Stages of Learning During a Self-Directed Stress Management Experience

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ABSTRACT:

Purpose: The purpose of the study was to document the stages of learning reflected through student journaling during a self-directed experience in stress management, and the relationship of those stages to a historical model. Methods: College students participating in a full-semester course in stress management theory were required to select a single stress management technique, learn and practice the technique in a self-directed fashion, continue practice of the technique for an eight–week time frame, and journal about the experience twice each week. Results: Over a five-year period, 111 student journals were collected. Journal entries were individually coded. Qualitative review showed patterns in experience reflecting a skill-acquisition process matching Haring’s Stages of Learning. Conclusions: The acquisition of stress management skills during self-directed practice may take an extended time, allowing for the participant to work through appropriate stages of learning new skills. Students may not be able to retain, and thus benefit from, random, single-session institutional offerings in stress management. Recommendations: Those teaching stress management who want their students to develop a specific skill set should allow for an extended time of practice and reflection in order for students to more fully develop the skills necessary to successfully incorporate the technique into their lives.

Key Words: Stress management, learning stages, skill acquisition

INTRODUCTION

It is well established that college students experience regular and significant amounts of stress, with over three-quarters of students experiencing moderate or average levels of stress, and 40 percent reporting above average levels of stress (American College Health Association, 2013, Pierceall and Keim, 2007). The balance of academics, finances, career, faith, and personal growth is challenged on a regular basis. College women in particular seem susceptible as they deal with issues of career and relationships (ACHA, 2013, Brougham et al., 2009, Larson, 2006). Colleges have recognized this degree of anxiety in the student body, and the vast majority has offered some type of instruction in managing stress, primarily as a specific event, introduction to technique, or workshop. Even so, students are not, in significant number, choosing to make the time to participate in these types of activities (Chiauzzi, et al., 2008).

PURPOSE

Stress management techniques are available in wide variety. The overwhelming majority of published work on stress management in the college student population focuses on outcomes, not process, and there exists a particular dearth of work on the process of developing stress management skills. There is literature, outside the college student arena, relating to impact of learning stress management techniques in a variety of settings.

Research by Phillips et al (2012) supports the idea that in cancer patients, self-directed stress management can increase perception in the
effectiveness of practicing the technique. Cancer patients who use a technique on a regular basis (daily or weekly) can continue to utilize the strategy after the course of training is complete, and those individuals who are regular users during the timeframe of greatest experienced stress often achieve the greatest degree of relief from stress symptoms (Anderson, Shelby, and Golden-Kreutz, 2007). Chiauzzi et al. (2008) reported, even with little support for a positive end result in outcomes, that when college students had a technique available to use at their convenience, the odds of participating in that activity increased. Having the technique at one’s disposal, to use when and where appropriate in his or her own personal lifestyle, can lead to an increased ability to relax, a maintained awareness of tension, and the sense of having one’s needs met (Phillips et al., 2012) Prior research has indicated that, in college women with PTSD, belief in behavioral benefit and confidence in the ability to cope increased the likelihood of participating in positive health behaviors (Vernon, Dillon, Steiner, 2009, Antoni et al., 2006). Thus, the need for stress management activities to be self-directed becomes a priority.

For students to access a technique when they desire, and for the activity to be self-directed, students must possess the skills to incorporate the activity appropriately into their daily lives. Too often, stress management techniques are presented as ‘activities’ or ‘events’ that require little thought or practice. In reality, these techniques require a skill set, and like all skill sets, in order to become proficient, one must practice. Huber (2013) indicates skill development requires a process involving learning what to do, practice and adjustment, and, eventually, autonomy. To maneuver through this sequence, students must be intentional in their approach to garner the skill set necessary for regular participation. The purpose of this study was to determine whether a targeted, self-directed approach promotes skill development in stress management, and to contextualize the development through a learning stages model to determine if students develop the necessary access (use at their convenience) of a technique over an eight week period.

METHODS

Students in the study were enrolled in a full-semester course in Stress Management Theory at a Midwestern liberal arts college. As a component of course completion, students were required to select, research, and participate in an eight-week, self-directed practice of one of the following mind-body techniques: yoga, progressive muscle relaxation, visualization/imagery, tai chi, meditation, or autogenic training. Table 1 has a brief description of each activity. It was required the student be unfamiliar with the technique. While most students had heard, to some degree, of each of the techniques, they were required to indicate that they had not participated in the technique in the past.

