

Conceptions of Risk in the Lives of Club Drug-Using Youth

BRIAN C. KELLY

Department of Sociomedical Sciences, Columbia University, New York,
New York, USA

This paper describes current patterns of club drug use and local conceptions of risk among New York City area youth. The data is drawn from a NIDA-funded ethnographic study of club drug initiation among “Bridge and Tunnel” youth. The paper entails an examination of the harmony and discontinuity between folk models of risk within this population and professional models of risk. The author explores how club drug-using youth conceive of risks related to club drug use, specifically ecstasy, and how such conceptions compare and contrast with current professional models of risk. These conceptions of risk are crucial to understand, as they form an informal logic by which club drug practices are guided. Ultimately, the author examines how the relationship between folk models and professional models might inform health promotion efforts targeting youth.

Keywords club drugs; ecstasy; ethnography; folk models; risk; risk assessment; risk management; youth

Conceptions of Risk in the Lives of Club Drug-Using Youth

As the lighting scheme shifted from staccato bursts of colors to the steady glow of blacklight, I spied Tony dancing rhythmically in the middle of the floor to the pulsing sound of house beats. I waded through the crowd of gesticulating bodies to catch up with him and see how the night had treated him to this point. Having noticed me snaking through the crowd, Tony grinned and pointed at me as I made my way over while he continued to dance. After greeting each other and exchanging the normal pleasantries, I asked him how the night was going for him. He told me that his “roll” was wearing off and he needed to take another half pill of ecstasy. “Why a half pill?” I asked, somewhat confused. He replied, “*Moderation brother, moderation. I got to take care of my brain.*” I asked him what he meant, still somewhat confused since generally my own idea of taking care of my brain would preclude ecstasy consumption. After he paused with a stylish dance move, he explained that he wanted to achieve his “roll”—the high derived from ecstasy use—with as little ecstasy as possible because he asserted that the degree of brain damage is dependent upon quantity consumed.

Club drugs consist of a wide range of substances, from stimulants to depressants to hallucinogens. The unifying classificatory principle is that these substances proliferated with a perceived association with club subcultures. Most notably subsumed under this classification

Address correspondence to Dr. Brian C. Kelly, Columbia University, Dept. of Sociomedical Sciences, 722 W 168th St., #910, New York, NY 10032, USA. E-mail: bck12@columbia.edu

are MDMA (ecstasy), ketamine, methamphetamine, and gamma-hydroxybutyrate (GHB). These drugs produce a wide range of effects and experiences for users. For example, MDMA produces a euphoric, emotional high said to enhance one's feelings of connectivity with those around the user, whereas in contrast, ketamine can produce dissociative effects resulting in a "k-hole," in which the user is withdrawn from others into a state centered upon the self.

The meanings associated with these drugs vary as much as their effects. As noted by Agar, "*a variety of interpretations of the same object are possible, depending on the actors who encounter it and the traditions in which they participate*" (Agar, 1985). People impart different meanings upon club drugs, depending upon how they understand and make sense of the drugs in their lives. For instance, ecstasy has been labeled as both a "*hug drug*" and a dangerous poison. The way in which youth impart meaning on these drugs shapes their understandings of risk. Thus, to better understand the role of these drugs in the lives of youth, we need to ascertain how they understand club drugs and risk in the context of their own lives.

Much of the literature on youth, drug use, and conceptions of risk revolve around HIV risk rather than general conceptions of risk. General risk data suggest that risk perception can significantly influence youth to use or not use drugs (Derzon and Lipsey, 1999). However, it is also important to explore how youth who do use drugs conceive of the risks. The narrative above provides a brief illustration of how conceptions of risk shape the patterns and practices of club drug use among youth. This paper describes local conceptions of risk that inform current patterns and practices of club drug use among youth. Here, I review the professional literature on club drug risks, then provide a descriptive profile of how club drug-using youth themselves conceive of risk. I examine how these folk models of risk compare with professional models and finally explore how the recognition of the relationship between folk models and professional models might enable health promotion efforts targeting youth.

The Social Nature of Risk

Risk is comprised of two key elements: objective determinants, the probability of a negative outcome given a certain action within a given context, and subjective determinants, the perceived or felt threat of danger given a certain action (Luhmann, 1993). Both are dependent upon the confluence of certain social processes and dialectically influence one another. Objective determinants of risk vary across individuals depending upon biological factors, such as metabolic rate, as well as social factors such as one's position in the class structure or the historical vagaries of one's cultural framework. Subjective determinants of risk pertain more specifically to the ways in which human beings experience risk. Individuals ground subjective assessments of risk within a cultural framework accrued as a byproduct of experience within a given social milieu (Douglas, 1992). Thus, risk assessment is not simply a rational calculus of danger occurring in a psychological vacuum, but is dependent upon systems of belief and systems of value that shape how dangers are perceived. Thus, the perception of risk is always generated through social processes influenced by cultural frameworks. Broader social, political, economic, and cultural forces play themselves out at the local level, thus forming a context that shapes not only which objective dangers are faced, but subjective conceptions of danger as well.

Within a given society, different sectors of the population have different models of understanding the same phenomena. Even subtle differences may profoundly shape the way in which the world is experienced. Such differences stem not only from the local inflections of culture, but from the different perspectives individuals cultivate through experiencing society from specific positions. These models can be loosely divided into two types, professional

and folk models. "Professional models" are those that enjoy privileged status in a society; they are endowed with authority and offer official interpretations of a given practice (Agar, 1985). In this instance, professionals are scientists, public health experts, and politicians. Alternatively, "folk models" arise popularly through the everyday practices of people in society. Public health professional models of risk often differ from those engaging in them.

Professional Models of Club Drugs and Risk

The following review is a synopsis of a series of dangers that concern scientists and public health experts with regards to ecstasy use.

