

RUNNING HEAD: PRP MENTORING PILOT STUDY

A pilot-study examining modifications of the Penn Resiliency Program curriculum on college-aged mentors with West Philadelphia after-school program youth

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Introduction

Adolescence has long been known as a very stressful time in the developmental life cycle. Additional responsibilities at home and in school accrue, bodies change through puberty and often more freedom and independence is granted to the maturing youth (Christie & Viner, 2005). With these changes comes a significant amount of stress and increased rates of depression diagnosis. This is especially pronounced for inner-city and poverty-stricken youth populations (Cicchetti & Toth, 1998). Despite these difficult circumstances, resilient traits are frequently observed and it is these behaviors that researchers seek to cultivate as a means to prevent depression and improve overall outlook on life.

A program that has successfully done this research is the Penn Resiliency Program (PRP). It is a school-based prevention that focuses on teaching problem-solving skills and explanatory style training to help adolescents cope with everyday stressors. Skits, role plays, short stories, cartoons and extensive discussion of personal experiences are some of the key teaching components of the curriculum (PRP; Gillham, Jaycox, Reivich, Seligman, & Silver, 1990). PRP is also one of the most widely researched depression prevention programs (Gillham *et al.*, 2008).

The theoretical underpinnings of the PRP curriculum lie in the concept of explanatory style. Explanatory style is the way in which a person understands and rationalizes personal experiences. Whether the thoughts are permanent (*e.g.* believing bad things always happen to him/her), pervasive (*e.g.* universal instead of situation-specific explanations) or personalized (*e.g.* blaming him/herself for problems using internalization versus blaming other people or circumstances using externalization) determines a person's explanatory style and predicts how he/she will habitually respond to both everyday and momentous setbacks (Seligman, 1990).

A person's explanatory style is the hallmark of whether or not he/she is an optimist or pessimist. Although Seligman (1990) believes that explanatory style is learned during childhood and adolescence, he advocates that both children and adults can be taught to change their explanatory style and be more optimistic. Changes in thought and explanatory styles through practice and deliberate self-awareness have been successful techniques for adults and children (Seligman, 1990). It is these same principles that the PRP curriculum follows, especially with respect to its focus on youth.

Despite the relatively short period of time PRP has been around, it has already been shown to be effective. One PRP study found that children from two schools who went through the twelve 1.5 hour sessions had reduced depressive symptoms over a 2.5-year period in comparison to controls (Gillham *et al.*, 2007). Focusing on inner-city, minority youth it was found that depressive symptoms were significantly reduced for the Latino cohort (and not African-American) of 5th and 6th graders for up to six months after the school-based intervention (Cardemil *et al.* 2002). It is not yet known precisely why some interventions are more effective than others, but it is speculated that the effects are strongest when the curriculum is taught by leaders trained by intervention developers.

What has not been examined, though, is the effectiveness of trained college-aged leaders who, in their closer age to the youth, may be better able to teach the curriculum. Rhodes (1994) has found that mentors "have the potential to modify, or even reverse, the developmental trajectories of at-risk youth." The positive effects of mentor relationships have been found for both general and goal-focused relationships for youth of diverse background (Rhodes & Lowe, 2007). One of the three protective factors recognized for fostering psychological resilience (Master & Coatworth, 1998) is the characteristics of the community, which would include

positive mentors. In this manner, college-aged mentors could teach resilience through a known resilience-promoting channel.

The benefit to youth from having college-aged mentors as their teachers may also extend to the leaders themselves. Service-based learning and mentoring relationships are likely to be appropriate means of personal growth and development for college students. Incidence of depression and other psychiatric disorders is increasing at staggering rates in college students, highlighting the need for additional means of improving psychological well-being. One of the ways Seligman (1990) suggests to decrease depression levels is through community service and commitment to the common good, so the structure of the pilot-study may result in improved psychological well-being for the mentors, as well as the youth.

Given these motivational ideas, in conjunction with one of the primary PRP developers—Jane Gillham—as a group of psychology students at the University of Pennsylvania we will serve as the mentor-teachers for the PRP curriculum in a pilot-study carried out in the Spring 2009 semester. A similar pilot-study is taking place through another school-university partnership with Swarthmore College. It is hypothesized that the students and undergraduate mentors will learn the curriculum, as well as both to find it an enjoyable experience.