The initial step for students was to increase knowledge on the selected technique. To develop this familiarity, students were asked to investigate the following: historical context of the technique, current levels of practice, with whom is it popular, technique form(s), description of procedure to use the technique, and five peer-reviewed articles evaluating the effectiveness of the technique.

Following this review, students then initiated and completed a self-directed eight-week trial in the use of the technique. The requirement was to utilize the technique a minimum of two times per week, in 20-minute minimum sessions, for each of the eight weeks of the experience. Following each attempt, students were required to journal about the experience. Specifically they were asked to record the day and date, location, how they were feeling at the time, how the session went, and how it affected their level of stress. At the completion of the eight-week process, students wrote a summary of the experience, and submitted the summary and individual journal entries.

Over a five-year period (10 course section offerings, one per semester) 111 students completed the process. Over the five-year time frame, 104 of the 111 (93%) students gave permission to include their work. The majority of those participating in the study were upper-class students (53% Senior, 38% Junior, 7% Sophomore, and 2% Freshmen), and women (68% women, 32% men).

A review of student journals indicates the number of journal entries ranged from the minimum of 16 to a maximum of 20. All journals entries were coded in one time frame. Journal entries were coded and assigned to the proper
The emphasis for this project was process, not outcomes, and as such the framework for learning was reflective of a skill development model. Haring et al. (1978) established a well-known and long-used hierarchy for the development of student learning. According to their work, skill development occurs in the following four stages.

**Acquisition:** Students are in the initial stages of learning, and are not yet fluent in the practice. Much time is spent gaining a degree of comfort with the skill.

**Fluency:** Accuracy of the skill has occurred, but work is slow.

**Generalization:** The student has gained enough skill to use the technique, but do not yet do so at an appropriate time, location, or under the correct circumstance.

**Adaptation:** The skill is present and used appropriately, and the student may or may not adapt the use of the technique to a new demand or a new situation.

The basis of this work is that the successful use of a stress management technique requires the development of the technique as a skill, rather than a tangential activity one can randomly activate as stress occurs. As a skill, the assumption then exists that students learning new techniques would process through stages in the development of that skill. By utilizing a qualitative approach, student thoughts and feelings during the learning process and skill acquisition process are best reflected. It is through this process that student experiences are summarized within the chosen theoretical framework.

**Institutional Review Board**

This work was reviewed and approved by the Institutional Review Board at the college.

**Informed Consent**

All participants in the study provided informed consent. At the completion and submission of the journal, the instructor reviewed the work, and returned it to students in the class. After returning the practicum, students were informed of the study, and given the opportunity to have their reflections incorporated into the review. Students willing to have their work included signed a release indicating so, and returned their journal to the author.

**RESULTS**

**Acquisition**

Initially, students were not skilled at their technique, and most generally were engaged in an attempt to perform the skill with some degree of reliability. Analysis of each of the first two journal entries for study participants produced a pattern that reflected student frustration and disease with the chosen technique. This was coded as “I was not very good at this.” Commonly, students wrote:

**Student 39 (Autogenic Training, Session 1, Male):** “In the beginning of the session, I just focused on breathing in as deep as possible and trying to exhale completely. I did this for a while and just kept trying to breathe deeply and completely at a slow and relaxed pace. After a while I tried focusing on my hands and visualizing blood running from my torso to my fingertips, but it was hard to continue deep breaths while doing this. I don’t think I really did it right because my breathing was voluntary. Whenever I let myself forget about my breathing it became shallower, I think I may be more stressed now than before I began because I wasn’t very good at it.”

The student showed insecurity in the process, and at some point began to question his skill. In the end, stress was actually increased. An additional pattern in a majority of early journal entries was coded as “The activity is difficult.” For example:

**Student 32 (PMR, session 1, female):** “PMR for the first time was a little more difficult than I thought. It was hard just to flex the muscles one at a time without flexing others that weren’t apart of that group. It did feel good, but it wasn’t as relaxing as I thought it would be.”