Neurotoxicity

Neurotoxicity, both acute and long-term, remains a primary concern of scientists and public health experts. There is no universal definition of what comprises neurotoxicity; it may comprise anything related to toxic effects on the brain from serotonin depletion briefly following ecstasy consumption to long-term cognitive impairment (Baggott and Mendelson, 2001). Neurotoxicity could arise in several ways from reductions in cerebral blood flow (Chang et al., 2000), the alteration of axons in the brain due to oxidative stress (Jayanthi et al., 1999; Shankaran, Yamamoto, and Gudelsky, 1999) or other serotonergic changes in the brain. Acute neurotoxic effects include acute memory loss and short-term cognitive impairment in the days following the use of MDMA (Parrott and Lasky, 1998). Long-term neurotoxic effects of MDMA potentially include impaired memory, impulsivity, alteration of mood, and other cognitive impairments (Morgan, 1998). Some animal studies suggest that neurotoxicity is dose-related, with neurotoxic effects correlating with consumption, thus suggesting that binges of ecstasy use pose greater risk of neurotoxicity (O'Shea et al, 1998). Carlson et al. reported that consumption level appears to have an effect on the report of adverse consequences; those who consumed greater amounts of ecstasy reported long-term adverse consequences higher rates (2004). It is unclear whether some long-term effects of MDMA use surface only with aging. Given that for ethical reasons prospective clinical studies on MDMA-naïve humans have not been conducted, much remains unclear about the neurotoxicity of MDMA. Thus, the neurotoxicity ramifications are not yet fully understood.

Depressive Disorders

The potential for depressive disorders is related to neurotoxicity via the possibility of permanent alteration of the serotonin system, located in the brain and associated with the regulation of mood and psychological well-being. An acute period of depression in the days following ecstasy consumption has been well documented and is thought to relate to the process of restoration of the serotonin system after its disruption by the induced flooding of serotonin during the ecstasy experience (Curran and Travill, 1997). However, we cannot yet determine the potential inducement of long-term depression, given our inability to distinguish between premorbid or latent depression and ecstasy-induced depression through retrospective assessments. Further research on links between ecstasy use and depressive disorders is necessary.

Hyperthermia

MDMA may contribute to hyperthermia, when core body temperatures rise above the optimal temperature of 98.6°F, to anywhere from 102° to 109°F. The human body cannot

sustain metabolic and cardiovascular activity under hyperthermic conditions (Henry and Rella, 2001). At these high temperatures, a number of negative medical outcomes—muscle breakdown, kidney and liver failure, or cerebral edema—and even death may occur. Yet, much of the cause for concern stems from the use of ecstasy under specific conditions rather than simply use of the drug (Henry, 1992). The fear is that youth may use ecstasy and concurrently engage in extended periods of physical exertion through dancing in locations with high ambient temperatures.

Thoracic Organ Damage

Like other amphetamine-based substances, ecstasy use raises blood pressure and heart rate and may enable complications related to tachycardia, cardiac arrhythmias, and other heart-related problems (Mas et al., 1999). Though it remains unclear whether MDMA use can trigger adverse cardiac-related outcomes in otherwise healthy adults, the symptoms of high blood pressure and increased heart rate may enable negative health outcomes for those with preexisting cardiac conditions. The effects of ecstasy on hepatic functioning also warrant further investigation. Clinical cases of liver toxicity have been found (Henry, Jeffreys, and Dawling, 1992). Some doctors have expressed concern over the potential for ecstasy-induced hepatitis (Hwang, Daniels, and Holtzmuller, 2002).

Serotonin Syndrome

Serotonin Syndrome is a rare complication resulting from the use of a serotonergic agent such as ecstasy (Sternbach, 1991). The use of ecstasy with MAO inhibitors may contribute to this syndrome, manifesting in tremors, shivers, confusion, muscle spasms, and poorly regulated heart rate and blood pressure. These symptoms may lead to death (Mueller and Korey, 1998).

Dependence

A common concern with all drugs is the potential for dependence; MDMA could be no different. Though physiological dependence and physical withdrawal symptoms do not appear to occur with ecstasy use, the habitual daily use of ecstasy has been reported in some case studies of ecstasy dependence (Jansen, 1998). Thus, individuals may potentially develop psychological dependence upon ecstasy. Indeed, some ecstasy users have self-reported feelings of dependence on the drug, though the prevalence appears to be low (Solowij, Hall, and Lee, 1992).

Sexual Risk Taking

Youth may potentially engage in risky sexual behavior under the influence of club drugs. Studies have shown the effects of many intoxicating substances on sexual risk taking (Temple, Leigh, and Schafer, 1993; Frosch et al., 1996). MDMA has been reported as a sensual rather than a sexual drug (Buffum and Moser, 1986; Beck and Rosenbaum, 1994). The use of MDMA has been noted to increase empathy with others, contributing to a heightened sense of intimacy, as well as a reported reduction in ability to achieve orgasm. Yet, Topp et al. reported that although roughly half of their cohort of ecstasy-using youth claimed that the use of ecstasy inhibits orgasm, 70% claimed that it improved sex (1999). Among the same population, condom use with casual partners occurred less frequently while individuals were under the influence of ecstasy (Topp et al., 1999). Clinical evaluations of MDMA

use and its effect on sexuality also suggest that users report increases in sexual desire and increases with sexual satisfaction (Zemishlany, Aizenberg, and Weizman, 2001). Data also suggest increased impulsivity associated with the use of MDMA, which may enable riskier behaviors to occur "*in the heat of the moment*" (Morgan, 1998).

Public health professionals have little certainty about the dangers associated with ecstasy consumption. We have far more hypotheses than proof established through the scientific method. Adequate funding needs to be directed at researchers engaging in clinical studies that examine the outcomes of ecstasy use as well as social researchers who conduct grounded examinations of the patterns and practices of ecstasy use and its associated harms. The scientific foundations of our knowledge, no doubt, are crucial aspects of the manner in which we proceed in a variety of areas from prevention to intervention to public policy. However, also key to the appropriate development of interventions are the folk models of risk associated with club drugs. It is equally imperative to investigate the question "*How do club drug-using youth conceive of the risks and what do these risks mean to them?*"

Methods

This study is an ethnographic study of club drug use among "Bridge and Tunnel" youth in the New York City metropolitan area. Bridge and Tunnel is local vernacular for youth who hang out or "party" in Manhattan but who reside in suburban neighborhoods surrounding New York City. These youth are thus a population engaged in urban social scenes as well as their everyday suburban existences. Thus, involved in multiple social worlds, these youth provide a window from which to examine the patterns of club drug use in both urban and suburban locales.

