risk for drug misuse (other than their age). Thus, the next step in program development involved a second validity trial conducted at three RHSs (1995–1997). The RHS delivery involved a two-condition experimental design: TND-curriculum and standard care conditions, with a pre- and posttest, and 1-year follow-up evaluation (Dent et al., 2001; Sussman et al., 2002). The experimental design involved assigning students to experimental conditions at the classroom level (i.e., 13 classrooms were assigned to each of the two experimental conditions; \( N = 679 \)). Mixed-model analysis of variance was used to control for clustering effects and control the Type I error rate. The results of this trial matched those obtained for the CHS study just reviewed. Favorable program effects were found on higher levels of alcohol use (up to a 60%
relative reduction at the highest levels of baseline use and at all levels of hard drug use (a 60%-75% relative reduction). In summary, for a 1-year follow-up period, the effects in RSHs replicated the findings found at CHSSs (Dent et al., 2001; Sussman et al., 2002). Possibly, whatever was working in Project TND was applicable to older teens in general.

**Trial 3: Efficacy of a Self-Instruction Component in CHSSs**

Project TND-2 represented a third group-randomized trial (1997-2001). Based on pilot testing work, three new sessions were added (a 25% increase in curriculum length) to try to elicit effects on cigarette smoking and marijuana use. One and one-half sessions focused on preventing marijuana use. A second new session focused on cigarette smoking cessation, with provision of key concepts from the Project Towards No Tobacco Use (TNT) cessation trial component (Sussman, Dent, Stacy, Burton, & Flay, 1995), and also included use of a self-help booklet. Additional new material expanded on self-control and decision-making material (to emphasize violence prevention). In addition to lengthening the program, two modes of delivery were contrasted in the study: an efficacy condition (health educator-led classroom program) and a treatment effectiveness condition (i.e., health educator-assisted self-instruction program, the program modality generally used at CHSSs at that time). These two experimental conditions were compared with a standard care (control) condition, in a three-condition randomized design (N = 18 schools; N = 715 subjects), with a 2-year follow-up. This project was able to assess the importance of classroom interaction in eliciting effects on self-reported drug use behavior.

We were surprised to find that, while similar session knowledge increases were obtained as the health educator-led condition, the self-instruction condition fared no better than the control condition (Sussman et al., 2002; Sussman, Sun, et al., 2003) at 1-year follow-up. However, the health educator-led condition showed favorable program effects, compared to the other two conditions, for cigarette, alcohol (among baseline drinkers), marijuana, and the hard drug use composite (Sussman et al., 2002). Program effects were maintained at 2-year follow-up (27 months) on hard drug use and cigarette smoking, and for marijuana use among baseline male nonusers (Sussman, Sun, et al., 2003).

To summarize, the first three drug abuse prevention trials showed that efforts outside of the classroom within the school environment and outside to the local community failed to elicit changes in behavior and, at the other extreme, material delivered in the classroom within a self-instruction package also failed to elicit behavior changes. Material delivered in the classroom that involved interaction between teenagers and also between youth and health educators showed favorable program effects. Features of interactional programming that may have produced favorable effects include the material being relatively fun and involving, with students generating their own answers and therefore more likely to "own" their behavior, the material becoming more "real and lifelike" as conversation permits adjustments to specific features of youth populations, and such interactive programming permitting practice and emulation of prosocial behavior (Sussman, Rohrbach, Patel, & Holiday, 2003).

Sussman, Rohrbach, et al. (2003) then examined the curriculum-based, teacher-student interactional process to address what factors might be successfully mediating program effects. These authors suggested that explicit, structured action on the part of the teacher that directs students to make statements and ask questions of one another may be a driving force in effective drug education program delivery. The statements or questions that may have been producing interactions resulting in program effects included curriculum instructions that requested the teacher to (a) ask partially open-ended questions (which require one-sentence responses from students; e.g., questions related to providing definitions of terms), (b) ask open-ended questions (which require more than one-sentence responses from students; e.g., "What would you do about the drug problem in this country?"); (c) make use of "other-question messages" (direct student to ask questions of other students; e.g., "Do you have any questions for him/her?"); and (d) make use of "other-statement messages" (direct students to make statements to other students; e.g., "Please tell him/her what your experiences were like").

