

## Good Work in a Risky Field: A Study of Research on Psychedelic Substances

**Abstract:** Researchers are often faced with conflicts between what they would like to research and what they think is most practical or best for their career. This state of affairs may be especially true when those interests lie outside what is in vogue within the field. One such example occurs with reference to research involving psychedelic substances. Through a series of interviews with clinical psychologists engaged in psychedelic research, I examine the obstacles they face, the quality of the work they do, and the support factors that have helped them do their work. Obstacles to good work are not exclusive to the relatively small field of psychedelic research; this study suggests implications for scientific research in general.

### Introduction

"Our normal waking consciousness... is but one special type of consciousness, whilst all about it, parted from it by the flimsiest of screens, there lie potential forms of consciousness entirely different... No account of the universe in its totality can be final which leaves these other forms of consciousness quite disregarded."

William James

Psychedelic substances have provided doors to other forms of consciousness throughout history. Yet interpreting their influence is difficult because psychedelic states of consciousness have typically been fringe phenomena with access only for certain types of people. In the past, they have usually been the domain of shamans, mysteries, priests, witches, artists and scientists. When psychedelic experiences last trended towards mainstream in the 1960's, there was a cultural revolution. Ultimately nearly all psychedelics were forbidden by law - forbidden even to medical researchers.

The domain of psychedelic research exploded onto the research scene in the 1950's, quickly generating over a thousand publications involving 40,000 participants in just over a decade, many with profound implications for our understanding of disease and the mind (Grinspoon & Bakalar, 1981). There were promising studies examining the potential of psychedelics in the treatment of addictions, neuroses, PTSD among concentration camp

survivors (Doblin, 2001), the eliciting of mystical experiences (Pahnke, 1963), and assistance for professionals in generating creative solutions to long-standing problems (Fadiman, 2011).

Research with LSD also had profoundly transformative effects in the domain of neuropsychopharmacology; it led to our insights into the role of serotonin in schizophrenia as well as countless therapeutic drugs targeting the serotonergic system (Geyer, & Vollenweider, 2008).

Unfortunately there was also compromised work involving psychedelics. Allegations that undergraduates were obtaining psilocybin from research staff led to the expulsion of two Harvard professors in 1962. Some of the most extreme examples of compromised work can be seen in the LSD experiments conducted by the government during this time prior to regulations requiring participant consent. The CIA and military conducted mind control experiments on unwitting subjects, dosed with LSD by prostitutes in rooms with two way mirrors (Doblin, 2001). Thankfully, such violations of patient rights came to the attention of the public and new regulations were put in place establishing institutional review and requirements for consent. Unfortunately, in the case of psychedelic research, which became associated in the public mind with these controversies, illicit use, *and* the counter culture, the reaction was too strong. Against the recommendations of influential researchers and political figures, new government laws and regulations made research involving psychedelics all but impossible (Doblin, 2001). Though substances such as LSD and psilocybin had been widely studied for over a decade, possession was now criminalized; they were classified as having no recognized medical value, a high potential for abuse, and as being unsafe even under medical supervision. We have here a textbook example of the phenomenon pointed out by Verducci and Gardner (2005) of good work being eclipsed by negative events. A misalignment between scientists who were trying to

develop cures and understand the brain, politicians who were trying to protect the public and status quo, and a public that was questioning the status quo led to the erection of barriers too high for research to continue. In effect, all research ground to a halt for over two decades.

It is important to note that there were also barriers to research that had less to do with outside forces and more to do with the nature of psychedelics themselves. Psychedelics are fundamentally different from traditional Western medicines. Perhaps because it evolved in part through systematic experimentation and quantification, traditional Western medicine fits in very well with these dominant research paradigms. In the traditional Western pharmacological model, one ingests a substance, changes happen, eventually the substance leaves the body and the changes stop. The effects a psychedelic experience can last for years and may be better characterized as learning rather than biochemical changes (Fadiman, 2011). Psychedelics, which evolved and have traditionally been ingested outside laboratories, aren't quite as natural a fit for the dominant research paradigms. Moreover, Western medicine is standardized and is supposed to function more or less the same for everybody. The effects of psychedelics are highly contextual and dependent on set and setting. The same dose can have dramatically different effects, even in the same person on different occasions.