**Student 1 (Tai Chi, session 1, male):** “Tai Chi is difficult. I was not really expecting my legs and arms to be sore, but I am think[ing] that I have been using some muscles that I haven’t in quite some time. I only know a few moves which frustrates me a bit because I just have to repeat the same 2 moves over and over but I am thinking that I should take it slow and focus more...”
on the correct technique. Rather than how much I can do. So far my thoughts about Tai Chi are leaning to the negative side. Maybe I chose the wrong technique to practice."

It was a clear pattern for students to summarize the first experience or two in the same way. Students indicated it was harder than they believed it would be, and perhaps they had chosen a technique that was not right for them.

**Fluency**

Progression into the weeks two and three produced journal entries that were reflective of early learning. Students made comments indicating a belief they were beginning to perform the technique correctly. This reflection was coded as "I am getting used to this." An example follows:

Student 9 (Yoga, session 5, female): "As I am becoming more used to the exercises, I’m finding I can focus a bit more on relaxing + how my body feels, but I still have to look at the book a lot + I can't help feeling it will be a much neater experience when I don’t have to engage my mind so much + focus on remembering the steps + doing them right."

A second theme in the Fluency level was coded as "I am missing something." There was a continuation and a consistency with the initial week of writings, that students did not feel a significant benefit, or that benefit was just beginning to be recognized.

Student 82 (meditation, session 5, female): "Monday, my first time meditating on a Monday, thought this might be a good time to start off my week with a little de-stressor. Although, I’m not sure how well they are going, it is worth a try. I am usually busy walking from class to class, studying, or filling my time with obsessive email checking so this meditation at least cuts me off from technology, which is important isn't allowing me to calm down. I must admit, having my cell phone turned on silent for this time makes me want that itching curiosity if someone is trying to get a hold of me! There is something about being consciously disconnected that makes me wonder if there is something I am missing out on. Anyways, Mondays aren't usually that stressful for me with homework, just tiring and busy...Again, it is really difficult to zone out and try to find a place of zero-thinking in my brain."

Students 9 and 82 do indicate some increased level of comfort with the technique. However, their comments indicate almost a disappointment with the lack of relief from participation. Focusing, remembering, and business with other things are barriers to success in the early stages. There persists awkwardness with the technique, and students may try to adjust what they are performing in this early stage. This was coded as "If I’m missing something, I should try…" Another example:

Student 74 (Imagery, session 7, male): "I tried something new today with my technique, I began listening to music that reminded me of the scene I was envisioning, for example I was trying to depict myself at the ocean on the beach so I listened to [music that reminded me of this] to see if that would put me in a good mood or the mind frame of a beach or ocean. It did make me feel a little more like I was at the beach, however I wasn't able to achieve the deep relaxation with my breathing. I was fairly not stressed out during the course of today. I don’t think I will be continuing the listening to the music as I try to become more at ease."

True to the expectations of this stage of skill development, adaptations are usually not successful, as the example demonstrates. The general strength of the skill is not yet present, and adaptations limit or hinder the progress of skill acquisition.

**Generalization**

Students began, with time, to comment on a greater degree of comfort with their chosen technique, and an increased ease in implementation in general, between weeks three and seven (sessions 5-14). Results indicated less journaling directly related to the steps required in performing the technique, and more references to the situation surrounding its use. More than half of the students in the study appeared to reach this stage in the progression of learning and implementing a technique, but it was clear that not all reached this level. Those whose journaling reflected Generalization made reference to conditions related to use of the technique, setting distinctions, and mood variability. More specifically students reported technique effectiveness based on or as a result of the variance in condition of use. Entries such as this were coded with “This works when..."
Stages of Learning During a Self-Directed Stress Management Experience

Student 7 (Yoga, Session 12, female): “Today’s session did not seem to have as big of an impact on my state of mind as it has on other days. I was feeling pretty good before I started the sun salutations, and so I didn’t feel much of a difference afterwards. I have found that I feel more of a difference when I do yoga on nights where I have a lot going on, but I also feel more rushed on these nights and constrain my sessions to no more than thirty minutes”