By nature of this being a pilot-study, the only source of data collection will be through post-intervention questionnaires and weekly feedback. Through conducting these pilot studies we hope to suggest modifications to the manual to better support the college-aged mentor environment and determine whether universities should pursue this version of PRP as a course or perhaps simply as an extracurricular activity. If successful, we hope this will serve as a model for schools and universities across the nation to benefit both adolescent and college-aged students.

Methods

Twenty-three participants (11 male, 12 female) were recruited through an after-school program in West Philadelphia; approximately 17 students maintained regular attendance. They were grouped by grade level (14 fifth and sixth graders, 9 seventh and eighth graders) and all were of minority status. The nineteen mentors (4 male, 15 female) were University of Pennsylvania psychology majors enrolled in an Academically Based Community Service (ABCS) psychology research course. After students were recruited and given parental permission to participate through a signed document, random small groups of two to three mentors with two to three students were made and maintained throughout the program.

The mentors were trained in the PRP curriculum (see PRP; Gillham, Jaycox, Reivich, Seligman, & Silver, 1990 for full description) by one of the creators, Jane Gillham. Initial training and overview of the program occurred over two 3-hour sessions, after which weekly supervision meetings were held to plan the next week's lesson, as well as to address any concerns and anecdotes from the prior week.

Lessons were team-taught in the small groups, with mentors taking turns each session leading a topic or double-checking that all material was covered. The topics discussed during the eight 1-1.5 hour sessions from February 9, 2009 to April 27, 2009 are outlined in Table 1. Four sessions of the potential twelve during the timeframe were missed due to school holidays. Note that unreliable student attendance and diverse learning rates resulted in deviations from the schedule outlined in Table 1.

The first four sessions began with full group games (*e.g.* name games, two truths and a lie) and both the mentors and students wore name tags to build rapport and facilitate a comfortable learning environment. Eventually the games were found to be unnecessary because

the students were eager to begin working with the mentors in the small groups when they arrived. To connect the lessons from session to session, each small-group session started with a summary of what was learned the previous week and concluded with a recap of what was learned that day. This was not only an opportune time for the students to demonstrate what they learned, but also to catch-up a peer who may have missed any of the material from the previous session. In addition, each session included snacks (*i.e.* grapes, juice and chips or pretzels) as a means to encourage the students to focus and promote the informal atmosphere we sought to create.

Additionally, it is important to note that although these lessons were heavily based in the known-to-be-effective PRP curriculum, a number of changes were implemented to better suit the mentor-student relationship. Seeking to maintain a mentor-like quality to the relationship (as opposed to a teacher-student relationship) and acknowledging the low probability of completion, homework was not assigned; whenever possible, assignments were discussed or completed if there was time remaining after completing the day's materials. Similarly, exercises with extensive writing components were eliminated; writing was a difficult task for many. Words and phrases such as *self-fulfilling prophecy*, *catastrophizing*, *assertive*, *aggressive*, *resilient*, *optimistic* and *pessimistic* were new terms and difficult for the students to understand; often replacement words or explanations were used. Many of the role-play scenarios were too cheesy or difficult to relate to, so they were skimmed over or skipped.

By nature of being a pilot-study, the main study outcomes will be evaluated using mentor and student feedback. A brief survey for the students administered during the last session was used to gather information about the skills learned, overall program enjoyment and impressions, and suggestions for improvement. A second survey was administered to the mentors with many questions in common, but also including questions about curriculum training and previous

experience with adolescents. Selected multiple-choice questions are listed in Table 2 and Table 3 for the student and mentor surveys, respectively. All questions were evaluated based on the following scale: 1=Very True, 2=Mostly True, 3=Somewhat True, 4=Not True.

Results

Due in part to the pilot-study nature of this research, we must interpret these results holistically, rather than focusing on statistical support. For the students, due to the small sample size ($N=19$), difficulty in collecting the data during survey administration, and the fact that not all students attended regularly nor even on the last day to complete the survey, we are limited in how much meaning we can extract from our data. The undergraduate data is a more reliable source because these data collection problems did not exist, but the small sample size still limits the statistical power of the data set. Additionally, although a number of questions are shared between the student and mentor surveys, the two populations cannot be compared statistically and therefore we mostly must observe trends between the groups.