After decades of prohibition in effect, Dr. Rick Strassman, a clinical psychopharmacology research scientist at the University of New Mexico, received approval to work with DMT in 1989. Dr. Strassman shared the details of this multi-year approval process in books and articles that have provided a model for other interested scientists. Since then, the research community has seen a renaissance of research in this area, using technology hardly imaginable in the 1960's, as well as, importantly, the perspective gained from what happened with psychedelic research in the past. Recent research has examined the potential of psilocybin-

assisted therapies for the treatment of end of life anxiety associated with terminal cancer (Grob, et al., 2011); MDMA-assisted psychotherapy for treatment resistant PTSD (Bouso, Doblin, Farre, Alcazar, & Gomez-Jarabo, 2008); genesis of mystical and meaningful life experiences with psilocybin (Griffiths, Richards, McCann, & Jesse, 2006 and 2008); ketamine-assisted treatment for heroin dependence (Krupitsky, et al., 2007); psilocybin-assisted treatment for OCD (Moreno, Wiegand, Taitano, Delgado, 2006); and the use of psilocybin and LSD in the treatment of paralyzingly painful cluster headaches (Sewell, Halpern, Pope, 2006). There are also ongoing studies assessing MDMA assisted psychotherapy for veterans returning from Iraq and Afghanistan with treatment resistant PTSD, psilocybin for smoking cessation, and ibogaine therapy for drug addictions ([www.maps.org](http://www.maps.org)).

With so many promising clinical applications, one would hope the field and the larger system would encourage research or at least not hinder it. Despite the publication in top journals of research demonstrating the potential of psychedelics such as psilocybin, LSD, and MDMA to improve quality of life for severely suffering people, these substances all remain schedule I in the United States. The illegal status of psychedelics and the governments' stance that psychedelics have no recognized medical value leads to a large field of bureaucratic, social, and financial quicksand that scientists must wade through to complete research in this area.

In 2006, R. Andrew Sewell, M.D., a research scientist then at Harvard, offered guidance for young scientists interested in pursuing psychedelic research in an article appearing in the MAPS bulletin (Multi-disciplinary Association for Psychedelic Studies) entitled, "So You Want to be a Psychedelic Researcher?" (Sewell, 2006). He discusses some possible motives for entering into psychedelic research, among them novelty of the research, the possibility of personally significant experiences, or simple curiosity. He also describes risks to pursuit of

psychedelic research including professional isolation, multi-dimensional red tape, slowed publication and promotion rates, lack of corporate or government support, and a paucity of academics willing or able to serve as mentors. Sewell advises aspiring psychedelic scientists to get as solid and respectable an education as possible, including an MD, or PhD, AND to keep silent about one's interest in this area of research.

Even if a scientist is able to navigate the regulations involved with administering schedule I substances, he or she must still deal with the social stigma among their peers and the public of working with illegal substances. Psychedelics are often referred to as "street drugs" and in the minds of many, lumped into the same unappealing category as addictive and physiologically toxic substances such as heroin and methamphetamine. As an example, even a generally positive Fox News article discussing recent psychedelic research refers to clinical use of MDMA as the clinical use of a street drug (Ablow, 2012). As a matter of fact, MDMA was originally developed as a psychotherapeutic medicine and much like the vast majority of prescription medications for pain, ADHD, anxiety, sleep disorders, depression, and even sexual dysfunction, MDMA is also used recreationally (Compton & Volkow, 2006). Accordingly, scientists must deal with the stigma of doing fringe research with "street drugs."

Perhaps an even more daunting obstacle is financial and job security, especially for early career researchers. The amount of schooling required to do clinical work is extensive and expensive. The median debt for a newly graduated clinical psychologists ranges from \$68,000 for those obtaining clinical psychology PhDs to a staggering \$120,000 for those earning clinical PsyDs (APA's Center for Workforce Studies, 2009). Due to high unemployment rates in the economy generally and within the field especially, any activity or interests regarded as dubious could jeopardize the career chances of a newly credentialed clinical psychologist. Even if a

young scientist with an interest in psychedelics is lucky enough to get hired as an assistant professor, the red tape and bureaucracy associated with the area will slow down the work, potential publication rate, and consequently may reduce chances of career advancement.