For this student, performance of the technique was not at issue. There did not seem to be any issues with completion of a yoga routine, but more so with the circumstances surrounding its use. This student commented that she wasn’t particularly stressed to begin with, and as such did not experience the same satisfaction in using the technique. Further, she begins to show appropriate analysis of the situation where she has felt success and rationale for its occurrence. Additional examples of student understanding the conditions for success follows:

Student 41 (Autogenic Training, Session 9, male): “For today’s attempt I decided to try this technique sitting up and in an atypical area for me to be in simply to add some variety to my attempts. I chose the art building for this autogenic session since it is typically quiet and I find the building relaxing despite the fact that I am rarely ever there. I brought along head phones to listen to calm instrumental music which helps me stay focused and ignore any potential noise distractions. The technique went well but it seemed much more difficult to control blood flow and recreate the feelings of heaviness and warmth I had previously acquired when sitting down instead of lying down. I imagine gravity made the attempted control more difficult than usual.”

Student 30 (PMR, Session 11, female): “I came to my dorm between classes and was feeling really stressed because I knew I had a math test later on today...I lay on my bed and just started with deep breaths, tensing my neck and shoulders area. I figure even if I can do parts of the technique, it will help me relieve some stress...it is a way for me to at least stop and think how am I feeling right now and then concentrate on helping my mind and body to feel better about how my life is going right now. It lets me take a break from my busy day and reflect on things and maybe on how I can make my life even better. I guess that’s called ‘getting in touch with myself.”

For both Student 40 and Student 31, performance of the technique, again, is not the issue. In fact, both have developed a level of comfort and expertise that had allowed them to feel comfortable enough with the technique to adjust how it was performed. The addition of a music background and shortening of the routine are attempts to generalize the technique to a specific situation. Both students go on to journal about the circumstances behind their choices, assigning some value to the experience that will impact future decisions on technique execution.

Analysis of student journals indicated that just over half (58) of students in the study wrote comments reflective of this level of learning. These students gained a degree of comfort with their technique that allowed for some flexibility in its implementation, including sequences, location, or student mood and feelings. It was primarily the case, however, that these attempts left students less than satisfied with their experience, indicating that the student had yet to successfully adapt the technique for their unique purposes and conditions.

Adaptation

The most telling indicator in the acquisition of sufficient skill for the final stage of learning, was the relation of technique use to scenarios unique to the original intent in the development of the skill. In this final stage, students begin to recognize situations not thought of previously in which the technique may be useful, and in many cases, the recognition that the technique can be effective in these new settings. While the technique itself is most likely not modified to meet the needs of a new setting, the development of a broader perspective on when and where the technique could be useful demonstrated this final stage of learning. A much smaller percentage of students, less than 15 percent, made any statements reflective of this stage of learning. These were coded as “I can use it here as well”.

Student 69 (Imagery, Session 14, female): “Today I had an interview and registration for next fall to transfer to a new school. Both very stressful, and it was a lot of driving in the cities in one day. It was rainy today and the weather seemed to get me down. I felt pressured at registration, and felt that I had to make a good impression at my interview if I wanted the job,...
both situations turned out good, but at the end of the day I was worn out. I took some time to myself and visualized what the summer and next fall would be like…I told myself that it would not be that bad because I know of some people that go to that same school and the teachers and counselors seem to be great…it seemed to have relaxed me enough to get some good sleep.”

Adaptation is reflected in the use of the technique outside the original situation without a prompt to do so. Clearly this student has chosen a new location, a new situation, and a new rationale for the utilization of imagery. She does not indicate a high level of success, but enough satisfaction with the routine to have gained some benefit.

Student 88 (Meditation, Session 15, male): “My stress today came from a different source than school. I got a phone call from my parents saying that my sister had been battling a strange stomach pain that was making her nauseous, and that the doctors couldn’t figure out what it was so they were going to give her an ultrasound…It became nervous and a little stressed at my sisters condition. Meditation seemed natural, as it would give me a chance to reflect on what I had been told and focus my energy in a positive way.”

Again, in this contribution to his journal, Student 88 has found that the use of meditation could be beneficial outside the academic arena. He related the feelings of anxiety triggered by his family situation with feelings of anxiety experienced in other situations, and determined that it was a logical connection to use meditation to address them. The application of his technique to novel situations reflects this level of skill development.

