CHAPTER 6

ACT-based **First Year Experience Seminars (FYSs)**

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First Year Experience Seminars (FYSs)

A recent survey with 150,000 first-year students from more than 200 universities in the U.S. found that only about half of the students—the lowest number since the survey began—rated their emotional health as "above average or highest 10%," whereas the number reporting "frequently feeling depressed in the past year" rose to almost 10%--a 3.4 percentage point increase relative to five years ago (Eagan, Stolzenberg, Ramirez, Aragon, Suchard, & Hurtado, 2014). The college years, although a time of intellectual, emotional, and social growth, are laden with subtle and overt pressures: learning to individuate from parents, succeeding academically, getting along with roommates, exploring sexuality, fitting in, fulfilling extracurricular demands, feeling pressure to perform optimally given the high costs of a college education, surviving financial challenges, and finding their identity amidst an increasingly diverse campus (Kadison & Digeronimo, 2004). Several of these pressures appear to be most salient during transition periods, such as the freshman year in undergraduate education. Similar patterns of increased distress have been shown among first year law and other graduate and professional students as noted elsewhere in this book, which suggests that this is not merely a matter of age – it is also a matter of rapid change and new transitions.

Beginning college seems to be an especially challenging transition, however. The freshman year is often (i.e., especially for residential students) filled with "firsts," such as living away from home, advocating for oneself, and managing day-to-day obligations for the first time. Even severe concerns, like suicidality, have been found to be more frequent among freshmen than seniors (Brenner, Hassan, and Barrios, 1999). Although it is quite costly to students and educational institutions alike, perhaps it is no surprise that approximately 25% of incoming freshmen fail to re-enroll at the same institution the next year (Gerald & Hussar, 2002).

Emotional problems are one of the primary reasons for temporary discontinuance of college enrollment (Arria, Caldeira, Vincent et al., 2013) or actual drop out (Eisenberg, Golberstein & Hunt, 2009).

Experts suggest that first-year students succeed when they make progress toward developing not only academic and intellectual competence, but also emotional and social competence (Upcraft, Barefoot, and Gardner, 2005). It is important that freshman students receive proper assistance, as struggles that take root early in college may be likely to persist (Zivin, Eisenberg, Gollust, & Golberstein, 2009). Thus the transition to college offers an important target and opportunity for promoting psychological skills that can dramatically affect the lifelong mental health trajectories of these emerging adults (Salmela-Aro, Aunola, & Nurmi, 2008).

In the present chapter we will: 1) highlight some of our own research suggesting that approaches targeting psychological flexibility (PF; described below) as a common core process are well matched to college freshmen; 2) describe, and summarize preliminary findings, of a study utilizing a classroom-based approach attempting to prevent and/or ameliorate mental health problems in college freshmen based on Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, and Wilson, 2012); and, 3) discuss challenges we have faced and lessons we have learned that can potentially help the field in the conduct of this type of research, prevention efforts in particular, in the future.

Adjustment to College Seminars Might Be an Ideal Venue to Teach Psychological Skills to College Freshmen

To help college freshmen adjust effectively to college, and thereby counteract the many stressors and avoid premature dropout from college, most universities offer some type of First

Year Seminar (FYS) to freshman students (Padget & Keup, 2011). A study by the Policy Center on the First Year of College showed that 94% of accredited four-year colleges and universities in the U.S. offer a FYS to at least some students and over half offer a FYS to 90% or more of their first-year-students (2002; www.firstyear.org).

FYSs vary a great deal in terms of content, duration, and whether or not they are mandatory to freshman students (Padget & Keup, 2011). A common form of FYS is that of an "extended orientation" consisting of "an introduction to campus resources, time management, academic and career planning, learning strategies, and an introduction to student development issues" (Padgett & Keup, 2011, p. 2). Participation in FYS is generally associated with persistence into the second year in college, better academic outcomes, and other positive changes due to retention in college (as summarized in Cuseo, 2009 and Pascarella & Terenzini, 2005). Although FYSs have recently been shown to impact some cognitive variables (Padgett, Keup, & Pascarella, 2013) and coping with stress is a frequent topic in FYSs (Padgett & Keup, 2011), as far as we know, no randomized controlled trial to date has utilized a credit-earning class specifically to both prevent and ameliorate mental health problems among college freshmen. In principle, the delivery of psychological content via classes may make it more accessible, less stigmatizing (it's not therapy), less costly, and more easily disseminable.