A further obstacle is the distribution of funding for research involving psychopharmaceutical treatments. There is an enormous amount of money involved in developing new patentable drugs and, not surprisingly, very little is directed toward demonstrating the effectiveness of an illegal drug or one producible by the competition. Market forces support the search for the most profitable drugs, not necessarily the most efficacious drugs. We here encounter a threat to good work in the profession resulting from market forces (Gardner & Shulman, 2005).

Despite the considerable obstacles towards pursuit of research in this area, a still small but growing number of people are deciding to undertake psychedelic research. Because there is potential for good work in this field and there are likely parallel situations with other fringe research topics, it is important to understand how social, political, financial, and institutional factors may affect who is able to pursue psychedelic research and how they go about their work. Findings could set the stage for future workers to seek out similar conditions so they too can do good work in this or other fields with similar obstacles.

At the outset I wondered whether the present obstacles may differentially affect potential researchers at different stages in their career. Younger scientists are more likely to have large amounts of debt, uncertain career prospects, and relatively little clout. In contrast, more established research scientists with more extensive experience are less likely to have student loans or lack job security. Further, it seems likely that a scientist with many years of experience

and numerous publications under his or her belt is more likely to be taken seriously and perhaps may have more luck in obtaining approval to pursue a 'fringe' topic like psychedelic research.

## **Methods**

I interviewed six clinical psychologists engaged in psychedelic research. Four of my participants became involved in psychedelic research early in their careers, either during or shortly after graduate school. Two of my participants did not become involved in psychedelic research until later in their careers. I interviewed at least one person from each of the US institutions currently involved in psychedelic research: NYU, Yale, UCLA, and Johns Hopkins.

Because the field is so small, pseudonyms would not provide anonymity. For that reason, the data will be presented as findings from the group. The interviews covered interest in the field, perceived obstacles, and perceived supports (see Appendix I for full interview protocol.) Four of the interviews were conducted over the telephone, lasting from 30 minutes to 1 hour, and two interviews were conducted via email correspondence. The audio for all interviews was recorded and transcribed and coded thematically.

The participants held various positions ranging from graduate student, to post doctoral fellow, to professor, to division head. All but one of the interviewees are currently involved with psychedelic research. A diverse set of work functions is also represented in my sample. My participants served in the roles of PI, clinician, administrator, fundraiser, recruiter, and study designer.

## **Results**

### ***Obstacles to Research***

I began by asking whether the obstacles described by Sewell in 2006 are still present. The answer is an emphatic "yes." The barriers remain so great that one participant estimated that only around 0.1% of people working with these substances are doing "above ground" research. The majority of people investigating psychedelics are working under the radar in other treatment modalities, many conducting powerful and important work with far less constraints. In other words, the current legal and regulatory system have compromised the majority of work being done with psychedelics by forcing it underground, preventing oversight, publications, and transparency of process. This compromised work is not the subject of this paper and all the research discussed here is legal and "above ground."

One formidable obstacle is perhaps well-intentioned advice against pursuit of psychedelic research. One participant reported the importance of being able to consider and then disregard advice such as, "This is risky and it will ruin your career. You have so much potential, why are you going to do this? It's so hard to study and no one has any serious respect for it." A couple of participants suggested that such cautions about forays into psychedelic research may be more of a psychological obstacle, reflections of group think rather than warnings of actual dangers. In an almost year-long pitch just to get started on research involving Salvia, one of the few legal psychedelics, a participant was repeatedly counseled that "it's fine with me but those other guys they won't want you talking about psychedelics... but I'm okay with it... in secret." This informant reported that once one professor came on board and the research began, nobody tried to stop it and they all just seemed kind of surprised that it was happening. Interestingly, I had a similar response when I first proposed my research paper idea to a group in our Good Works class. The other group members all said, *I think it sounds really interesting, but I don't know what Professor Gardner will say.*



There was widespread agreement among informants that lack of funding was a primary obstacle to psychedelic research. While this state of affairs simply stops many people from even starting the research, people with as much motivation and dedication as my participants are willing to put it on personal credit cards. One participant paid, out of pocket, 2 nurses and an EMT, who were generously willing to work for minimum wage, until 2/3 of the way through his research, he received a grant that he was able to put towards his bills and hand over to the nurses and EMT who "were really just doing this out of the kindness of their hearts." As far as I have been able to determine, there is no government funding available for psychedelic research. Because pursuit of psychedelic research does not yet seem viable as a primary occupation, its study requires the piling up of a normal workload, plus psychedelic research on the side, *plus* fundraising efforts! One participant reported raising money for research by sponsoring classes on psychedelics and substance abuse, buddhism, meditation, and psychiatry. Most funding comes through private donations via organizations like MAPS and the Heffter Institute. This is essentially the crowdsourcing approach that research scientists with other specialties are beginning to adopt (Palca, J. 2013).