The prospect of data collection from a population without roots in the region of study poses numerous challenges. Manhattan has an enormous club scene and a key challenge consisted of creating a social map to identify the key venues in which Bridge and Tunnel youth regularly "hang out." On various nights of the week over a 6-week period during I conducted exploratory fieldwork and "intercept" interviews with suburban youth at the major points of entry in Midtown Manhattan, such as Penn Station and Grand Central Station. I administered a brief, structured interview, which consisted of determining their county of residence, preferred music genre, and the locations in which they prefer to socialize in Manhattan. Based upon direction from this social mapping phase, I conducted informal interviews about the presence of club drugs through participant-observation in environments in which Bridge and Tunnel youth socialize. The first 2 months of participant-observation, which overlapped with the intercept interview period, focused upon defining five key venues for extended participant-observation research and recruitment for an in-depth interview cohort. The duration of the full 18-month fieldwork period extended from March of 2003 through the fall of 2004.

The key feature of the participant-observation method is that the researcher immerses oneself within the social milieus of local venues. During the cultivation of this extended presence, the fieldworker not only observes social behavior in a given locale, but participates in a variety of activities with the "natives." Such a presence not only subsequently enables the recruitment of interview participants through the development of rapport, but enables the ethnographer to thickly describe emerging trends in club drug use and facilitates the ethnographer's ability to assess patterns of observed behavior and link these observations to interview data to cultivate fuller interpretations of subcultural social norms. Furthermore, it eliminates a need to rely on the self-report of respondents, thus further increasing the validity

of the data. All fieldwork resulted in descriptive documentation in fieldnotes, which were written as soon as possible after the event.

Respondents were recruited from the five designated venues through a theoretical sampling scheme, constructed in a targeted fashion, for inclusion into an in-depth interview cohort (Bluthenthal and Watters, 1995; Strauss and Corbin, 1998). The in-depth interview cohort consisted of youth recruited at the designated venues and did not include youth from the social mapping sample. Inclusion criteria for men and women recruited for in-depth interviews was as follows: a) individuals between the ages of 18 and 25, b) who have reported the use of one of four club drugs—MDMA, ketamine, methamphetamine, or GHB—within the previous year, c) who reside in a suburban county outside New York accessible by public transport, and d) who are willing and able to consent to participation. Respondents participated in one to four anonymous audio-taped interviews, which lasted between 1 and 2.5 hours and were transcribed verbatim^a.

The interviews consisted of open-ended questions designed to gain an insider's perspective on a range of salient issues pertinent to club drug use (Geertz, 1983). Among others, a series of topical modules included a) initiation into club drug use, b) current practices and patterns of use, and c) conceptions of risk. Ethnographic interview techniques such as critical incident measures as well as analytic contrasts were employed in order to gather detail-rich data with reduced recall bias (Leonard and Ross, 1997). Initial interviews occurred after the occasion of recruitment at a time and location agreed upon with the respondent, often in the suburbs. Follow-up interviews occurred a minimum of 2 weeks from the previous interview so as to allow the respondent time to contemplate issues raised and to allow the investigator time to digest and initially interpret the data so as to more pointedly direct the follow-up interview. A thematic analysis of data was employed to ascertain the coinciding conceptions of risk among these youth. The quotations employed in the paper provide descriptive evidence of thematic patterns across the interviews. They represent general sentiments expressed by many youth, not simply unique perspectives. All quotations are derived from taped in-depth interviews, except where noted.

The data for this paper was drawn primarily from interviews with 25 Bridge and Tunnel youth hailing from New Jersey, Long Island, and the Mid-Hudson suburbs of New York City. They ranged in age from 18 to 25 with a mean age of 20.5 years. They had an average monthly income of \$1,700, with a range of \$600 to \$4,000 from a variety of jobs, such as part-time florist, selling drugs, and marketing analyst for a multinational corporation. They were well educated; most either currently enrolled in college or have completed college. The cohort consisted of 17 White youth, five Latino youth, two Asian youth, and one youth of "mixed" race.^b Ecstasy appears to be the primary club drug utilized by these youth, which supports existing prevalence data. These youth have all used ecstasy during the course of their lives. Thus, ecstasy resonates most in the lives of these Bridge and Tunnel youth, and for this reason, is the focus of the following examination of risk among club drug-using youth. The average number of ecstasy pills consumed within the last year is roughly 13, with a range of one to 60. In other words, these youth are not heavy consumers of ecstasy. Ketamine has been used to a lesser degree among this group, though it is still prevalent. Methamphetamine and GHB have been used by very few participants.

^aInformed consent was obtained from all respondents for the in-depth interviews as per the approved IRB protocol. The study operated under a Federal Certificate of Confidentiality to ensure protection of sensitive data elicited from respondents. All names within this paper are pseudonyms.

^bThese youth self-identified with a variety of racial and ethnic identifiers. For the sake of brevity, they have been subsumed under specific identifiers. For example, "Latino" included youth who identified as Latino, Hispanic, and Latin American. "White" includes youth who identified as European, white, and Caucasian.