For the students, the questions of interest were about their relationships with the mentors and whether they enjoyed and learned from the program. Questions B1, B8, B9 and B10 address these topics (see Table 2 for question prompts), with B1 ($M=3.58$, $SD=0.69$) asking about skills learned for problem solving and B8 ($M=3.74$, $SD=0.45$), B9 ($M=3.68$, $SD=0.75$) and B10 ($M=3.63$, $SD=0.68$) evaluating the mentors. How much the student liked the program was asked in question B4 ($M=3.37$, $SD=0.76$). Examining statistical correlations between questions B1 and B4 (see Table 2 for prompts) revealed a moderate correlation ($r=0.54$, $p=0.02$) between student learning of problem-solving skills and program liking. Additionally, the themes of “support,” “thinking positively,” and awareness and control of emotions were often reported in the free-response questions.

For the undergraduate mentors, patience, confidence, leadership, communication, perseverance and flexibility were common themes expressed in the mentor surveys. In terms of personal growth from the experience, one mentor “realized my passion for working with young children” and another hoped “that I had an effect on the two kids I worked with.” Examining statistical correlations between questions B5 and B7 about appreciation of program participation and how well the students learned (see Table 3 for question prompts), there was a high correlation ($r=0.73$, $p=0.001$). There was also a high correlation ($r=0.86$, $p=0.0001$) between questions B1 and B4 (see Table 3 for question prompts) about liking teaching and learning a lot about confidence.

Although there were over 20 multiple-choice questions and 6 free-response questions on the two surveys, only a subset of the data was reported here. Please contact Dr. Jane Gillham or Dr. Acacia Parks-Sheiner for more detailed results.

Discussion

Building on the proven effectiveness of the PRP program in reducing or preventing depression in youth and adolescents (Cardemil *et al.* 2002; Gillham *et al.*, 2007) and the success of mentoring relationships (Rhodes, 1994; Rhodes & Lowe, 2007, Master & Coatworth, 1998) and community service (Seligman, 1990) on psychological health, through offering this course it was hoped that the students and undergraduate mentors would learn the curriculum, as well as for both to find it an enjoyable experience.

Of the top six highest mean scores for the students, five were questions of interest in this paper. The top three means were for questions about the mentors (B8, B9 and B10, see Table 2 for question prompts) and the fourth was about how much the students learned from the program (B1, see Table 2 for question prompt) and the sixth highest ranked mean was about how much

the students liked the program (B4, see Table 2 for question prompt). The top ratings for these measures and small standard deviations suggest that the relationships with the mentors was one of the most appealing components of the program for the students and may therefore have an effect on this high self-reported acquisition of problem-solving skills. This suggests that further research should be done examining undergraduate mentors as the educators for the PRP curriculum. It must be taken into consideration the fact that the students filled out the survey in front of the mentors, which may have influenced them to rate the mentors more highly. Although we do not have the data to support this, perhaps any program involving both college-aged mentors and inner-city adolescents will report similar trends.

For the undergraduate mentors, there were two promising, high statistical correlations to support the hypothesis that the students and undergraduate mentors would learn the curriculum, as well as for both to find it an enjoyable experience. The more the mentor appreciated the program, the higher the correlation to the degree that they believed the students learned the material. This suggests that some inner-group relationships might have been stronger, influencing the quality of the learning and growth during the sessions. Maximizing small-group rapport should therefore be a high priority for future implementations of the program; without the right balance of personalities and experiences, the mentoring relationship could be hindered. The effect of student-mentor ration and of the gender of the mentors versus the students on the effectiveness or liking of the program should also be explored further.

Since the mentors were psychology majors, they were already very familiar with the core concepts of resilience and depression prevention emphasized in the PRP curriculum. Many reported already being resilient and aware of the skills taught, but it would be expected that by expanding the program to other majors or as an extracurricular activity other mentors could

benefit and teach it just as well. The effect of confidence level, though, was one trait that was highly correlated to the degree liking teaching. This suggests that the mentors grew personally through teaching the curriculum, an indicator that the community service or relationships built with the kids may have a preventative impact on depression, as predicted by Seligman (1990). No data was collected about the mental health of any of the participants in this program, but future analyses could administer pre- and post-program evaluations to further explore this strong correlation.

One caution for future studies of this model is that although the mentors were great role models, many were not sure how to respond to the seriousness of the problems the students mentioned. One student reported surprise at the “poverty, behavioral issues, lack of education, and racial and cultural divide” that exists between the inner-city students and University of Pennsylvania undergraduate mentors. There is a great value in gaining exposure to different lifestyles and cultures, but perhaps future implementations of the program should include as a theme a discussion of these differences in the training component.

In addition to expanding upon the analysis of whether college students can effectively teach the PRP curriculum, future research should also examine the effects of changing the teaching schedule (*e.g.* year-long program, more frequent meetings, condensing the curriculum) and adding rapport-building activities.