Another reported obstacle is the difficulty of talking about working with illegal "street drugs" to different people. One has to learn how to talk about the research in different ways to different crowds. While many scientists don't think twice about how they dress or about doing illegal things, scientists involved in psychedelic research are under closer scrutiny; they have to consider how their dress and behavior will reflect on their work. As one put it, "I'm a scientist doing a research project, not some crazy guy in the corner." Psychedelics are linked to a very strong counter culture idea that makes the message difficult to sell. One participant drew an interesting comparison between psychedelic research and meditation research, which also

emerged at a similar time as a fringe research topic involving mystical states. A key distinction though is that you don't have to do the mystical part of meditation or ingest a "drug" to see the benefits and so it's easy for everyone to get on board. With psychedelics, the mystical territory and ingestion of a substance are unavoidable and that seems to make people uncomfortable.

The roadblocks to research don't end there. There is "never-ending" paperwork, extensive planning and bureaucracy to deal with. If one has a new idea, one can't even run pilot subjects without approval. It is also difficult to recruit subjects because the drugs are illegal and everybody has grown up with the message that illegal drugs are dangerous and certainly not medicine. There is fear of 1960's backlash if the research moves too fast or the results are misinterpreted. Participants described the experience of not being taken seriously, and needing a significant amount of clout; "it's more dangerous, so they tell me, because I don't have any clout; I don't have any gravitas to back up doing weird fringe things." Another difficulty, not necessarily an obstacle, was the inability to be able to talk about personal experience with something that is illegal. To take the meditation example again, nobody questions if you talk about a personal meditation practice informing your research. Such a discussion is impossible or at least irresponsible in the case of psychedelics because that would amount to admitting a federal crime, at least if you took the drug in the US.

### ***Good Work?***

Are the investigators to whom I spoke doing good work, that is, "work that is excellent in quality, socially responsible, and meaningful to its practitioners" ([www.thegoodproject.org/goodworks](http://www.thegoodproject.org/goodworks))? I really enjoyed all the interviews because, in my opinion, everybody I talked to really is doing good, inspiring work. As some participants noted,

one positive effect of the strict regulations and obstacles is that they only leave room for people who are truly passionate about doing exceptional science in this area. Whether such stringent regulations are the best way to select top quality scientists is not clear though; it is possible that the current situation may more directly select for researchers skilled in paperwork and bureaucracy than for researchers skilled in science. Psychedelic studies are scrutinized and go through some of the most extensive reviews of any research. The work is only even allowed to happen when it has been judged excellent by multiple review boards in the university's own IRB, the FDA, and the DEA.

The excellence of the work can further be probed through an examination of the goals of my participants. As one participant noted, there are no systematic advantages or extrinsic motivations to pursue work in this area. So what are their motives? Participants indicated being motivated to seek the truth, to help people, to establish the medical value of psychedelics, and to learn about the chemical basis of consciousness and spirituality. One participant expressed the goal of changing how we think about medicine, from just treating problems to improving well-being more generally. Instead of asking how to treat a deficit, we should ask, "What is the way to think about human functioning as being the best it can be, not just not sick."

The high value these scientists place on ethical conduct is readily apparent when they describe how they have made tough decisions, such as the one to pursue psychedelic research. When faced with a difficult decision, participants reported asking their higher selves what to do, following their hearts, putting aside their own desires, taking a disinterested view, and a willingness to be genuine and vulnerable. None of these scientists reported being motivated by career advancement, money, or anything external that might distract someone from a calling. A high level of engagement is also apparent and perhaps necessary to succeed in the face of so

many obstacles. Participants described this work as meaningful, fascinating, rewarding, compelling, profound, and beautiful.

In the interest of objectivity and good work on my part, it is important to point out that personal testimony alone is not sufficient to identify good work with certainty. There are personal stories of "good work" in all sectors, from hedge fund trading to NASCAR, and it is easy to imagine professionals doing compromised work while describing it otherwise. I could be fooled. To really determine whether good work is taking place, a more extensive examination of detailed case histories with independent judges is necessary. Nonetheless, based on the evidence I saw and the personal interactions I had with these researchers, I am willing to make and support the claim that they are doing good work.