There were also student-to-student or student-to-teacher interactions that were not explicitly written.
into the program that might have benefited program success. For example, students might (a) disclose remedial personal experiences to the class, (b) check with other students to provide the right answers to questions posed by the teacher on a class game, and (c) express cohesion with each other supporting their moderate antidrug stances. These types of statements may elicit rational normative stances toward drug use (Sussman, Rohrbach et al., 2003).

**Trial 4: Program Material Mediation and Efficacy of Classroom Teachers in CHSs and RHSs**

In all of the trials thus far, health educators delivered the program materials. This left unresolved whether program materials could be effectively delivered by classroom teachers. In addition, only one of the three trials was delivered in a regular classroom context. We desired to see whether program effects might be replicated in CHS and RHS classrooms in the same trial and with the 12-session program. Finally, of even greater importance, we were not sure what facets of the program content actually produced drug use effects. For example, it was not clear whether or not correction of cognitive misperception-type material and decision making was the main reason for change or whether youth also needed to learn behavioral skills. To address this point, we conducted a fourth trial that examined variation in program outcomes by teacher type (trained health educators vs. school teachers), school type (RHS vs. CHS), and program content type (cognitive misperception only vs. combined Project TND curriculum).

This project involved a three-condition design \((N = 18\) schools; \(N = 2,064\) students), which manipulated program content type (standard care control, TND combined [i.e., cognitive misperception and behavioral skills material], and TND cognitive misperception-only) with 1-year follow-up (Sun et al., 2008). Teacher type and school type (there were three CHS and three RHS per condition) were crossed and nested within each of the program conditions. One goal of this trial involved determining whether school teachers could deliver the TND curriculum with as much fidelity as health educators. Multiple trained observers’ coding of at least two sessions, student process ratings of teaching effectiveness, and knowledge change scores were used to compare program delivery. With 10 hours of training, we found that classroom teachers delivered TND as well as trained health educators (Rohrbach et al., 2007).

Second, we wanted to know whether the 12-session program effects generalized to the RHS context (thus far, we had only demonstrated such effects with the nine-session program). This was the case, as effects failed to interact with school type. Also, using componential analysis techniques, we tested whether the complete program (cognitive misperception and behavioral skill instruction) provides a greater effect compared with the provision of cognitive misperception information only. Across all program schools, the two different curricula failed to significantly reduce dichotomous (yes/no) measures of cigarette, alcohol, marijuana, and hard drug use at 1-year follow-up. Both curricula exerted an effect only on the continuous measure of hard drug use, indicating a 42% \((p = .02)\) reduction in the number of times hard drugs were used in the last 30 days in the program groups relative to the control, but the two program groups failed to differ from each other (Sun et al., 2008).

These findings suggest that explicit behavioral skills instruction was not a key ingredient involved in the efficacy of TND. Rather, experimental manipulation of drug use misperceptions (see Sussman, 2010) in the classroom that take place in a highly interactive but structured context may be responsible for eliciting behavior change. In other words, activities that attempted to alter youths’ thinking about drug use and their motivations not to misuse drugs (e.g., countering stereotyping, correcting drug use myths, creating discrepancy regarding placing an importance on health as a value vs. using drugs regularly, and providing attitudinal perspectives material (“moderate” people don’t misuse drugs)) elicited an impact on behavior regardless of whether youth received modules to improve behavior skills (e.g., effective communication, stress coping, social self-control). We speculated that teacher-facilitated structured interactions in the classroom (e.g., prompting youth to answer open-ended questions about drug use, and to speak with each other about drug use during the stereotyping,
drug use myths, health as a value, and talk show sessions) may catalyze deeper social interactions that are supporting conventional behaviors and responsible for the effects obtained.