An Approach that is Empirically-Validated and Transdiagnostic Might be Most Efficient

If psychological skills to college students are taught in order to prevent and ameliorate diverse forms of psychological suffering, the question remains: Which psychological treatment would be most appropriate for delivery in a classroom format for college freshmen? Although typically the idea of addressing the specific content of the problem (e.g., substance abuse, depression) may be appealing, as discussed elsewhere in this book, college students are

encountering *a number* of different issues. Some specific programs have been designed for college students in order to treat/prevent specific content such as substance abuse (Rimsza & Moses, 2005) or eating disorders (Phillips & Pratt, 2005). Even if such programs appear promising, when it comes to universal prevention, it would not be feasible to conduct a program for each possible problem and comorbidity is common. Thus, prevention requires an approach that is adaptable to a range of problems and that could reach students who are distressed but also those who are not yet distressed. An obvious target for a transdiagnostic prevention approach is psychological flexibility (PF)--the ability to be mindful of experiences in the present moment and to change, or persist in, behavior when doing so serves valued ends (Biglan, Hayes, & Pistorello, 2008).

There is a now substantial literature base indicating PF as a common protective factor across many psychological issues (Hayes, Luoma, Bond, Masuda, & Lillis, 2006), but it remained to be seen whether college freshmen's ability to be psychologically flexible would prospectively predict future campus-based behaviors, such as academic outcomes and health care utilization at the Student Health Center, and whether or not psychological flexibility or inflexibility would serve as a determining transdiagnostic factor in this population. These fundamental questions were three initial lines of research pursued by our team.

Psychological Flexibility (PF) Predicts Early Graduation and Is a Common Core Process in Freshmen' Psychological Issues and Healthcare Utilization

As part of a large, federally-funded study to be described later, we assessed close to 2,400 entering freshmen's level of PF (while they were still in high school) and followed their academic performance and enrollment in college for the next four years. Above and beyond the impact of standardized achievement tests such as the ACT/SAT, a 7-item measure of PF, the

Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011), was predictive of graduation in 4 years or less. This finding is a factor of significant interest for college administrators who need to attract, retain, and graduate students in order to fulfill their educational mission.

As part of the same project, a sub-sample of 972 first-year college student freshmen, average age of 18, completed self-report measures of PF and psychological distress as well as a structured diagnostic interview at baseline. PF was significantly lower across a range of current and lifetime depressive and anxiety disorders as well as lifetime history of eating disorders, relative to freshman students with no disorder, even after controlling for general psychological distress (Levin et al., 2014). A deficit in PF was more apparent among those having comorbid depressive, anxiety, and substance use disorders relative to those only having one of these diagnoses (Levin et al., 2014). These findings suggest that PF, or the lack thereof, as a mechanism of action, underlies several mental health problems among college freshmen and therefore interventions that effectively move it may be helpful to a range of presentations, including comorbid presentations that typically are thought of as more difficult to treat.

In another study (Hildebrant, Pistorello, Hayes, Gallop, & Hamilton, unpublished manuscript), first year freshmen who were currently living in a student residence hall ($N = 208$) took the AAQ (Hayes et al., 2004) to measure PF and a symptom inventory to measure psychological distress. Over the next four years, the interaction of PF and psychological distress significantly predicted visits to the University's Student Healthcare Center ($\beta = -.817$, $t = -2.15$, $p = .032$). The main effect for PF also was significant ($\beta = .329$, $t = 2.83$, $p = .005$), in that the higher the psychological inflexibility in the freshman year, the higher the number of medical visits during college, while that for psychological distress was a trend ($\beta = .623$, $t = 1.87$, $p =$

.064).

These findings suggest that PF is highly relevant to college student freshmen. That is true not only in terms of mental health issues, but also in terms of academic functioning and physical health. It is true both cross-sectionally and longitudinally.

What we do not have is clear evidence in the area of comprehensive interventions to change PF in college students. The closest set of data consists of an evaluation of the impact of an ACT self-help book on Japanese international students (Muto, Hayes, & Jeffcoat, 2011) in a small ($N = 70$) randomized trial. Results showed that reading the book improved general mental health at post and follow up, and had positive effects for students who were moderately and above depressed or stressed, and for severely anxious students. Outcomes were mediated and moderated by PF. This is hopeful, but it does not yet show that college freshmen can be reached.

ACT as a First Year Experience Seminar (FYS)

Based on these findings, we examined whether clinical ACT technology would be acceptable and useful when presented as a FYS. This federally funded project[1] examined the impact of a 1-credit Acceptance and Commitment Training (ACT) seminar, composed of eight two-hour lessons designed to prevent and ameliorate mental health issues among college students. This class was compared to a didactic FYS class with content specifically selected based on its relevance to mental health issues in college: In addition to time management, making career choices, and learning about resources on campus, the class focused primarily on learning about depression, anxiety, substance abuse, and relationship problems among college students.

[1] This project was supported by Award Number R01MH083740 (PIs: S. C. Hayes and J. Pistorello) from the National Institute of Mental Health (NIMH). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Mental Health or the National Institutes of Health.