Perhaps as exciting as some of the research itself, is the fact that such work is taking place in the face of so many obstacles. I note that this isn't the only area of research where promising cures are thwarted by public and political pressures. As a consequence, it is important to learn what we can from these people about how to do good work under serious constraints. An analogy I found myself drawing is with resilience factors. In a way we could consider these researchers, with their controversial interests, as being "at-risk." What can we learn from them about protective factors that can allow them to thrive in the face of adversity?

### ***Personal Characteristics/Experiences "At-Risk" Good Work***

A first natural question is, who are these people? As noted earlier, they are all working at prominent institutions, the support and clout of which, may be necessary to carry out such work. Importantly, they are all passionate about their work and find it personally meaningful. They come from varied backgrounds, including clinical psychology, cognitive psychology, psychiatry,

and neuroscience. One aspect of their background that didn't vary though, was a liberal arts education.

Compared with the general population of college graduates, a disproportionately large percentage of people involved in psychedelic research attended liberal arts institutions. Every one of my participants attended a liberal arts university as an undergrad and the majority of researchers in the field (at least 2/3) follow this pattern. To put this in perspective, only 3% of total college graduates attended liberal arts institutions (Spencer, J., 2012). One participant suggested that the experience at a liberal arts college encourages broad, interdisciplinary thinking that may almost be necessary for risky, cutting edge work like this. Harvard's own description of a liberal arts education on its admission website is, "an education conducted in a spirit of free inquiry undertaken without concern for topical relevance or vocational utility." The decision to pursue such an education is in some ways similar to the decision to pursue psychedelic research. Both psychedelic research and liberal arts education may be more intellectually fulfilling, but at the cost of increased career uncertainty and financial risk.

My informants described several strategies that have helped them along. One strategy is seeing obstacles as opportunities, as guides to good work. Several said their response to the barriers has been to "do everything impeccably," to do "the best science possible." Another important strategy described by multiple respondents is the importance of having a daily grounding practice that helps you walk a straighter path such as yoga, meditation, hiking, or tai chi. They also spoke of the importance of being willing to make trade-offs; "If you pursue psychedelic research, you may not get the 'best' institutional job... you may not reach the highest zenith of the career path you want to achieve, but you're going to develop some really interesting friendships and collegial relationships along the way."

All the people I interviewed said that psychedelic research was not their primary area of work. For some in fact, it is (or initially was) not even paid work; it's something they did on the weekends on top of their normal full-time job or as a volunteer. People said they had thought of psychedelic research as a "career killer," or "career suicide." To ensure a steady wage, a psychedelic researcher needs to have work in other areas. Happily, my participants unanimously reported enjoying their other, primary area of work, which ranged from research with gay, bisexual, and transgender populations, substance abuse, schizophrenia, and meditation, to child psychology. Though they didn't use the word "calling," each of the people I interviewed definitely related to their work in these terms, as topics they "100% love," that are "beautiful and moving," "profound," "fascinating," "interesting," and "what my higher self would have me do."

### ***External Support Factors***

All participants reported having good mentors who taught them that the way around the obstacles was to do the best science possible. I also heard testimony that the good work memes transmitted to these scientists are being passed on to their mentees. One participant who now teaches younger doctors, echoed advice he was given:

"People have to follow their heart and not even consider going into the field of psychedelic research unless you have a burning desire and a sense of mission that this is really important... in the process, it's critical to do everything impeccably, be as responsible as possible, dot all your I's and cross all your T's. Establish yourself within the mainstream and work towards success."

In addition to mentorship, every person I interviewed indicated that the support of particular individuals in positions of power was instrumental in their success.

Another important source of support came from having scientifically minded colleagues who are not ruled by ideology. In contrast to many people, who won't listen or take one seriously

because they assume that drugs are bad, my participants reported having colleagues who may be critical and think drugs are bad, but are nevertheless willing to listen if one has a testable hypothesis. They spoke of having mentors and instrumental people support them but also many critics and cautions. A couple of participants cited the importance of being able to ignore such advice or at least to use it as additional information to strengthen their science. Another external source of support that one participant mentioned is the availability of grants that cover only part of your time, for example, 75%. Such grants encourage researchers to diversify and have other, perhaps safer avenues of research.