**Trial 5: Efficacy of Peer Leader and Enhanced Interaction Components in CHSs**
Valente et al. (2007) tested whether the addition of social network peer leader selection and increased classroom group interaction (termed TND Network) provided an incremental effect compared with the use of standard TND or a standard care control condition at a 1-year follow-up. Indeed, use of peer-nominated peer leaders to lead peer-group interactions within the class facilitated greater processing and influence of TND program material. The 1-year follow-up data were collected at 14 CHSs (classroom level of assignment; N = 75 classrooms, N = 541 students) in a three-condition experimental design. Exposure to the standard TND program was not associated with changes in any substance use or the composite score relative to control students. Receiving TND Network, in the context of a peer environment that supports nonuse, was associated with decreased marijuana (β = -0.64, 95% CI [-1.09, -0.19]; p < .05) and cocaine use (β = -0.37, 95% CI [-0.63, -0.10]; p < .05) relative to the control condition. TND Network was also associated with decreased composite drug use (considering all drug categories) relative to the control condition (β = -0.37, 95% CI [-0.54, -0.20]; p < .01). The findings of this trial were relatively difficult to interpret because it appeared that the standard TND program failed to elicit significant intervention effects. However, the TND networked condition suggested that maximizing the classroom interaction among peers was vital to obtaining behavioral effects a year or more later. This result was supportive of our speculations regarding the social interactional nature of Project TND’s active ingredients, evident in the first four trials.

**Trial 6: National Dissemination Trial in Primarily RHSs With Classroom Teachers**
While all of the previous trials obtained favorable program effects on hard drug use, and several obtained effects on other drugs, all of the previous trials were conducted in California. In a sixth, dissemination trial, we used a three-condition experimental design. We recruited a total of 65 high schools from 14 school districts in the United States were recruited as a convenience sample (58 were RHSs, seven were AHSs). We recruited schools from four regions of the country (Northeast, South, Central, and West) in equal proportions to those represented in our database of organizations that had adopted Project TND since we made the program commercially available.

This sixth trial assessed the amount of training needed to best implement the program with fidelity and achieve target behavioral effects. The experimental conditions contrasted the efficacy of a multicomponent, comprehensive training package with a standard training package that involved a 1-day in-person workshop and general teaching tips. A third experimental condition provided a means to determine whether the standard training package might be superior to a 1-year wait-list control condition (Rohrbach, Sun, & Sussman, 2010). The multicomponent condition involved (a) telephone and in-person coaching, (b) provision of an Internet page (which provided answers to specific questions on implementation), (c) in-person training, (d) monitoring and coaching, and (e) general teaching tips. Physical education and health teachers from these schools delivered the program to students (N = 2,538). Program effectiveness was assessed using dichotomous measures of 30-day substance use at both baseline and 1-year follow-up.

Comparing the comprehensive, multicomponent intervention against the control condition, the program showed a marginally significant effect in lowering marijuana use from baseline to 1-year follow-up. Significant program effects on hard drug use were observed for baseline nonusers only. There were no differences in the effects of the two intervention conditions (i.e., comprehensive or standard training). Analyses of the differential program effects by baseline substance use status indicated that program effects on marijuana and hard drug use were achieved for baseline nonusers (p < .10 and p < .05, respectively), but not for baseline users. Post hoc comparisons of the effects of the two intervention conditions indicated a stronger effect on alcohol use among baseline nonusers for comprehensive
program implementation training relative to the standard training condition, but a relatively weaker effect of the comprehensive training condition on hard drug use among baseline users. Overall, this trial indicated that TND could elicit favorable program effects when delivered by regular classroom teachers at primarily RHSs across the United States, although effects were somewhat weaker than in research trials with highly structured program delivery. Also, basic training without ongoing coaching, a key feature that differentiated the comprehensive, multicomponent training from the standard training, appeared sufficient (Rohrbach et al., 2010).

**Trial 7: Efficacy of a Motivational Interviewing Booster Component in CHSs**

Previous research has suggested that school-based drug abuse prevention programs have a greater chance of long-term success if youth are exposed to additional contacts with program providers of some type after delivery of the core program (Sussman et al., 2012). MI is a reasonable choice as the booster component approach for Project TND because the development of motivation to change is the core objective of MI (Miller & Rollnick, 2002). Motivation to change is created by developing discrepancy between current behavior and future goals, similar to goals of Project TND. In the seventh trial, a total of 24 schools were randomized to one of three conditions: Standard Care Control (SCC), TND classroom program only (TND only), and TND plus MI booster (TND+MI). A total of 1,186 participants completed baseline and 1-year follow-up surveys. Following the classroom program, youth in the TND+MI condition received up to three sessions of one-on-one MI in person and by telephone. Effects were examined for 30-day prevalence rates for cigarette, alcohol, marijuana, and hard drug use, as well as measures of risky sexual behavior (number of sex partners, condom use, having sex while using drugs or alcohol). Collapsed across the two program conditions, results showed significant reductions in prevalence of alcohol, hard drug use, and cigarette smoking relative to controls. These effects were also observed for a composite substance use index.