The ACT seminar attempted to increase PF in college freshmen by packaging typical ACT therapeutic content (Hayes et al., 2012) into a credit-earning class. Each class followed a Power Point presentation in order to enhance fidelity to the research protocol by different instructors (class presentations and manual for instructors are available upon request from first author). Classes were small (9-15 students each) and were conducted by ACT-trained graduate students or postdoctoral fellows. In order to reduce financial obstacles, the credit for the class and the textbook, across both conditions, were paid for by grant funds.

The ACT class used as its textbook *Get Out of Your Mind and Into Your Life* (Hayes & Smith, 2005), which is a best selling self-help workbook previously found helpful with international college students (Muto et al., 2011). The class was structured by covering 1-2 ACT processes each week, which roughly coincided with the workbook chapters (Hayes & Smith, 2005). The initial thought was to package a typical 2-day ACT workshop (16 hours) into a 1-credit class. Thus, the class included classic ACT elements, such as foundational conceptualizations (i.e., human suffering is ubiquitous and "normal"), metaphors (i.e., difficult thoughts, feelings and images are like passengers on a bus we are driving—they will come along but need not dictate the direction of the bus), eyes closed exercises (i.e., instructing students to imagine each and every private event, like a thought or an emotion, as a leaf going down a flowing stream), and experiential exercises (i.e., having students pair up and each acting like the other's mind during a walk around campus or having students sit facing each other, being present while maintaining eye contact for a few minutes).

At the end of each class, homework was assigned, which typically included reading 1-2 chapters in the book and 1-2 exercises. Some examples of homework exercises include: practicing/listening to mindfulness exercises (which we named "noticing" exercises), writing

about their "passengers," attending a University social event, making and keeping a commitment, and journaling about their reactions to a chapter. Homework was assigned and collected through WebCampus. Additionally, each class started with homework review with students being asked to share whether or not they did the homework, what went well, and what didn't go well. The instructors looked for ways to reinforce even small steps towards ACT-consistent verbal reports and behavioral repertoire. Completion of homework, as well as attendance of classes and grades in two exams, contributed to the student's final grade.

Several principles were followed in order to adapt ACT into a classroom context with students who may or may not have been distressed, including the following: 1) using examples from non-clinical, as well as clinical, situations without inadvertently fragilizing the students; 2) assuming that the process within the class was just as important as the content; 3) orienting and re-orienting students as to the purpose of the class and some exercises and asking permission before conducting more daring experiential exercises (and making clear that students could decline participation if they so wished—few ever did); 4) relying as much as possible on engaging materials (e.g. youtube videos) with content relevant to college as a venue for PF learning; and 5) allowing instructors some flexibility on which metaphors and interventions were utilized as long as a specific process was targeted. See Pistorello et al., 2013 for more details.

Similarly, because the class included both students who were psychologically distressed and those who weren't, and because we had as a primary goal prevention of future problems, we contextualized the elements of the ACT class as something that could be useful right away for some but perhaps in the future for others. In classes 1-2, instructors stated something like "This class is about what you can do when things aren't working in your life, or when things get really hard, even if that hasn't happened for you yet." Because of the diversity of experiences in the

classroom (not everyone was in distress, as is the case in clinical settings), instructors reinforced steps in the right direction and only gently challenged comments that were not ACT consistent, often inviting students to check on the workability of various behaviors in their lives in the future. For the last class (week 8), to reinforce the preventative aspects of the class, instructors asked students to bring something to share with the rest of the class that, in the future, could serve as a reminder to them of what they had learned in this class.

Although the instructors of the ACT classes were clinically trained, it was made clear to students that this was *not therapy* but rather an experiential class to help the students adjust to college and life. However, the stance of the ACT instructors matched the typical openness and vulnerability of an ACT therapist (Hayes et al., 2012) in that the instructor, if feasible and advisable, participated in exercises and used personal examples to model vulnerability and acceptance of difficult emotions, while highlighting the ubiquity of human suffering. For example, in class 8, students were asked to write down on a badge a word/judgment that they were willing to let go of. The instructors participated in the exercise and one instructor wrote "imposter" on his own badge and noted that teaching often gave rise to that self-judgment for him and what kept him teaching (not buying into that thought) was focusing on the value of being helpful to students like themselves. Likewise, the instructors attempted to be "present" and open, not "lecture" students but instead promote engagement and discussion, while allowing students "to be where they are" without disapproval. As is typical of ACT, everything that showed up in class discussions was viewed as "grist for the mill." Below are a couple of class excerpts that demonstrate some elements of an ACT stance by instructors:

Student: "I didn't do my homework this week. I completely blew it."