Pleasure and Danger in the Lives of Club Drug-Using Youth

Youth Awareness of Danger

The risks of club drugs resonated with most youth in that they perceived they are doing something with potential harm. One key aspect about youth awareness of danger associated with the use of club drugs can be seen in the efforts made to cultivate knowledge about these drugs. Youth were often acutely aware of the dangers associated with ecstasy use because of their attempts to accumulate knowledge on the subject. When I asked Jane if there was anything bad about taking ecstasy, she belly laughed as if I had just posed an absurd question and said, "Uhhh, drugs are not good for you! It hurts you. It's terribly stupid . . . most drugs are not good for you." Aside from the knowledge accumulated from drug use prevention education sessions in high school and health classes in college, many youth engage in proactive efforts to cultivate knowledge about the drugs they are using. They turned to a variety of sources to locate such information, but particularly the Internet. They used websites from health education organizations, self-developed websites, and on-line public health journals. These youth also discussed the subject of club drug use and the associated dangers within their social networks. Message boards and chat rooms provide forums to extend social networks as well as arenas for discussing the harms associated with club drugs.

During another interview with Jane I obtained a further understanding of her perspective on the dangers of club drugs. Jane put it this way,

"OK, whenever I think of it (ecstasy), I know I'm ruining my body. I'm killing my brain. I think about it, like, eventually I'm going to die anyway, so enjoy life. This is one way to enjoy it. So, take all the good stuff and keep in mind the bad stuff. Don't forget about them. Never ignore them, but know what you're doing. Always be prepared. I guess by the age of 30 there will be some retards, maybe, you know, have some side effects. I read they did research on monkeys with Ecstasy and it made the monkeys have some sort of imbalance in their brains. So, OK, nothing's perfect. You have to accept that fact to enjoy something. I eat candy, you know. When you overeat, you become fat. If you eat them in normal portions, OK, so you get pimples. But nothing is good with too much, you know."

Jane spoke of keeping in mind the potential harms associated with club drug use. The expectation is that one should remember the dangers of club drugs, "never ignore them," such that this knowledge enables preparation for the use of these drugs. This knowledge of dangers, thus, informs the practices of club drug-using youth. Though the level of knowledge varies within this population, nonetheless, to "know what you're doing" is important among these youth and is impressed upon others within social networks, not for the purposes of popularity but of health concern. Some youth likened it to "doing your homework" before taking drugs.

Despite their awareness of the dangers associated with club drug use, some youth valued the other side of the proposition enough to engage in risk taking. Andrew, a 21-year-old Asian male said,

"It's the feelings of expression, the connections, and general well-being. When you take the pill, it's not the drug. E makes you open up. You're connected to everyone. I guess in a way, it's like a little bit of heaven."

This type of payoff is part of the reason why youth take risks with club drugs despite being aware of potential dangers.

Networks and the Social Nature of Risk

Social networks are a primary vehicle by which youth gauge the likelihood of danger. Again, it is not due to a lack of awareness that youth continue to use ecstasy but due, at least partly, to their assessments of the probability of danger, which may or may not be accurate. Vicky, a 19-year-old white female, described this process in response to my query about why she uses ecstasy even though she knows that she is risking potentially hazardous outcomes.

“I always think about, you know, wow this person did it this many times and he’s still fine and he’s still walking. That’s how I look at it. I know it’s bad but I know a lot of people who have done a lot and like major amounts and they’re still walking today. Nothing ever happened to them, you know.”

Though such assessments may not accurately reflect the objective probability of dangers, they nonetheless demonstrate the manner in which youth assess the risks through their social networks. Youth try to assess how much these harms are pertinent to their lives, although they may not have specific probabilities in mind. As noted by Mike, a 25-year-old white male,

“You can get in serious trouble or die I guess theoretically with every drug. I don’t really know with ecstasy really. Long-term heavy usage eats away at your brain. It takes away from your memory and stuff like that but that’s something I really don’t know the odds of.”

Though the youth with whom I conducted in-depth interviews had nearly all “heard stories,” they generally did not have individuals within their social networks who had experienced ecstasy-related negative health outcomes aside from acute episodes of short-term depression after ecstasy use, which some describe as “terrible Tuesdays.” Only one youth knew someone in his network with a negative health outcome related to club drugs. In this instance, the youth’s friend died from a suspected overdose of GHB, a dose-sensitive depressant that can adversely affect the central nervous system. These youth may hear little of traumatic outcomes because such outcomes related to ecstasy may be exceedingly rare. Of 19,366 autopsies conducted in NYC from 1997–2000 on decedents with “unexpected” or “suspicious” deaths, “only two were caused exclusively by MDMA” (Gill et al., 2002).

Folk Models of Risk

In contrast to the clinical basis of professional models of risk, folk models of risk are experientially based, framed in ways that youth can and do experience them. Though many areas of consistency between professional and folk models exist, the youth discussed these risks as phenomenological realities rather than clinical incidents. The following are accounts of how Bridge and Tunnel youth conceived of ecstasy risks and accounted for these risks in their lives.

Dehydration/Overheating

The potential harms of dehydration and overheating is perhaps one of the most common concerns among ecstasy-using youth. Many youth spoke of these potential dangers as significantly serious, potentially mortal, and not simply akin to dehydration associated with

binge drinking. They spoke specifically of the potential to pass out, often attributed to a combination of ecstasy consumption, overexertion, hot atmosphere, and not rehydrating oneself, concerns that echo the concerns of professionals. While conducting fieldwork at a rave during the summer of 2003, I witnessed the level of concern for these risks among youth. Midway through the evening, the venue shut off the cold water in the men's bathroom so as to prevent patrons from refilling their bottles with cool water. Later on in the evening, I was talking with some young women and we broached the subject in conversation. I mentioned that I wished I could fill my bottle at the tap in the bathroom. Immediately, one of the girls said to me, "Oh my God, did you know that they shut the cold water off on us. That's so fucked up isn't it? People could die." She then went on a profanity-laden tirade against the venue management. During the next several months, I met several other youth who attended the same rave. Often, when that rave came up in conversation, they mentioned the lack of accessible water and the potential for overheating. They similarly expressed concern that "someone could have gotten hurt."