Nearly all participants reported that support from the psychedelic research community was important in sustaining their motivation. One said he would never have even gotten involved in the research if not for the Mind States and MAPS conferences. Another said, "If I could just go to one [psychedelic] conference a year, I can remember that I'm not alone." Because support from the larger research community is lacking, the support and sense of community and appreciation at these conferences is instrumental.

Participants also acknowledged ethical concerns unique to work in this area. One notable concern is whether it's appropriate for research to be the only avenue of access suffering people have to naturally occurring substances that we know have therapeutic value. For example, there is clear evidence that psilocybin containing mushrooms have therapeutic value. To operate within current US laws and regulations, capable and trained psychiatrists must refuse potentially helpful service to people seeking treatment with a substance that may grow in their own backyard. Another concern was whether in research one should be allowed to perform a medical procedure on someone one is not willing to undergo oneself. One serious concern has to do with the fact that these medicines are not good medicines for everybody; indeed they may carry risks

for specific populations, such as those with a predisposition towards schizophrenia. So it will be important to consider how the research will be interpreted and how the medicines will be administered. One participant said he has met basically everybody doing psychedelic research and "they're *amazing*" and have great training. As psychedelic therapy becomes more widespread, we will need to ask "who is capable and worthy of administering psychedelics to patients" and "the answer is, not everybody. Figuring out who is capable and who is not is a very complicated ethical problem."

## **Discussion**

As I've made clear, I am convinced that this area of research is populated by good workers. Assuming I am correct, perhaps the silver lining to the legal and public opinion status is that research with psychedelics only has room for good workers, people passionate about the science who are working with impeccable standards. It is encouraging that good work is taking place and it is important to try to understand the conditions that support good work in the face of obstacles because good work in other promising areas of inquiry is similarly challenged. It is my hope that the supports of good work in this arena may even be applicable in other research communities that face different threats to good work such as "secrecy, unwillingness to share information and materials, and litigiousness... pressure to publish prematurely, publish quantity rather than quality, compromise rigor, or use privileged information" (Nakamura & Shernoff, 2009). An analysis of the interviews that I conducted leads to suggestions for supporting good work as well as raising many questions for future research.

At the outset, I hoped the interviews would shed some light on how present obstacles may differently affect entry into psychedelic research for early and late career researchers. In the



case of my particular sample, the context of entry into psychedelic research between the groups turned out to be very different. The "late career" researchers were among the very first to begin psychedelic research in the early 1990's and the "early career" researchers whom I spoke with all entered the field in the 2000's. Despite this large difference in time, most of the challenges present in the early 1990's are still present today. Perhaps as a result of these obstacles, there are different opportunities available to emergent and veteran researchers. No primary investigator in a psychedelic study has been in the field for less than 20 years. There is nobody sponsoring doctoral work with psychedelics and there are *very few* positions available for somebody looking for steady work.

The finding that all participants received liberal arts educations is particularly striking. The interdisciplinary approach of a liberal arts education seems especially important for research on the frontiers. Another support factor that stood out was the importance of having a good mentor. Perhaps the few current psychedelic research pioneers, who struggled against the odds, will be especially suited to provide *good mentorship* to the next generation and pass on threatened memes such as research for its own sake and science for the sake of relieving human suffering. Then again, there are many responsibilities in academia, typically more rewarded than mentorship (Nakamura & Shernoff, 2009), and scientists in this field seem to be among the busiest, pursuing multiple lines of work. Research on good mentorship is especially relevant in obstacle ridden fields such as this.

Many questions remain. Why is there such a lack of diversity within the field of psychedelic research? According to a recent APA study, women outnumber men 3-to-1 in psychology PhD's and yet men greatly outnumber women fulfilling a research role in this field. Many women are involved in psychedelic work, but they tend to be so in other roles such as

therapist, guide, or caretaker. There is no clear reason for this and future work should investigate both the effects of this lack of diversity as well as potential avenues to a more representative population of researchers.

Another question raised by a participant is the optimal training for the next generation of psychedelic researchers. Several participants identified their mainstream training as being particularly helpful. They wondered whether that traditional professional formation might still be the optimal route, even as a next generation comes up with opportunities for psychedelic work and training very early on. As the field of psychedelic research develops, it will be interesting to see how increased opportunities and training options affect good work.