Although the TND+MI booster condition was implemented with high fidelity (Barnett, Spruitt-Metz, Unger, Sun, Rohrbach, & Sussman, 2012) the program did not provide significant incremental effects on drug use at 1-year follow-up. The failure to find a significant difference between the two program conditions was not due to a difference in perceived quality of the classroom program, which was controlled in the analysis. However, booster programming with MI following a classroom-based drug prevention program for youth had not been tested to date. Given the results of this trial, it is possible that booster programming is not an essential feature of drug use prevention interventions with older at-risk teens. These teens simply may not have the time or the inclination to participate extensively in such programming. Alternatively, perhaps the use of MI as an effective booster would have been more relevant if youth voluntarily approached a treatment agent to address their drug use.

**Summary**

The findings of these seven trials suggest that the active ingredients that make Project TND effective in reducing drug use occur in the classroom context involving interactions between the facilitator and youth, and also involving youth-to-youth as they engage in program activities. These engaging social interactions provide impetus for youth to envision changes in lifestyle. As a prominent example, across all trials, the favorite program session was the talk show. Scripted and nonscripted interaction as depicted in the talk show session provides students with an empathetic understanding of the negative consequences of drug abuse. After one talk show session some years ago, a youth commented, “Both of my parents are alcoholics; maybe I shouldn’t drink.” During another talk show session, one youth commented that they only used “meth” on weekends, so that wasn’t drug misuse. Another youth said to that same student, “No, that is drug abuse.” In other words, it is likely that spontaneous and heartfelt corrective statements made by youth about their own behavior, or a classmate’s behavior, elicited by the classroom process demands, leads to favorable program effects. Self-report questionnaires administered at pre- and posttests would not likely tap such changes in classroom process, reinforcing the need for more qualitative work to discern these program
features. Unfortunately, direct observation, recording, and analysis of this process had not yet been completed in Project TND.

Similar types of spontaneous corrective processes like the talk show example appear to be operative in other sessions, as observed anecdotally by staff. In Session 2, youth have stated their desire to act against a self-fulfilling prophesy and their resistance to being stereotyped. In Session 3, youth have noted in discussion that temporary happiness and emotional protection from drug use was a myth. Also in Session 3, youth stated agreement with the existence of the concept of reinterpretation. For example, they mentioned that some youth would attempt to reinterpret getting sick in a car as not being sad, but being funny. In Session 4, some youth became emotional when participating in the discussion of family roles. For example, someone spontaneously reported, “I don’t want to end up like him.” In Session 5, some youth discussed knowing someone who is chemically dependent and recalled the personal stress caused by that person’s drug use. In Session 11, some youth reported not wanting to appear as a radical by using drugs regularly. Also, in Session 12, several youth made various statements showing their willingness to avoid drug misuse. A few youth spontaneously mentioned their need to change their drug use behavior.