Memory Loss, "Burned Brains," and Feeling "Cracked Out"

Youth spoke of "neurotoxicity" in a variety of different ways, without using the clinical language of neurotoxicity. Instead, they spoke of memory loss and other impairment using expressions, such as "*burning your brain*" or feeling "*cracked out*." They addressed the possibility of both acute and long-term effects, suggesting that they concern themselves not only with present dangers but with the potential that their use of ecstasy may "*catch up*" with them in the future.

Many youth spoke of acute effects in the days after taking ecstasy. A widely held perception of the adverse consequences is briefly impaired cognitive capacities. Many youth felt their ability to think is atypical the day following ecstasy consumption. "I just feel really 'cracked out'. I just feel like I'm just useless the next day," said Vicky. Feeling "cracked out" is a reference to another drug, crack, and the supposed detrimental effects on brain function the drug is perceived to have; perhaps a significant connection given that these youth consider crack to be one of the "hardest" drugs. The impairment of feeling "cracked out," however, is generally of short duration, lasting for a day or two following the consumption of ecstasy. The duration of the "cracked out" feeling is short but the qualitative nature of the impairment is significant. The impairment is experienced as something more than simply a hangover, but rather as a cognitive fog as noted by Luis, a 20-year-old Latino male. "It's just messing your brain up completely. Sometimes if I go to work the next day, I can't function. You're like a zombie." Thus, youth are often able to go through their daily routines but cannot function at their usual level.

Youth were also concerned about the potential long-term neurotoxic ramifications of ecstasy use. Jane talked about the possibility of "burning" her brain through the use of ecstasy but didn't perceive it to be a problem in her own life, and she did not see a "burned brain" to be the inevitable result of ecstasy use. Other youth felt similarly. As noted earlier, Mike also talked about the possibility of memory loss because of the consumption of ecstasy. However, as is common among these youth, he framed his comments in a discourse of excessive consumption. Though he mentioned brief cognitive problems in the days after taking ecstasy during the 6 years he has used the drug, as far as his own experiences are concerned, Mike notes, "Long-term, no, I really don't think it affected me in that way." The concern over a burned brain is often tempered by the perception that only excessive ecstasy use triggers damage. The dangers associated with infrequent use, thus, pose few concerns for these youth.

Depression

Depression is another risk widely perceived by youth who use ecstasy. Like the concern about neurotoxic effects leading to “burned brains” and feeling “cracked out,” youth expressed concern both for the acute depressive episodes that follow in the wake of ecstasy consumption as well as the potential long-term depression that could ensue following regular consumption of ecstasy. Some youth experienced a period of acute depression in the hours and days that follow the ecstasy high—“post-E depression” as characterized by some. George, a 21-year-old male of mixed descent, said that for him it can last “anywhere from a couple of hours to a couple of days.” Later in the interview, George discussed his experiences with post-E depression, which highlight the unpredictable nature of this phenomenon. He notes,

“Sometimes you feel like shit the next day. Like, you get like depressed for no reason. Usually, if I take it at a party and I dance a lot, I find that afterwards, the next day, I’m just completely fine, like I can just get over it. Sometimes it has a really bad comedown though. Like, if I’m coming down after a party, if I’m going home, everything’s quiet, you know, I just start thinking. And I don’t even know why, I’m just depressed for no good reason and that’s definitely bad.”

In using ecstasy, George chances that he may experience a bout of acute depression “*for no good reason*.” The post-E depression seems to be somewhat unpredictable; though many ecstasy-using youth have experienced it, not all have. It also varies in intensity and duration. Some youth experienced post-E depression more frequently than George, others far less, and some not at all. Though usually not a problem for George, it remains a risk he is willing to take.

Youth also concerned themselves with the risk of long-term depression. Though some recognized this risk, they also saw it as minimal if they were generally happy individuals. Mary, a 19-year-old Hispanic female, spoke of potential long-term ramifications related to depression by couching her understandings through a discussion of the serotonin system.

“Your serotonin level is definitely altered afterwards. They say it takes two weeks to get it back to its original status and even then your serotonin level will never be at the original status. You’ll never get back to where you were originally. I feel that especially if you have a lot of insecurities and you get down a lot, you know, really pessimistic, then it’s not something you should be doing.”

Mary expressed particular concern for those with a predisposition towards depression, a sentiment echoed by others. Some ecstasy users conceived of this risk as primarily for those predisposed to depression; thus, that it exacerbates rather than generates long-term depression.

Addiction and Loss of Control

Some youth saw the potential for addiction with ecstasy, though they generally did not view ecstasy as physically addictive. Will, a 22-year-old white male from New Jersey, characterized a set of actions involving the drug as addictive but not the drug itself.

“I think maybe that whole lifestyle, it’s kind of addicting. Some people, that’s the only thing they can think about all day is just going to the clubs and doing

drugs. It seems like a lot of people are really addicted to it. I guess maybe they're both kind of like a couple (drugs and clubs), almost like they're one thing. One really doesn't go without the other. It's kind of like you need both of them."

Will asserted that people don't get addicted to ecstasy per se, but rather a lifestyle. The drug is not the focal point, but, rather, simply part of a whole experience that is addicting. Interestingly enough, Will also noted that clubs are not a necessary part of the equation of addicting experiences, as he and many of his friends initiated into ecstasy use at house parties during high school and that was still a common pattern of use among his friends.

Other youth framed the risk of losing control in terms of shedding inhibitions and making impulsive decisions. Eddie, a 22-year-old white male, notes,

"What I would take as risky might not be dangerously obvious, for instance, persons that don't really have control. You know, a lot of people take drugs to sort of lose their inhibitions, but if they lose it totally, they could get hurt."

For these youth, the fears of getting hurt through loss of control included driving while under the influence and sexual risk taking.

Adulterated Pills

Many youth felt a common risk they take when consuming ecstasy is the danger of using adulterated pills, which contain more substances than simply MDMA or even no MDMA at all. As Tony remarked during our second interview, "It could be not what you're buying at all. Like, it's filth and you have no idea." Many youth echoed these concerns that they're being given something other than MDMA. They seemed to find this particularly disconcerting because it thwarts their efforts to cultivate knowledge about MDMA risk.