Somewhat paradoxically, the current situation seems to support good work in that it only allows serious, impeccable science to occur. But this situation comes at the cost of the speed of scientific progress in areas with potential to alleviate human suffering. An important question then becomes: who should decide how much risk is acceptable and how should this be decided? Should scientists, who are ostensibly in the best position to judge the likelihood of potential benefit and harm, be the ones to make the call? What about politicians, who are after all elected by and representatives of the people? Should healthy and willing participants be allowed more say in the risks they are willing to take?

When research that could save or significantly enhance lives is being thwarted due to being fringe or taboo, it is especially important to have effective supports available so science can answer for itself. Such supports include the availability of good mentors, a supportive research community, social support, disinterested colleagues, and, perhaps, a liberal arts education. Aspiring researchers, especially those in a marginalized field should be aware of the

importance of such supports and consider them in their school and employment choices. It is also important for individual scientists to be passionate about their work, to approach obstacles as opportunities to do better work; and, perhaps, that to have a grounding practice such as meditation, yoga, or nature walks. It would be worthwhile to examine the possibility of including such elements in the training of future generations of researchers.

## References

- Ablow, K. (2012). Doctors consider using street drugs to ease suffering of dying patients. FoxNews.com, published 4-24-2012. Accessed online at <http://www.foxnews.com/health/2012/04/24/doctors-consider-using-street-drugs-to-ease-suffering-dying-patients/#ixzz2C9jCiXS4> The Mind of the News
- APA's Center for Workforce Studies, 2009, accessed online at <http://www.apa.org/gradpsych/2011/09/applier.aspx>
- Bouso J. C., Doblin R., Farre M., Alcazar M. A., Gomez-Jarabo G. (2008) MDMA-assisted psychotherapy using low doses in a small sample of women with chronic posttraumatic stress disorder. *Journal of Psychoactive Drugs* 40: 225-236 (PDF)
- Brown, D. J., & Reitman, L. (2010). Psilocybin studies and the religious experience: an interview with Roland Griffiths, PhD. *MAPS Bulletin*, Vol XX, No 1, 22-25.
- Compton, W. M., Volkow, N. D. (2006). Abuse of prescription drugs and the risk of addiction. *Drug and Alcohol Dependence* vol 83, supplement 1: s4-s7
- Dumont G. J., Sweep F. C., van der Steen R., Hermsen R., Donders A. R., Touw D. J., van Gerven J. M., Buitelaar J. K., Verkes R. J. (2009) Increased oxytocin concentrations and prosocial feelings in humans after ecstasy (3,4-methylenedioxymethamphetamine) administration. *Social Neuroscience* 4: 359-366
- Fadiman, J. (2011) Talk given at the 2011 Horizons conference in New York City.
- Gardner, H., & Shulman, L. (2005). The professions in America today: Crucial but fragile. *Daedalus*, 134(3), 13-18.
- Geyer M. A., Vollenweider F. X. (2008) Serotonin research: contributions to understanding psychoses. *Trends in Pharmacological Science* 29: 445-453
- Griffiths, R. R., Richards, W. A., McCann, U., & Jesse, R. (2006) Psilocybin can occasion mystical-type experiences having substantial and sustained personal meaning and spiritual significance. *Psychopharmacology*.
- Griffiths R, Richards W, Johnson M, McCann U, Jesse R (2008) Mystical-type experiences occasioned by psilocybin mediate the attribution of personal meaning and spiritual significance 14 months later. *Journal of Psychopharmacology* 22: 621-632
- Grinspoon, L. & Bakalar, J. B. (1981) The psychedelic drug therapies. *Current Psychiatric Therapies*, (20), 275-283. Accessed online: <http://www.psymon.com/psychedelia/articles/grinbak.htm>
- Grob, C. S. (1998). Psychiatric research with hallucinogens: what have we learned? *The Heffter Review of Psychedelic Research*, Vol 1, pp 8-20.