**MOTIVATIONAL INTERVIEWING AND THE MECHANISM OF TND EFFECTS**

At this point, it is worth speculating how Project TND might really be working and to deliberate these mechanisms in the context of the original MSD model. I suggest that Project TND activities rely on the social-interactional context and stimulate motivation enhancement and decisions to avoid drug misuse. It is also worth noting that the active ingredients of Project TND comport with the goals of MI, which blends principles of cognitive therapy with Carl Rogers’s client-centered approach (Miller & Rollnick, 2002). Accordingly, MI facilitates collaboration between the counselor (facilitator) and the client (participant) based on respect for the client’s perspective. One major assumption of this approach is that the resources and motivation for behavior change reside within the client. The major tasks of the counselor are to (a) express empathy, (b) help the client to verbalize discrepancy between his or her current undesirable behavior and their stated personal goals, (c) “roll with resistance” (i.e., avoid arguing or case-building, inviting the client to explore their own perspectives and develop their own answers and solutions), and (d) support client self-efficacy to change behavior (Miller & Rollnick, 2002; Moyers et al., 2007). In MI, desire (e.g., “I want to quit doing drugs”), efficacy (e.g., “I can do it”), and reasons (e.g., “I’m killing myself”) for change language predict commitment strength language (e.g., “I won’t be using”), which appears to be the strongest predictor of behavior change (Amrhein et al., 2003).

Often, MI has been used at critical and/or teachable moments (e.g., when individuals are mandated to treatment) and when treatment occurs within very short time spans. Brief motivational intervention models are developmentally appropriate for youth and emerging adults because MI can provide opportunities to increase youths’ sense of control over their lives, is particularly effective for younger populations that are typically at a low level of readiness to change their behavior, and can be tailored to individual needs and circumstances (Baer & Peterson, 2002). One report aggregating several studies of young people suggested limited advantage to MI over receiving no treatment or other program modalities (in 30% of 17 trials reviewed by Grenard et al., 2006). However, a more recent review by Barnett, Sussman, et al. (2012) indicated higher success among young people (MI was effective in 66% of 39 trials examined using drug abuse prevention and treatment).

**Similarities and Differences Between Project TND and Group MI**

Project TND involves a group classroom situation, whereas most MI research and practice have involved one-on-one treatment contexts (Hettema, Steele, & Miller, 2005). Recently, some work has examined situations where MI is offered in a group setting. Group MI is conducted rather similarly to individual-based MI, although there are several notable differences. In particular, in group MI the
interpersonal dynamics of a group are critical concerns including consideration of group structure (size, formalized leadership), roles (expressive and instrumental leaders), and individual experiences that filter into the group process. Group MI requires resolution of equivocation and production of commitment language among group members, at a group as well as an individual level (Cimini et al., 2009; D’Amico, Osilla, & Hunter, 2010; Engle, Macgowan, Wagner, & Amrhein, 2010; Pensuksan, Taneenichskul, & Williams, 2010).

There have only been a few group MI studies with adolescents (most have been with college-age youth). Engle and colleagues (2010) collected audio recordings and transcripts from 19 eight- to 10-session school-based treatment groups composed of 108 substance-abusing youth aged 10 to 19 years. Group commitment language (e.g., “I’m going to cut way down now”) and positive peer response (e.g., “That’s cool”) predicted marijuana use outcomes and mediated facilitator empathy. Other research has found that more positive and less negative peer responses, and group leader empathy, are associated with reduced marijuana use or more positive commitment language. D’Amico, Osilla, and Hunter (2010) reported that first-time adolescent offenders were highly receptive to a six-session group MI intervention. This “free talk” intervention involves providing personalized feedback about teens’ alcohol and other drug use and various skills-training activities, goal planning, and role-play making healthy choices—all conducted within a group MI structure.

Conceivably, Project TND may work by eliciting similar drug-use-related “change talk” (i.e., statements revealing consideration of, motivation for, or commitment to change) effects in a group situation. Group MI involves a counseling structure, establishing trust in the group, providing individual and normative feedback within the group context, a discussion of reasons for using and not using alcohol or other drugs, a decisional-balance exercise, and the setting of personal goals that occur in one to six sessions (LaBrie, Cail, Pedersen, & Migliori, 2010; Santa Ana, Wulfert, & Nierert, 2007). Also, youth may identify discrepancies between their own personal goals and perceived consequences of alcohol or drug use (Cimini et al., 2009). Project TND also involves establishing trust in the group, provides individual and normative feedback regarding one’s tendency to self-stereotype, and teaches social self-control. Discrepancy confrontation is evident in several of the motivation enhancement activities in TND such as the sessions that examine stereotyping and perspectives. Discussion of reasons for avoiding drugs is interlaced throughout sessions and is vital to the talk show activity. Decision making and making a personal commitment is also a central component to Project TND.