Both the student and mentor data (quantitative and qualitative) suggest that the program has a great potential to succeed and should be run as a course or perhaps simply as an extracurricular activity.

Table 1

Outline of session materials and activities, including specific references to corresponding PRP curriculum because of the many modifications made to accommodate the constraints and goals of the pilot-study. See the PRP manual (PRP; Gillham, Jaycox, Reivich, Seligman, & Silver, 1990) for more information on any of the activities.

Session	Date	Activity/Topic	PRP Lesson Number	Objective
1	2/9/2009	<ul style="list-style-type: none"> - M&M category-to-color game (e.g. For every yellow candy in your hand, state a song you love) - Pizza party 	N/A	<ul style="list-style-type: none"> - Introduce PRP program and build interest in it to recruit students with the fun environment - Emphasize to students' guardians that this is a pilot-study and their children are not "guinea pigs"
2	2/23/2009	<ul style="list-style-type: none"> - M&M personal example of emotion-to-color game (e.g. For every yellow candy in your hand, state something that makes you happy) - Small-group assignment - Confidentiality contract - Establish small-group rules (e.g. No talking when someone else is talking) - Introduce the "problem pool" index card system 	1	<ul style="list-style-type: none"> - Introduce structure of program and weekly visits - Create safe and comfortable environment to discuss private matters
3	3/16/2009	<ul style="list-style-type: none"> - Self-talk introduction - M&M physical 	1	<ul style="list-style-type: none"> - Thoughts are not the same as

		<p>experience of emotion-to-color game (<i>e.g.</i> For every yellow candy in your hand, state how it physically feels to experience happiness)</p> <ul style="list-style-type: none"> - Simulate shared-experience of teacher yelling at students - Thought-emotion cartoon bubble worksheet 		<p>feelings, but are closely linked</p> <ul style="list-style-type: none"> - Changing thoughts in a specific situation can change the outcome - Different people feel different emotions in the same situation - Feelings/emotions are physical, bodily experiences
4	3/23/2009	<ul style="list-style-type: none"> - Role-play highlighting different types of thoughts and reactions various characters have to the same problematic situation - Always versus Not Always thoughts worksheet 	2	<ul style="list-style-type: none"> - Different types of thoughts and thinking styles exist (optimistic-pessimistic; internal-external; always-never; realistic-exaggerated) - Analyze mental habits (<i>i.e.</i> explanatory style)
5	3/30/2009	<ul style="list-style-type: none"> - Sherlock Holmes and Merlock Worms story - Using detective work in the File game 	3	<ul style="list-style-type: none"> - Generating alternative thoughts by examining all evidence (<i>i.e.</i> being like Sherlock) and not jumping to conclusions too quickly in the face of a problem (<i>i.e.</i> Merlock)
6	4/14/2009	<ul style="list-style-type: none"> - Hot seat game as a group team and individually - <i>Chicken Little</i> allegory and studying catastrophization (<i>e.g.</i> problem of unknowingly leaving the bathroom) 	4	<ul style="list-style-type: none"> - By examining exaggerated worst- and best-case scenarios, come to most likely outcome to put the situation into perspective

		with toilet paper hanging out of your pants)		
7	4/20/2009	- Assertive, aggressive and passive behavior role-play examples - Learning and practicing coping strategies (<i>e.g.</i> deep breathing, leaving the situation, talking with someone, imagining a happy place or memory)	5	-Recognizing that some problems are unavoidable, coping skills are an important part of resilience
8	4/27/2009	-Discuss strengths and determine student's top 5 strengths	N/A	-Apply strengths to solve problems -Use VIA Signature Strengths survey research

Table 2

Selected multiple-choice questions from the student survey. All questions were evaluated based on the following scale: 1=Very True, 2=Mostly True, 3=Somewhat True, 4=Not True.

Question	Prompt
B1	I learned a lot from the program that will help me solve problems.
B4	I liked the program.
B8	My group leaders were supportive.
B9	I think my group leaders helped me.
B10	I liked my group leaders.

Table 3

Selected multiple-choice questions from the undergraduate mentor survey. All questions were evaluated based on the following scale: 1=Very True, 2=Mostly True, 3=Somewhat True, 4=Not True.

Question	Prompt
B1	I liked the teaching the after school groups.
B4	I learned a lot from the program that will help me to feel more confident in life.
B5	I am glad I was a part of this program.
B7	I think the after school program was helpful to the 5 th -8 th graders who participated.

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