Instructor: [Bringing in values/choices] “So this week having fun was a little more important? That’s OK! Did you notice that you were making different choices all along the way? I think you had said you wanted last class was balance, right? It’s totally fine that you were out of balance this week. Did you notice throughout that process that there were lots of little tiny choices along the way? Did you see that part?”

and

Student [talking about having a conversation with a professor he had been avoiding]: “It was an extremely awkward conversation.”

Instructor: “And you did it, despite that discomfort, that’s great!”

The didactic class (or FYS as usual class) was in many ways more face valid in terms of what one might expect in an adjustment to college class. Students in the didactic class had a book that consisted of hand-picked chapters from available FYS materials. The book content always revolved specifically around college life, with college-based examples, pictures, issues, terminology, cartoons, and so on (This was not the case with the textbook utilized in the ACT condition, which was written for individuals in some psychological pain).

Method

College freshmen who had been admitted into a mid-sized Western, state university, were emailed prior to starting college and asked to complete a screening questionnaire in exchange for being entered into a raffle for iPods. Students were screened for levels of PF, via the AAQ-II, and to offset the potential that students very high on PF would be the first to volunteer to participate in the study, recruitment occurred in waves. Students lowest in PF/higher in

avoidance tendencies were the first to be invited to take part in the class, whereas those highest in PF/lowest in avoidance were the last ones to be invited; recruitment proceeded until all available openings for the classes were filled. Between 2008 and 2010, approximately 2,300 freshmen (out of 7,200 emailed) completed the screening; 817 completed the initial assessment (85 dropped out before randomization). A total of 732 college freshmen were randomly assigned either to the ACT (n = 365) or the didactic (n = 367) conditions. Approximately 38% of the trial participants were male and 33% were ethnic or racial minorities, with a mean age of 18 (SD=.40). The final sample resembled the campus population, with the exception that, as is typical in campus-based studies (e.g., Eisenberg, Golberstein, & Gollust, 2007), more female than male students participated.

Despite the recruitment strategy which favored participation by students lower in PF, the final mean level of PF obtained in this study was similar to other non-clinical college student samples and significantly higher than what has been observed in clinical samples (Bond et al., 2011), suggesting that the final sample is representative of college students in the general campus population. The average Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) score was 8 (SD=6.96), suggesting that, on average, participants suffered from minimal depression (the lowest level possible); 25% were diagnosable with a current mental health problem based on diagnostic interviews (a somewhat lower percentage than found in epidemiological interview studies—Blanco et al., 2008).

Results

Details of this study, and comprehensive outcome findings, are reported elsewhere (Pistorello et al., in preparation; Pistorello et al., 2014); however, below findings are discussed regarding the acceptability and feasibility of conducting an ACT FYS class, as well as some

preliminary primary outcome and process analyses findings.

Attendance. There were no differences by condition in terms of percentage of students who opted to drop out of the class and the overall number of classes attended. Approximately 8% of students dropped the class across both conditions (similar to other FYSs offered locally) and the average number of classes attended was 7 (out of 8) across both conditions. [2]

Satisfaction. A common standardized measure to assess students' satisfaction with the class, the *Student Evaluation of Educational Quality* (SEEQ; Marsh, 1982) was utilized. The SEEQ has been found to be reliable across a wide range of courses (Marsh, 1983). Ratings could range from 1 to 5, and classes from both conditions received high marks (in the 4 to 5 range on average), indicating high satisfaction. There were no differences across conditions in overall satisfaction, suggesting that the ACT class was as acceptable to college freshmen as an FYS specifically designed for this population. In terms of individual questions, ACT students were more likely than didactic students to indicate that the class was intellectually challenging and stimulating, it had increased their interest in the subject area, that their instructors were enthusiastic, and that the class may have helped them deal with relationships in the future. In contrast, students in the didactic condition were more likely to report that they had learned and understood the subject material and that they expected the class to be helpful in dealing with alcohol and drug issues in the future (which makes sense considering that substance abuse was specifically addressed in the didactic seminar).

[2] Interestingly, the first year of the study, when the class was offered as Pass/Fail, the drop out rate was around 7% and only half of the students attended all 8 classes. For the second and third cohorts, based on instructors' feedback, we changed the grading method so that students received a letter grade for the class (instead of just Pass/Fail) and at that point, the dropout rate increased to 10% but three quarters of the students started attending every class. This pattern occurred for both conditions.

Importantly, the ACT class was found as acceptable to racial/ethnic minorities as the control condition.[3] This is an essential finding, considering how different (more personal/experiential) an ACT-based class is relative to more typical FYSs.

An informative finding emerged when psychological distress was entered as a moderator of satisfaction with the classes. When a median split was computed on the General Health Questionnaire (GHQ; Goldberg & Williams, 1988), it was found that students who were more distressed were more satisfied with the ACT class, whereas students who were less psychologically distressed preferred the didactic FYS. This suggests that, at least in terms of satisfaction, ACT classes may be better suited to students who are currently in some sort of mental distress.