Jane related a story of a friend who thought he bought a couple of hits of ecstasy only to find out they were "speed, some sort of amphetamines" upon receiving news of his toxicology report at the hospital after an adverse event related to the drugs. Though among this group this was the only narrative of an acquaintance experiencing an adverse outcome because of adulterated pills, most youth had "heard stories" about adulterated pills. Perhaps justifying these stories, or perhaps the source of them, a testing program supported by the harm reduction organization Dance Safe has regularly revealed the presence of adulterants in pills sold as ecstasy^c. An analysis of 123 pills from New York tested since September 1, 1999, reveals that 54 (44%) contained only MDMA while slightly more, 56, (45%) contained no MDMA at all. The others (11%) contained a combination of MDMA and other substances. Other substances found in 56% of the pills included methamphetamine, dextromethorphan, amitriptyline, fluoxetine, codeine, diazepam, lidocaine, and acetaminophen, among others.

Discussion

"Although users may think these substances are harmless, research has shown that club drugs can produce a range of unwanted effects, including hallucinations, paranoia, amnesia, and, in some cases, death."

—Alan Leshner, former Director of NIDA^d

^cFor more information on Dance Safe's pill testing program, visit www.dancesafe.org or www.ecstasydata.org.

^dThis quote comes from Dr. Leshner's article "Club Drugs are Not 'Fun Drugs'," accessible via www.clubdrugs.org, a NIDA-supported informational website about club drugs. Aside from a series

Public health professionals often assume that young people take risks because they do not know any better or they “just don’t get it.” The pervasive assumption that youth engage in dangerous behaviors because of a lack of knowledge permeates areas of the health literature on topics from drinking to sexual behavior to drug use. This may stem in part from an underestimation of the capabilities of youth, but also from professional treatment of risk. Public health professionals often privilege danger when assessing risk. Discussions of risk focus specifically on danger, which obscures the potential for rational decision making in the face of danger.

In practice, risk assessment proceeds with attentiveness to danger, though how seasoned that attentiveness is varies. What is clear is that youth do not see ecstasy use as a danger-free enterprise and public health messages that assume otherwise will not engage these youth. They view risk as a two-sided proposition: danger on one side but some sort of potential payoff, such as pleasure or connectivity, on the other. These dangers are possible—not certain or perhaps not even probable—and these youth recognize them as such when they make risk assessments. Their conceptions of risk readily account for the known dangers associated with club drugs and they weigh risks based upon a knowledge base cultivated about the dangers of these drugs alongside the potential payoffs. They practice club drug use accordingly.

In a number of areas, youth express the same concerns as public health professionals regarding the risks of ecstasy use, though youth models are filtered down into an experiential understanding. Both professionals and these youth are concerned with depression, neurotoxicity (“burned brains”), addiction, and hyperthermia (overheating and dehydration). Areas of dissonance also exist. Other harms mentioned by professionals, such as Serotonin Syndrome or heart problems, do not enter youth discourse of risk, perhaps because they are exceedingly rare and youth are unlikely to encounter others having experienced such problems. Since I conducted these interviews with general open-ended questions about the risks of ecstasy use rather than listing specific risks for them to identify with, it remains uncertain to what extent these youth are aware of these possible dangers or simply do not find them plausible dangers in their own lives.

Far from being oblivious to the potential harms in their lives, these youth are aware of the dangers they risk when using club drugs. This recognition of harm stems from a general sentiment of the importance of cultivating knowledge about drug-related harms. Furthermore, youth appear to cultivate this knowledge base not for social currency, but as a necessary component for the preservation of their health. They weigh risks based upon knowledge cultivated about these substances alongside that of the potential payoffs, and practice club drug use accordingly. Knowledge acquisition plays a key role in the development of these conceptions of risk. In a certain sense, it is the foundational practice of risk management. As Tony noted in our final interview, “You’re not supposed to be on drugs but the smartest thing you can do while you’re on drugs is research about it. Know what you should be doing. Know what you shouldn’t be doing.” Research on the substances while the user is proverbially “on drugs,”—not while literally high—ultimately provides the basis for putting risk management strategies into practice. This is about “*know(ing) what you should be doing*.” In other words, this is about translating knowledge and conceptions of risk into practice. Knowledge provides youth with the opportunity to strategize drug taking so as to manage the potential dangers.

The fundamental purpose of understanding the conceptions of risk among club drug-using youth is to understand the informal logic that guides their drug-using practices. Youth

of brief articles issued from NIDA, the website also contains basic information about club drugs, trends and statistics, and news updates.

collectively translate their concerns about risks into strategic practices aimed at minimizing these risks. They depend on a model of risk that is context dependent and they assess the likelihood of adverse outcomes in different ways and primarily relate potential dangers to specific features of context. Risks do not occur in a strict “*if... then*” fashion for these youth but as variable. Youth engage in a variety of risk management strategies that stem from the context-specific manner in which they conceive of risks associated with club drug use. The initial case of Tony taking ecstasy in half-pill increments is a vivid example of moderation put into practice. A burned brain from ecstasy is dose-dependent. Tony thus minimizes his intake and subsequent risk while achieving his high. Other risk management practices include other forms of moderation, “preloading” or “postloading,” and taking “breaks,” periodic interruptions in the regular pattern of ecstasy use so as to replenish one’s body, or more specifically to rejuvenate the serotonin system. Thus, these conceptions of risk translate into specific patterns and practices of club drug use.

Limitations

The study is a small one based upon regionally specific youth, and the generalizability remains unclear. It is important to reiterate that this group is a rather well-educated group; most are either currently enrolled in or have graduated from college. The pursuit of club drug-related knowledge, as well as the ability and tendency to pursue such knowledge, may not be universal. These youth are uniquely primed to seek club drug-related knowledge. College education provides unique resources to these youth. For example, some of these youth access on-line public health journals through university subscriptions, opportunities unavailable to those not enrolled in college. Another limitation is that the sample is primarily white, with some Latino and Asian youth. Though the sample represents that suburban counties surrounding NYC are predominantly white, even exclusively white in some neighborhoods, it does not account for black youth.