- Grob, C. S. (2010). Commentary on Harbor-UCLA psilocybin study. *MAPS Bulletin*, Vol XX, No 1, 28-29.
- Grob, C. S., Danforth, A. L., Chopra, G. S., Hagerty, M. C., McKay, C. R., Halberstadt, A. L. and Greer, G. R. Pilot study of psilocybin treatment for anxiety in patients with advanced-stage cancer. *Archives of General Psychiatry* 68(1):71-78, 2011.
- Halpern J. H., Sherwood A. R., Passie T., Blackwell K. C., Ruttener A. J. (2008) Evidence of health and safety in American members of a religion who use a hallucinogenic sacrament. *Medical Science Monitor* 14: SR15-22 (PDF)
- Johnson M., Richards W., Griffiths R. (2008) Human hallucinogen research: guidelines for safety. *Journal of Psychopharmacology* 22: 603-620 (PDF)
- Intemman, K. K., & de Melo-Martin, I. (2008) Regulating scientific research: should scientists be left alone? *The FASEB Journal*, 22 (3), 654-658. <http://www.fasebj.org/content/22/3/654.full>
- Krupitsky E. M., Burakov A. M., Dunaevsky I. V., Romanova T. N., Slavina T. Y., Grinenko A. Y. (2007) Single versus repeated sessions of ketamine-assisted psychotherapy for people with heroin dependence. *Journal of Psychoactive Drugs* 39: 13-9
- Mangini M. (1998) Treatment of alcoholism using psychedelic drugs: a review of the program of research. *Journal of Psychoactive Drugs* 30: 381-41
- Martin, J. B. & Kasper, D. L. (2000). In whose best interest? Breaching the academic-industrial wall. *The New England Journal of Medicine*, Vol. 343, No. 22.
- Moreno F. A., Wiegand C. B., Taitano E. K., Delgado P. L. (2006) Safety, tolerability and efficacy of psilocybin in 9 patients with Obsessive-Compulsive Disorder. *Journal of Clinical Psychiatry* 67: 1735-11740
- Nakamura, J., Shernoff, D. J. & Hooker, C. (2009). *Good Mentoring: Fostering excellent practice in higher education*. John Wiley & Sons.
- Nichols, D. E. (2010). Research with psychedelic psychotherapy for dying patients: The inspiration for the founding of the Heffter institute. *MAPS Bulletin*, Vol XX, No 1, 34-35.
- Palca, J. (2013). Scientists look to the internet to raise research funds. NPR Morning Edition, Feb 15, 2013. Accessed online at <http://www.npr.org/2013/02/15/172078619/scientists-look-to-the-internet-to-raise-research-funds>
- Rowe, S., Alexander, N., Clydesdale, F. M., Applebaum, R. S. Atkinson, S., et al. (2009). Funding food science and nutrition research: Financial Conflicts and Scientific Integrity. *The Journal of Nutrition Commentary*, accessed online at <http://jn.nutrition.org/content/early/2009/04/29/jn.109.105668.full.pdf>
- Sewell, A. (2006). So you want to be a psychedelic researcher. *MAPS Bulletin*, Vol. XV, No 2, 42-48.

Sewell R. A., Halpern J. H., Pope H. G., Jr. (2006) Response of cluster headache to psilocybin and LSD. *Neurology* 66: 1920-1922

Slater, L. (2012). How Psychedelic Drugs Can Help Patients Face Death. *The New York Times Magazine*. 20 Apr 2012. Accessed online at <http://www.nytimes.com/2012/04/22/magazine/how-psychedelic-drugs-can-help-patients-face-death.html?pagewanted=1&ref=magazine>

Spencer, J. (2012) The pros of a liberal arts education. *The Brandeis Hoot*, 10-05-2012. Accessed online at <http://thebrandeishoot.com/articles/12502>

## **Appendix I**

### **Interview Protocol**

The following questions were used as a guide in each interview, however they were not rigidly adhered to, when for example, an answer had already been given or the question seemed less relevant.

1. How long have you been working in your field? What is your position? (Now and when you first got involved with psychedelic research)
2. What attracted you initially to research on psychedelics?
3. Would you say that there are any personal beliefs or core values that guide your work?
4. Are these values the same as or different than the values of colleagues and others in your field?
5. What are some factors that have helped you be able to pursue psychedelic research?
6. What are some factors that made it difficult for you to pursue psychedelic research?
7. How do you go about dealing with these difficulties?
8. What is your work environment like, is it generally supportive or constraining?
9. Do you have ethical concerns about your area of work -- things that you worry about?
10. What direction do you see for the future of psychedelic research?

I also asked each participant if there was anything else we hadn't talked about that he or she thinks is an important factor to this decision making process.