Preliminary primary outcome findings. Initial analyses do not show consistent differences in outcome in terms of most mental health issues between the two conditions (with follow-up assessments occurring up to 3 years after baseline). The primary focus of the grant, however, was on reducing suicidal risk. The outcome measures that focused on that area were the Suicidal Behavior Questionnaire (SBQ; Linehan, 1998), the Lifetime Suicide Attempt and Self-Injury Count (L-SASI) which is based on a more comprehensive version of a similar interview (Linehan, Comtois, Brown, Heard, & Wagner, 2006), and the Life Attitudes Schedule—Short Form (LAS-SF; Rohde, Lewinsohn, Seeley, & Langhinrichsen-Rohling, 1996). The LAS-SF is a 24-item self-report tool measuring suicide proneness (risk-taking and suicide-prone actions, thoughts, and feelings), and the only suicide-related measure that showed an intervention impact. The ACT class produced a significantly better reduction through follow-up in risk-taking and suicide-prone actions among college freshmen.

[3] Across both conditions, students who were first generation and/or ethnic/racial minorities reported higher satisfaction ratings and perceived usefulness of the FYS classes than non-minority/Caucasian students.

Preliminary process findings. Surprisingly, differences in some key processes have been small in magnitude. For example, although a significantly higher percentage of students in the ACT class showed reliable change in PF (as measured by changes in the AAQ-II administered before and after the seminar), this difference was small: 18% vs. 11% in the ACT versus didactic conditions, respectively.

The most consistent finding at the level of process has been that the ACT condition showed a pattern of moving intrinsic/positive motivations for valuing relationships and education much more so than the didactic condition. This was assessed through the Personal Values Questionnaire (PVQ; Ciarrochi, Blackledge & Heaven, 2006), which requires participants to provide a brief narrative describing their values within each subscale domain (relationships and education). A series of 3 questions assessed intrinsic/positive motivations for this value on a 5-point scale ranging from 1 (*Not at all for this reason*) to 5 (*Entirely for this reason*). Intrinsic/positive reasons include valuing education or relationships because they lend meaning to the students' lives or make their lives richer and more interesting. The findings of increased positive motivation towards education parallel those we have obtained with a brief Web-Based ACT prevention intervention with college freshmen (Levin, Pistorello, Seeley, & Hayes, 2013), and reinforce the idea that ACT may be especially useful in helping college students engage in values-based educational activities. There was also a trend towards a significant difference between conditions in terms of distress tolerance with students in the ACT class showing more distress tolerance, but there was no difference in terms of mindfulness or believability of thoughts.

Reasons for taking the class. At this time, we are reviewing some of the qualitative comments to open-ended questions gleaned at the end of the class. One of the questions asked

after the class was completed was what prompted students to take this class. Questions were coded by two different raters, who achieved good inter-rater reliability, and indicated that most students stated that they took the class for a combination of reasons but that 47% partly took the class because of the free credit and/or because they thought it'd be an easy class; 37% partly because they wanted help with college life, self-esteem, or mental health issues; 22% partly because of an intellectual interest or because they were Psychology majors; 18% because of the financial incentives for completing assessments (which went up to a $100 gift card for 4 hours of assessments in follow-up years 2 and 3); 10% to help the study/science; and others because it was a new experience, there was pressure from others (parents usually), and various other reasons. We are still exploring whether these motivational issues matter, but it places this study in a clearer context. In general, half of the students took the class at least in part for external or academic reasons – which is a notably different motivational set than for most other psychological intervention studies.

What students found most impactful about the ACT class. At the end of the class, after the final test, students were asked to comment on what specific elements of the ACT class they found most impactful. By far, the most often cited element was the "breathing/noticing exercises" (brief mindfulness exercises that were done at the beginning of class, or discussed in the ACT text, or generally alluded to throughout the class/assigned as homework), with comments such as "*Learning to notice things and to take a step back to watch my life"* and "*The noticing exercises, those allowed me to regroup and focus on what I could fix with the tools they gave us and helped me pay attention*," with one student explaining potentially why this element stuck with them, "*The noticing exercises impacted me the most because it is easy to do and remember every day.*"

Three additional elements very frequently mentioned included the leaves on a stream imagery exercise ("*The metaphor of your thought flow being like a stream and each thought being like a leaf in the stream and that you should just notice it as a thought and let it keep floating by.*"), the bus metaphor ("*Just because those passengers on your bus are pointing you towards that direction--that path that will lead you to sorrow,[sic] you can still keep going on your journey knowing that they are with you."*), the Eyes On exercise ("*The exercise where we had to sit really close to someone and just look in their eyes without talking. Then the instructor asked what does that person need to change to be perfect and I didn't have an answer like everyone else. I judge myself too harshly."*), and Taking Your Mind For A Walk around campus (*"Walking around as each others' minds. It was fun."*).