Implications

An understanding based solely on professional models is incomplete at best. The incorporation of folk models into our understandings of a given phenomenon enables fuller and richer explanations of why the “folk” act as they do. Folk models demonstrate how specific phenomena resonate on the ground. Only through ascertaining fuller understandings of folk models can we adequately inform health promotion efforts and public policy by eliminating the assumptions inherent in professional models.

The analysis of professional and folk models of risk has a number of implications for promoting health among club drug-using youth. One such area is that it allows us to attempt to understand the harmony and discontinuities between how scientists and public health professionals view club drug-related risks and how youth view them. We can thus explore areas for potential mediating health education interventions. Many of the club drug-using youth I have interviewed maintain an interest in harm reduction approaches to club drug use, even if they are unaware of harm reduction as a specific movement. Efforts should be made to enhance existing harm reduction organizations targeting club drug-using youth and also allow for the development of new organizations through private and public funding streams. Public health professionals have a responsibility not only to prevent club drug use through primary prevention efforts but to offer healthier alternatives through secondary and tertiary prevention so as to minimize the harms associated with club drug use among current users.

One final note: It remains clear that we as professionals still have much to learn about the long-term harms associated with ecstasy use and the use of other club drugs. Efforts to fund such clinical research should be a priority for both public and private funding sources of drug-related research. Furthermore, several public policy recommendations and enactments related to club drugs have occurred in the last several years in the United States, despite a dearth of clinical and behavioral research on these drugs. Only further clinical and social research on club drugs will provide fuller understandings for well-informed drug policy.

Acknowledgments

I would like to acknowledge the National Institute on Drug Abuse for their generous support of this project (Grant # R03-DA016171). I would like to thank Peyton Mason and Marisa Ramjohn for their research assistance. Jennifer Foray, Kim Hopper, Steve Lankenau, Dan Mauk, and an anonymous reviewer provided helpful comments on the manuscript. Last but certainly not least, I would like to thank the youth who volunteered for this study and shared their lives with me.

RÉSUMÉ

Cet article décrit les modèles courants de la utilisation de drogues de club et les conceptions locales de risque parmi les jeunes dans la région de New York City. Les données sont de une étude ethnographique du initié de drogue de club parmi les “pont et de tunnel” jeunes financé près NIDA. L'article examiné l'harmonie et la discontinuité entre les modèles folkloriques du risque de cette population et les modèles de professionnel du risque. L'auteur explore comment les jeunes conçoivent des risques liés à l'utilisation de drogue de club, spécifiquement “ecstasy,” et comment de telles conceptions rivalisent et contrastent avec les modèles professionnels courants du risque. Il est cruciale comprendre ces conceptions de risque. Ils fournissent une logique par laquelle la drogue de club pratique sont guidés. Finalement, l'auteur examine comment le rapport entre les modèles folkloriques et les modèles professionnels pourrait informer des efforts de promotion de santé visant les jeunes.

RESUMEN

Este estudio describe patrones actuales de uso de drogas de club (*club drugs*) así como concepciones de riesgo entre jóvenes residentes de la ciudad de New York. Los datos provienen de un estudio etnográfico sobre iniciación en drogas de jóvenes que viajan desde los suburbios hacia la ciudad de New York. El estudio analiza los encuentros y desencuentros entre los modelos de riesgo presentes entre los jóvenes y aquellos que tienen los profesionales de salud. El autor explora la forma en que los usuarios jóvenes de *drogas de club* entienden el riesgo asociado con el uso de drogas, específicamente *éxtasis*, así como aquellas concepciones que armonizan y contrastan con los actuales modelos profesionales de riesgo. El autor enfatiza la importancia de tener en cuenta estas diversas concepciones de riesgo así como las lógicas informales subyacentes en el de uso de *drogas de club*. Finalmente, el autor examina cómo el entendimiento de la relación entre los modelos *populares* y profesionales podrían aportar en la promoción de la salud de los jóvenes.

THE AUTHOR



Brian C. Kelly, Ph.D., is a medical anthropologist educated as an undergraduate at Fordham University and as a graduate at Columbia University's Department of Sociomedical Sciences. His topical areas of research interest include drug use, sexual health, and youth cultures. He continues to conduct ethnographic research in the New York City metropolitan area. The foci of his current projects include club drug use among New York area youth and drug dealing among suburban youth.

Glossary

Burned brain. Refers to the mental exhaustion, acute or long-term—that may stem from drug use. Similar to the term “burned out.”

Cracked out. A short-term feeling of a cognitive fog following a period of drug use. The reference is to the drug “crack” and its association with difficulties of cognitive functioning among users. For example, after a weekend of using ecstasy, the user may feel “cracked out.”

K-Hole. A state induced through the use of ketamine. The “k-hole” is a state in which the user is dissociated from the body. This feeling of disconnection may result in the user feeling like he or she is trapped in a psychological hole produced by K use.

Post-E depression. A depressive state induced by lowered serotonin levels in the brain after ecstasy consumption.

Roll. The ecstasy high and experience. A youth would “roll” on ecstasy.

Terrible Tuesday. Refers to the arrival of the depressive state on a Tuesday morning following a weekend of ecstasy use. The bottom of the ecstasy crash may arrive about 36 hours after the high. Thus, ecstasy use on a Saturday night and into Sunday morning may result in a “Terrible Tuesday.”