However, Project TND is different in some important ways from group MI. In particular, Project TND involves 12 relatively structured sessions, provides more directed, structured instruction and more educational information (e.g., on coping strategies), and truly reflects a blend of health education with principles of counseling. There are also directed manipulations to enhance motivation of the group and elicit discussion. These features are different from the client-driven, relatively unstructured use of MI (see Barnett, Sussman et al., 2012). In addition, MI generally is used when subjects have suffered some type of negative consequence and are seeking assistance in a clinical context. TND is used solely for prevention purposes and is offered in educational contexts.

Still, the potential overlap between the underlying change mechanisms in MI, or group MI, and the group process in Project TND, is of interest, and could potentially be monitored in the classroom setting. There are at least five peripheral features of Project TND that might be central to inducing change. First, in the TND classroom, youth are encouraged to speak, and even vent their feelings, all in a trustful environment (e.g., Norcross, 2010; Santa Ana et al., 2007). Relevant to Rogers’s client-centered notions, feeling safe in an environment is one necessary condition for change (Miller & Rollnick, 2002). Second, health educators offering TND may guide youth and encourage them to receive understanding, social support, and empathy from other students. This gradual encouragement offered in a safe environment is, in client-centered therapy, essential to promote behavior change.
Third, some students may be doing relatively well in school and not misusing drugs. In the context of the curriculum material provided, these students provide effective role models for other students. In other words, non-drug using youth may serve as “pathfinders” and exert positive peer influence, helping to motivate or fuel self-efficacy enhancement for others to change (LaChance, Feldstein-Ewing, Bryan, & Hutchison, 2009). Fourth, youth may provide corrective feedback to each other within the context of the program (change talk/healing talk/corrective feedback). In this respect, youth are receiving what MI researchers have referred to as a type of normative feedback to counteract misperceptions about drug use. Finally, the emotional input of the material, which is incredibly poignant to many youth, can encourage change (e.g., family roles identification, identification with characters in the talk show session). Also, it is possible that the teacher is able to help participants link their comments (about which they personally identify) to the program material (e.g., see Giles et al., 2008; Sassman, Rohrbach et al., 2003).

CONCLUSION: FUTURE RESEARCH IN PROJECT TND—EXAMINING GROUP PROCESS LANGUAGE

It is possible that Project TND material and guided interaction in the project (e.g., through the use of partially open-ended questions, open-ended questions, other-directed questions, and other-directed statements) stimulate verbal behavior that precedes behavior change in drug misuse. As Amrhein and colleagues (2003) described, such behavior signaling impending change may include (a) reasons to change; (b) readiness; (c) need; and (d) ability, desire, and commitment. Each or some of the sessions might contain material that elicits these types of change talk. The change talk might refer directly to drug use, or it might refer to a behavior that is associated with drug use (e.g., regarding social self-control self-ratings, a student may say, “I guess I am provocative and maybe I should try to be less so”). It is possible that specific material, such as engaging in a self-rating of social self-control, may elicit such change-related talk, effecting positive change.

A vicarious domino effect may also occur when change talk elicited by one participant in a classroom situation may be heard by other participants, who adopt these strategies as part of their own behavioral repertoire.

A process analysis of Project TND may be very useful and involve several developmental steps. First, audiotaped recordings or direct observation and coding of a naturally occurring classroom process may assist in ascertaining critical moments in TND material that elicits change. In addition, aspects of teacher—participant interaction, which may show examples of empathy (the teacher making an effort to understand the students’ perspectives), spirit (support of youths’ autonomy in decision making), or which facilitates change talk (elicited by the teacher or other youth), may be noted across points in the material. Second, if such critical moments occur more than once, they may be explored through focus group discussions on why certain material elicits certain interactions of change talk-related responses. Such work may be accomplished within the context of a two-group experimental design with a 1-year follow-up (TND vs. SSC) to provide a replication of program effects and identify change talk in the classroom that is associated with behavior change. Eventually, there may be an attempt to eliminate some material, removing pieces that do not appear to elicit change talk, and to determine whether program efficacy is compromised. If not, this would suggest that active ingredients of Project TND can be distilled and included in a briefer program format. There is still much to learn in future TND research.

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