Some ACT-related concepts were mentioned at a moderate frequency, such as willingness *("The willingness chapter. It made me realize that just because I don't want to do something doesn't mean I shouldn't do it. I need to be willing to do uncomfortable and annoying things sometimes."*), defusion or the ability to not take private events literally (*"The idea that my thoughts are just my thoughts and my mind thinks those thoughts."*), the ubiquity of human suffering ("*Knowing that human suffering is universal and that in my statistical sample, my problems were very much shared by the other students*."), the experiential nature of the class (*"The exercises that made me open up to others and perhaps get a little bit outside of my comfort zone"*). Although less frequent, there were also comments about more complex concepts in ACT like self-as-context ("*The part about the fact that there is a you right there behind your eyes that has always been there and always will. You will always be there; you can't lose it. Your mood may change or your body might change, but that part of you won't.")*

Given the preventive nature of the class, as part of the protocol, we asked students to bring something (an object of some sort; it could be a poem or a favorite song even, or any other object) to share with their classmates on the last class that was meaningful to them and could later serve as a reminder of skills they had learned in this class. Several students mentioned how powerful this last class had been to them (*"I liked the last exercise we did when we brought in something to take from this class to remember. It was the first time I truly thought about carrying something with me that had meaning."*).

Fewer than 3% of the comments to this question--about what was most impactful--were negative in nature ("*To be honest, nothing really*." and *"I don't really know. I don't think this class was for me. Maybe I'm already adjusted to college life."*)

What students liked least/would change about the ACT class. By far, the most frequently cited complaint, across both conditions, was that having the class last two hours at a time was too long ("*Instead of making them once a week for two hours, maybe split it up because it just seemed long."*). Several students suggested that the textbook (*Get Out of Your Mind and Into Your Life*) should be better integrated with the class (*"I never read the book because it didn't seem to be required so maybe incorporating that."*) and more focused on college student life and/or less emphasis on being in pain *("A book that has the same ideas but with less bleakness"*).

Although one might fear that students would complain about the experiential/personal nature of an ACT class with college freshmen, there was just one comment about that (*"It should be a larger class so that you're not always put on the spot to talk about your feelings every time a question is asked."*)

Conclusions, Challenges, and Lessons Learned

Psychological flexibility as a process applies to college students, but it is not yet clear how best to intervene on such processes in a general college student population using a universal prevention paradigm. Our research so far suggests both what to do and what not to do. In this section, we will first highlight some of the key findings and what they mean for dissemination of acceptance- and mindfulness-based methods in a FYS on college campuses. We will then discuss some of the challenges faced, lessons learned, and some suggestions for future directions.

The Class is Acceptable, Especially for Distressed Students

We have learned that ACT, cast as an educational approach (Acceptance and Commitment *Training*) but still recognizably related to methods used in clinical contexts, can be delivered as a credit-earning class to college freshmen, with high engagement, high satisfaction, and without any adverse events. When we first submitted the grant proposal to fund this project, reviewers were concerned that students would become too dysregulated and upset with the highly experiential nature of the class. That was not the case. As noted above, students tended to attend 7 out the 8 classes and the dropout rate in the ACT class was the same as in the didactic condition (which is similar to other FYSs). Satisfaction ratings with the class showed that students who were more psychologically distressed preferred ACT whereas the opposite was true for students who were less distressed. It is worth noting, however, that the ACT class in this study was taught by clinical psychology graduate students or postdoctoral fellows who had been trained in ACT. It is not clear if non-clinicians or clinicians with less ACT training can teach this approach as part of a class with as much acceptability by the students.

The ACT Seminar Developed Values-based Motivation

This type of ACT class, more so than a typical FYS, helped college freshmen develop more intrinsic/positive motivations in both academic and relationship domains. This can be

important in persuading campus administrators of the possible value of more psychologically oriented FYS classes with college freshmen. We do not know if much shorter ACT-based interventions would have a similar impact, but that seems possible. For example, Chase et al. (2013) found that a 15- minute online ACT values intervention led to a significant increase in grade point averages over the next semester. A short online ACT intervention also increased positive educational values (Levin et al., 2013). Students in our study complained that the length of each class was too long. It is quite possible that this may be a case of "less is more," particularly with this age group, and were we to redesign this intervention we would probably shorten its timeframe. In the age of YouTube videos and multitasking, we may need to utilize mindfulness-based interventions judiciously—probably in smaller doses.