Student Reflection On Experience As A Whole

At the completion of the experience, students were asked to reflect on the experience start to finish. The summary provided students with a format to discuss the process, not just session outcomes. They were not uniquely coded. Rather, the pattern in these summary writings indicated a process of learning, including the development of comfort with a new skill, the acquisition of the skill set, the process of finessing the skill to meet individual need. For a smaller percentage, it represented a successful adaptation of the skill and its use that provided a perception of benefit and success for the student.

The overwhelming majority of students (88 percent) indicated the experience was positive and that they would continue to utilize the technique after the completion of the course. Typical summaries mirrored these, first from Student 35 (PMR, Female), and then Student 4 (Tai Chi, Female): “At the beginning of the experience I struggled to concentrate my thoughts on the task at hand and often my mind would wander off before even completing a sequence. This prevented me from feeling any overreaching effects right from the start. At the beginning I was also experimenting with tapes and trying to get a well-rounded perspective of the technique, which made me hang on the words more rather than letting my body take control. Then I started to grasp the level of relaxation and release that was possible through this technique it started to take off from there. I started feeling the actual warmth in my muscles when I released them and allowed the tension to flow out. One of the points where I really started to notice a positive change was when I discovered that PMR is just as much mental as it is physical. I think I went into the technique thinking that it was just going to absorb some information and it would work for me. By the end of the experience I learned that you kind of have to meet the technique half way and put in what you want to get out.”

Tai Chi, Female

“Over the course of eight weeks I noticed a change in the effectiveness of practicing tai chi. At the beginning…I was very new…and the moves were nothing I was used to. I found myself trying really hard to do the moves correctly, and not focusing on my breathing or trying to relieve any stress. Because of this tai chi was not very effective for me. However, as the weeks progressed I made sure I was using beginner videos and I became more familiar with the moves…tai chi started to become a lot more effective in relieving my stress…since I was able to perform the moves, I was able to focus on my breathing more, which also helped with the stress. I had to stay at it, and really learn the activity before it was effective.”

These two students reflect on a clear progression through the discomfort of early learning to a place of ease and relaxation with the technique. The comments “meeting the technique halfway” and “stay at it” were concepts identified by many students in the study, and while written in a multitude of ways, it showed the
development of a connection the students began to make between the level of commitment given and the perception of success. Another student wrote: “The practice of meditation requires great discipline. This was one of the difficulties while performing meditation. I had to be completely committed to each session in order for it to be beneficial.”

**CONCLUSIONS**

The results of this study indicated that the acquisition of a stress management skill set requires time, commitment, and practice, and that the development of these skills may be appropriate through the classroom setting in an eight-week time frame. Student journals reflecting their experience with a stress management technique clearly reflected stages of student learning presented by Haring et al., (1978). All students demonstrated progression into the first two stages, Acquisition and Fluency, where the objective was simply to gain and understanding and comfort level with their chosen technique. At these stages, use of the technique was slow and deliberate, accompanied by feelings of insecurity and indecision, often with students wondering if they had chosen a technique worth pursuing. Huber (2013) refers to this as an associative stage. The student is learning a skill, it requires greater levels of thought and focus, advancement of the skill is slow and the process was often disjointed. In this study, when the student focused on a single component, breathing, concentration could be placed on one feature of the activity, and the student often began to feel success. Once an additional piece was added, the lack of familiarity and comfort with the process again made it challenging. It wasn’t until the student felt a sense of ease with the whole process, reflecting the ability to use the technique at their convenience, that they began to indicate a sense of success in their journal writing.

The time it takes to work through an associative stage may be an explanation as to why just over half of the students in this study progressed to the third stage, Generalization, demonstrating a greater comfort level with their technique. Here, students were less concerned with process and more focused on small adjustments to the technique, setting, or circumstances of use to best maximize the benefit of their technique. Like all skill development, individuals move at different rates of speed through the skill acquisition process, and some simply may not have had enough time to reach this level of comfort. Interestingly, this would appear to be a student-centered issue and not a technique-related issue. The student reflections did not present any pattern that would indicate one technique was more difficult to develop than another. Finally, a smaller group progressed to the final stage, Adaptation, and was able to make adjustments in the performance of a technique successfully, and was also able to recognize unique situations where the use of a technique was beneficial.