References

- Agar, M. (1985). Folks and professionals: Different models for the interpretation of drug use. *The International Journal of the Addictions* 20(1):173–182.
- Baggott, M., Mendelson, J. (2001). Does MDMA cause brain damage? In: Holland, J., ed. *Ecstasy: The Complete Guide*. Rochester, Vermont: Park Street Press.
- Beck, J., Rosenbaum, M. (1994). *Pursuit of Ecstasy: The MDMA Experience*. Albany, New York: SUNY Press.
- Bluthenthal, R. N., Watters, J. K. (1995). Multimethod research from targeted sampling to HIV risk environments. *NIDA Research Monograph* 157:212–230.
- Buffum, J., Moser, C. (1986). MDMA and human sexual function. *Journal of Psychoactive Drugs* 18(4):355–360.
- Carlson, R., McCaughan, J. A., Falck, R. S., Wang, J., Siegal, H. A., Daniulaityte, R. (2004). Perceived adverse consequences associated with MDMA/ecstasy use among young adults in Ohio: Implications for intervention. *International Journal of Drug Policy* (in press).

- Chang, L., Grob, C. S., Ernst, T., Itti, L., Mishkin, F. S., Jose-Melchor, R., Poland, R. E. (2000). Effect of ecstasy (3,4-methylenedioxymethamphetamine [MDMA]) on cerebral blood flow: A co-registered SPECT and MRI study. *Psychiatry Research* 98:16–28.
- Curran, H. V., Travill, R. A. (1997). Mood and cognitive effects of 3,4-methylenedioxymethamphetamine (MDMA, ecstasy): Weekend “high” followed by mid-week low. *Addiction* 92:821–831.
- Derzon, J. H., Lipsey, M. W. (1999). What good predictors of marijuana use are good for: A synthesis of research. *School Psychology International*. 20(1):69–85.
- Douglas, M. (1992). *Risk and Blame: Essays in Cultural Theory*. New York: Routledge.
- Frosch, D., Shoptaw, S., Huber, A., Rawson, R. A., Ling, W. (1996). Sexual risk among gay and bisexual male methamphetamine abusers. *Journal of Substance Abuse Treatment* 13(6):483–486.
- Geertz, C. (1983). *Local Knowledge: Further Essays in Interpretive Anthropology*. New York: Basic Books.
- Gill, J. R., Hayes, J. A., deSouza, I. S., Marker, E., Stajic, M. (2002). Ecstasy (MDMA) deaths in New York City: A case series and review of the literature. *Journal of Forensic Sciences* 47(1):121–126.
- Henry, J. A. (1992). Ecstasy and the dance of death. *British Medical Journal* 305:5–6.
- Henry, J. A., Jeffreys, K. J., Dawling, S. (1992). Toxicity and deaths from 3,4 methylenedioxymethamphetamine (“ecstasy”). *Lancet* 340:384–387.
- Henry, J. A., Rella, J. (2001). Medical risks associated with MDMA use. In: Holland, J., ed. *Ecstasy: The Complete Guide*. Rochester, Vermont: Park Street Press.
- Hwang, I., Daniels, A. M., Holtzmuller, K. C. (2002). “Ecstasy”-induced hepatitis in an active duty soldier. *Military Medicine* 167(2):155–156.
- Jansen, K. L. R. (1998). Ecstasy (MDMA) dependence. *Drug and Alcohol Dependence* 53(2):121–124.
- Jayanthi, S., Ladenheim, B., Andrews, A. M., Cadet, J. L. (1999). Overexpression of human copper/zinc superoxide dismutase in transgenic mice attenuates oxidative stress caused by methylenedioxymethamphetamine (ecstasy). *Neuroscience* 91:1379–1387.
- Leonard, L., Ross, M. (1997). The last sexual encounter: The contextualization of sexual risk behaviour. *International Journal of STD & AIDS* 8:643–645.
- Luhmann, N. (1993). *Risk: A Sociological Theory*. New York: De Gruyter Press.
- Mas, M., Farre, M., de la Torre, R., Roset, P., Ortuno, J., Segura, J., Cami, J. (1999). Cardiovascular and neuroendocrine effects and pharmacokinetics of 3,4-methylenedioxymethamphetamine in humans. *Journal of Pharmacology and Experimental Therapeutics* 290:136–145.
- Morgan, M. J. (1998). Recreational Use of “ecstasy” (MDMA) is associated with elevated impulsivity. *Neuropsychopharmacology* 19:252–264.
- Mueller, P. D., Korey, W. S. (1998). Death by “ecstasy”: The serotonin syndrome? *Annals of Emergency Medicine* 32:377–380.
- O’Shea, E., Granados, R., Esteban, B., Colado, M. I., Green, A. R. (1998). The relationship between the degree on neurodigestion of rat brain 5-HT nerve terminals and the dose and frequency of administration of MDMA (ecstasy). *Neuropharmacology* 37:919–926.
- Parrott, A. C., Lasky, J. (1998). Ecstasy (MDMA) effects upon mood and cognition: Before, during, and after a Saturday night dance. *Psychopharmacology* 139(3):261–268.
- Shankaran, M., Yamamoto, B. K., Gudelsky, G. A. (1999). Involvement of the serotonin transporter in the formation of hydroxyl radicals induced by 3,4-methylenedioxymethamphetamine. *European Journal of Pharmacology* 385:103–110.
- Solowij, N., Hall, W., Lee, N. (1992). Recreational MDMA use in Sydney: A profile of “ecstasy” users and their experiences with the drug. *British Journal of Addiction* 87:1161–1172.
- Strauss, A., Corbin, J. (1998). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. 2nd Ed. Newbury Park, CA: Sage Publications.
- Sternbach, H. (1991). The serotonin syndrome. *American Journal of Psychiatry* 148:705–713.

- Temple, M. T., Leigh, B. C., Schafer, J. (1993). Unsafe sexual behavior and alcohol use at the event level: Results of a national survey. *Journal of Acquired Immune Deficiency Syndromes* 6:393–401.
- Topp, L., Hando, J., Dillon, P., Roche, A., Solowij, N. (1999). Ecstasy use in Australia: Patterns of use and associated harm. *Drug & Alcohol Dependence* 55(1–2):105–115.
- Zemishlany, Z., Aizenberg, D., Weizman, A. (2001). Subjective effects of MDMA (“ecstasy”) on human sexual function. *European Psychiatry* 16(2):127–130.