The ACT Seminar Did not Move the Targeted Process Powerfully

Perhaps the most problematic finding from this study is that PF, the putative common core process targeted by ACT, did not move as much as expected, with only a 7% difference in percentage of students showing a reliable change across conditions. There are two possible explanations for this small effect. First, it may have been a measurement problem, as many studies show that to detect changes in PF, it is best to adapt the AAQ to the specific presentation involved. For example, an AAQ reworded for diabetes (Gregg, Callaghan, Hayes, & Glenn-Lawson, 2007) or for work setting (Bond, Lloyd, & Guenole, 2013), when applied to these different presentations, were more useful than the generic AAQ. This suggests that an AAQ reworded for college students and their specific campus issues needs to be developed and tested. For example, instead of "Worries get in the way of my success" the question could be reworded to say "Worries get in the way of my *academic* success."

A second explanation is that the technology needs to be further refined, although this

issue is intertwined with other methodological aspects, such as what type of prevention work is being conducted and how students are recruited (see below for more on these topics). Our research clearly shows that the PF theoretical model applies to college freshmen given the findings of PF predicting graduation, healthcare utilization, and serving as a common factor among many diagnoses with this population. We also know that traditional ACT clinical technology will generally move PF measures in clinical populations, and that this movement often mediates outcomes (Hayes et al., 2006). So far, it appears that the ACT FYS class we developed needs to be modified to produce stronger process effects, or perhaps, applied differently to students who are not distressed at all. One hypothesis, heretofore not empirically substantiated, is that having an FYS with *only* students in distress may generate a more powerful impact than observed in more heterogeneous classes, as the group process may have been hindered by the presence of students who were in no distress at all. Although a constant attempt was made to focus on non-clinical and even funny examples, more serious content was routinely brought up by some students. Another prevention strategy that perhaps could better reach students who are not distressed might be Curriculum Infusion, or the process of integrating mental health content into courses across the curriculum (e.g., Mitchell, Darrow, Haggerty, Neill, Carvalho, & Uschold, 2012), as opposed to having a dedicated FYS class. Some such efforts have already been launched in the ACT world in the realm of Psychology classes (See Pistorello et al., 2013 for two examples), but it would be useful to extend this reach across other disciplines as well, such as discussing the utility of mindfulness in a business class, or bringing up in a history class how a leader's inability to sit with discomfort could lead to disaster. This would involve developing materials for specific classes (see http://gordiecenter.studenthealth.virginia.edu/faculty/curriculum-infusion for an example with

substance abuse) that could be easily utilized and integrated by academic faculty, who would have to be recruited to learn more about these concepts. Although it may seem ambitious, at least in terms of mindfulness, our local campus has recently convened a large group of faculty members, across a number of disciplines, who are interested in learning about and teaching students mindfulness.

The Field Needs Better Measures for Prevention Trials

Most of the measures utilized targeted clinical concerns and it is possible that these measures may not have been adequate to detect differences in a primarily non-clinical population. This hypothesis would fit with the fact that two of the measures that moved most where those regarding values motivation, which are applicable across a range of psychological functioning. In the future, measures that assess college students' mental health (including "flourishing"; Westerhof & Keyes, 2010), as well as mental illness, should be included in prevention trials or studies with college students in general.

Universal Versus Targeted Prevention: An Essential Distinction

This study was focused on suicide prevention and the intervention did have a superior impact on one of the three measures in this domain, but the approach used was universal prevention. There was no attempt to target students who were suicidal or who were engaging in risky behaviors. Meta-analyses on prevention studies show that universal prevention efforts yield much smaller effect sizes than interventions that specifically target individuals who are already showing some symptoms or who might be at risk of developing symptoms (cf. Muñoz, Beardslee, & Leykin, 2012). We conducted recruitment in waves, based on PF level, because we (rightfully, as it turns out), assumed that students who were high in PF would be more likely to be the "early birds" in signing up for the classes. The final sample recruited into the study was a

very typical non-treatment seeking student sample, with scores in PF and depression that placed the average participant in a "healthy normal" range. This is very different from other successful attempts at using ACT in a preventive manner, that have tended to use targeted groups that are at risk of developing additional problems (e.g., Bohlmeijer, Fledderus, Rokx, & Pieterse, 2011).

How/When/Where Students Are Recruited Matter

We do know that recruitment matters. The higher satisfaction for distressed students suggests that perhaps an ACT FYS might be best utilized with students already reporting some distress. Some ACT treatment studies have shown an "incubation effect" where differences between conditions favoring ACT become evident only at follow-up (Luoma, Kohlenberg, Hayes, & Fletcher, 2012). Therefore, we expected that some of the effects would not show up at the end of the seminar, but might become noticeable at follow-up, and thus this study had extensive follow-up assessments, with the first two cohorts being assessed annually for three years and the last cohort for two years. In a few cases (e.g., the LAS-SF), it does appear that this pattern emerged, but in general it did not. The conundrum is that, on the one hand, recruiting students at the beginning of the Fall when they are excited and potentially less distressed than usual, may not be ideal if the presence of psychological pain may render students more willing to learn to be more psychologically flexible. On the other hand, delaying the start of prevention work until the Spring semester may mean that freshmen may have already encountered problems so severe that may result in their dropping out.