**RECOMMENDATIONS**

Previous research has indicated that college students have a perception that stress management techniques like the mind-body approaches in this study may not be effective, and are often dismissed for activities such as exercise, talking to friends, and listening to music (King et al., 2012), or to simply stay with patterns of behavior that are familiar (Chiauzzi et al. 2008). The primary challenge with the activities that are familiar is that each relies on something external to the individual to be successful. Results from this study demonstrated, as expected, when students were asked to choose a relaxation technique with which they were unfamiliar, comments made in the early journal entries would reflect some initial frustration, lack of confidence, and lack of comfort. But as the experience progressed, and familiarity was developed, students gained a sense of benefit and did not have to rely on an external source to do so.

Findings from Antoni et al. (2006) indicated that the quality of the stress management experience was significantly influenced by participants’ perception of being able to relax when they wanted to. While perception of the availability of relaxation is not a direct path to a causal relationship with relaxation, it can influence choice. If students can develop a skill set that they can draw on as needed, they would be more likely to utilize that technique, and more likely to perceive a benefit from its use.

The study supported the construct that effective stress management is a skill set, not a random activity or event, and should be taught as such. It is important to note that the stages of learning were reflected in the student experience regardless of chosen technique. Writings from students in each of the six different techniques
supported this notion. May and Casazza (2012) indicated that “simply laying out brochures of upcoming stress workshops or self-help time management manuals...is not efficient.” This study supports the idea that students need time, repetition, and opportunity for reflection to become sufficiently self-directed and effectively implement stress management skills. This study was conducted over an eight-week period, and only slightly more than half of the students reached the Generalization stage of learning. It may be necessary to provide a longer period of practice and support for full benefit of a technique to be realized. Results from this study would suggest that this goal cannot be completed successfully through a series of one-hour sessions on stress management with no follow up or guidance beyond the initial teaching. Because of this extended time frame, it would seem the classroom setting is both a sufficient and opportune setting to develop stress management skills. It is in this setting that students can investigate a technique, develop a level of comfort, discuss challenges, be provided support from the instructor as necessary, and in the end develop the skill set necessary to continue the techniques use.

Limitations to the current study should be acknowledged. The completion of the experience as a component of a class limited any opportunities for randomization. However, whether students would commit to an eight-week trial of a stress management technique, and provide written reflection on the experience, on a randomized basis is questionable. The acquisition of student reflections over a five-year time span may also allow for potential bias, as the overall make-up of each entering class of students may be different (even though the consistency of these particular results do not support that, it can not be overlooked). The classroom setting may also present issue within the writing itself. Journal information is self-reported and may contain bias including social desirability factors with the student telling the instructor what they believe the instructor wants to hear, as opposed to genuine feelings related to the experience. Future attempts at research of this kind might focus on the pace at which the individual moves through stages of skill development, factors associated with the distinctions in pace, and a quantitative pre/post review of stress level outcomes. Finally, a potential study may include an attempt to compare the skill development process for students attending workshop trainings versus classroom experiences.

This study suggests that random offerings of stress management activity on a college campus may not be sufficient to meet the needs of the student body. Students need time to develop the requisite skill set needed for comfort with a technique. Affiliation of stress management activities with an office or department that can offer support and follow up, or the provision of technique development opportunities through the guided nature of a course offering, seem best suited for this development to occur.

REFERENCES


King, K., Singh M., Bernard A., Merianos A., & Vidourek R. (2012). Employing the health belief


Table 1: Techniques Used By Students in the Study

Students were required to select a technique from the mind-body category of techniques. A brief explanation of the process in each technique follows:

<table>
<thead>
<tr>
<th>Techniques Used By Students in the Study</th>
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<tr>
<td><strong>Yoga/Tai Chi</strong></td>
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<tr>
<td><strong>Progressive Muscular Relaxation (PMR)</strong></td>
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<tr>
<td><strong>Imagery and Visualization</strong></td>
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<tr>
<td><strong>Meditation</strong></td>
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<td><strong>Autogenic Training</strong></td>
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