Although recruitment into the study advertised for a class on adjustment to college and life, some of the incentives for participation (free course credit, free textbook, and payment for assessments) may have inadvertently affected how participants approached the class. We purposely refrained from advertising the class as a way to deal with psychological problems

because only one arm focused heavily on this, and we were afraid that, given the scope of the project (publicized campus-wide and during freshmen orientation), it might stigmatize those participating. We still think potential stigmatization of participants is a legitimate concern for campus-wide efforts; however, perhaps other methods of recruitment might be implementable that could allow FYS classes to be more targeted. For example, many campuses are using monitoring systems to identify at-risk college freshmen. Mental health is one area that could be assessed and perhaps only those students admitting to problems could be invited with an explicit message that this class would be about helping them cope with psychological issues, while other students would be provided other class content and messaging or incentives. Such an approach is not without its complexities though, as there might be issues of stigma and even of liability to consider. For example, recent case law following incidents such as the mass killing at Virginia Tech has demonstrated to colleges how vulnerable they are when they know a student is suicidal or homicidal.

Additionally, it may matter *where* students are recruited. Recruiting students who are already seeking counseling services would be quite different than recruiting non-treatment seeking students. Individuals who have already made the decision to seek services are arguably at a different stage of change and may be much more amenable to interventions. Prevention studies with this population (and any other for that matter) need to carefully consider who is participating and why—this perhaps will allow the differences in outcome among different studies as well as the generalizability of studies to be better understood.

Our study was unique in its universal prevention approach and also the fact that neither ACT, nor mindfulness or acceptance, were mentioned in recruitment materials. Therefore, we did not select individuals interested in these topics – we sought students who were interested in

"adjustment to college and life" as this applied to both active conditions. Studies that do not randomize or utilize a wait-list control condition often appear to mention specifics about the experimental approach in their recruitment, which may inadvertently select individuals specifically interested in a particular approach (mindfulness, for example), thus limiting the generalizability of the study.

Unlike other studies of which we are aware that are currently published with college freshmen (e.g., Conley, Travers, & Bryant, 2013; Danitz & Orsillo, 2014), ours was the first to rely on both randomization and a credible active control condition. The two conditions were comparable at many levels: both relied on graduate students and postdoctoral fellows as instructors, both were conducted at the same time (students selected a time they wanted and *then* they were randomized to one of the conditions), both provided free credit and textbooks, both provided supervision/consultation to the instructors, and both offered the exact same class dosage. The control condition had a little more face validity for students, and the textbook was specifically designed for college freshmen seminars, whereas the ACT book was a generic self-help book. In the future, an ACT/mindfulness oriented book developed specifically for college students might work best, as noted by some of the students in their evaluations.

It is important to learn how to increase the impact of ACT, and other acceptance and mindfulness based methods, and to fit it to different kinds of college students in a prevention context. Our study showed a deficit in strength to move PF, whereas others have encountered other problems, including, for example, despite some promising findings, difficulty recruiting and maintaining students in the intervention (Danitz & Orsillo, 2014). College students are not monolithic, and a variety of methods and modes of delivery are going to be needed to make a difference. It was truly surprising to see how students varied in their perception of which ACT

components made the biggest difference for them. In our most recent efforts, we have been exploring two additional major avenues that provide flexible ways of expanding an ACT approach with this population. One is the use of technology (Levin et al., 2013), and the second is attempting to make more use of the social networks of students. For example, we have developed Web-based guided self-help programs that can be used as part of the treatment efforts of college counseling centers (Levin, Pistorello, Seeley, Hayes, & Levin, 2014) and have trained college student peer mentors to identify and help distressed students on campus (Student Support Network or SSN; see Morse, 2013).

Conclusion

Transdiagnostic programs are the holy grail of psychological prevention in higher education settings. It is not yet known with certainty how best to produce gains that last and are broad ranging. The PF model appears to hold up cross-sectionally and longitudinally, providing a target of acceptance, mindfulness, and values for the development of important methods of change. Translating clinical technology to the classroom is clearly acceptable to college freshmen, and it increases their motivation towards positive/intrinsic academic and relational values, but it has produced relatively modest outcomes when utilized in a universal prevention context. More needs to be learned. That is the excitement of the scientific path.

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