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Cultivating the Virtue of Purpose

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Fostering Purpose among Adolescents in Secondary Education Settings

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Abstract

Committing to a personally meaningful purpose in life is associated with psychological well-being, hope, happiness, and life satisfaction. In adolescence, purpose appears to impart particular benefits; it is regarded as a critical developmental asset, a key component of youth thriving, and an important indicator of healthy identity development. Despite the importance of this virtue, it is rare. Only about 20% of high school students report having a purpose in life. Considering both the benefits and rarity of purpose, efforts to foster purpose among adolescents are warranted. To that end, we conducted an empirical investigation designed to cultivate the virtue of purpose among adolescents in secondary education settings. Despite a relatively small sample in this pilot test ($N=230$), results were fairly promising. Students in each of the experimental conditions showed increases in purpose from pre- to post-tests, and in one experimental condition the increase was statistically significant. Some facets of prosocial behavior and the desire to get involved in political issues in the community also increased significantly among individuals in one or more of the experimental conditions. The study was then rolled out to a larger sample ($N=355$). Initial results from the larger study along with plans to further improve the intervention and administer it again are discussed.

Keywords: purpose in life, adolescence, psychological well-being

Fostering Purpose among Adolescents in Secondary Education Settings

Discovering a meaningful purpose in life provides a productive direction to pursue (Damon, 2008). Committing to a personally meaningful aim because of how doing so allows one to make a difference in the broader world (Damon, Menon, & Bronk, 2003) is associated with psychological well-being (Ryff & Singer, 2008), hope (Bronk, Hill, Lapsley, Talib, & Finch, 2009), happiness, (French & Joseph, 1999), and life satisfaction (Bronk, et al, 2009). It also serves as an organizing feature for other virtues (Damon, 2008). With regards to adolescents, purpose appears to impart particular benefits. It has been identified as a critical developmental asset (Benson, 2006), a key component of youth thriving (Bundick, et al., 2010), and an important indicator of healthy identity development (Damon, 2008; Erikson, 1968; 1980).

In spite of the importance of this virtue, it is rare. Only about 20% of high school students report having a purpose in life (Damon, 2008). Considering both the benefits and rarity of purpose, it stands to reason that what is needed is a set of tools that can quickly and easily be administered to foster purpose among youth. The present study sought to design and test tools that foster purpose among adolescents in secondary education settings.

Definitional matters

Before delving more deeply into the details of the present study, a definition of purpose is in order. Historically definitions have varied, but more recently a consensus has emerged: a purpose in

life represents a stable and generalized intention to accomplish something that is at once personally meaningful and at the same time contributes to the world beyond the self (Damon, Menon, & Bronk, 2003). There are at least three key components of this definition.

First, a purpose represents a goal or an intention, but not all goals are necessarily purposeful. Only highly motivating, far horizon aims represent potential purposes in life. In other words, a short-term aim to ace an upcoming biology exam is not a purpose, but a longer-term aspiration to become a physician who compassionately cares for patients could be.

Second, a purpose in life is personally meaningful. Personal meaningfulness is evidenced by the investment of time, energy, and resources toward its pursuit. Rather than merely dreaming about some vision of the future, individuals who truly care about a purposeful aim actively work toward it.

Finally, in addition to being personally meaningful, a purpose in life is motivated at least in part by a desire to contribute to the world beyond the self. Far horizon aims that are pursued only for how they can benefit the individual do not represent purposes in life, but those that are pursued for their ability to make a difference in the broader world may be. This means that working to accumulate as many friends as possible on one's Facebook page is unlikely to represent a purpose in life, but working to effect social change around a personally meaningful issue may.

Based on this definition, it should be clear that many kinds of purposes exist. Individuals,

who volunteer their time to raise money to support water projects that provide clean drinking water to people in need, likely are motivated by a caring, perhaps even a noble, purpose in life (Bronk, 2012). At the same time, the individuals who carried out the recent terrorist attacks in Paris were also likely guided by a purpose in life, albeit a highly destructive one. This definition of purpose does not specify that purposes are necessarily prosocial or noble in nature. Philosophical traditions offer ways of distinguishing between noble and ignoble aims, but that discussion is beyond the scope of the present paper. The present study and the vast majority of research conducted on purpose to date are concerned with noble or at least neutral forms of purpose.

Purpose as a feature of adolescence

Individuals can discover a purpose in life at any stage in the lifespan; however, if they are going to commit to a personally meaningful aim, adolescence represents a particularly likely stage for doing so (Bronk, 2013). The reason has to do with the interconnected nature of identity formation and purpose development. During adolescence (Erikson, 1968) and increasingly emerging adulthood (Cote, 2000), young people typically reflect on what they value, what they believe, and who they hope to become. Identity formation comprises a process of exploring and ultimately committing to who one is. At the same time that young people consider who they are, some also reflect on what they hope to accomplish in their lives; in some cases these visions of the future are closely related. For instance, a young person with a particularly highly developed purpose in life reported that her

aim in life was to work to preserve the environment, and she half-jokingly referred to herself as “a tree hugger” (Bronk, 2012). In this way, the search for purpose and identity can go hand-in-hand.

A related reason for fostering purpose during adolescence has to do with the experience of searching for those things that matter most. An empirical study of adolescence, emerging adults, and midlife adults found that although having *identified* a purpose in life was associated with life satisfaction at each of these stages, *searching* for a purpose was only associated with life satisfaction during adolescence and emerging adulthood (Bronk, et. al., 2009). This finding likely reflects a larger cultural norm. In most Western, industrialized cultures, we expect young people to explore the things that matter most to them, but by midlife, we expect individuals to have determined what these things are. Since acting in ways that are consistent with social norms is likely to be more comfortable than not, searching for purpose during adolescence is an easier, more pleasant experience than it is likely to be later in life.

Given that the search for purpose corresponds with adolescence, it makes sense to attempt to cultivate it in secondary education settings. This aim is further bolstered by the academic benefits associated with leading a life of purpose. Among adolescents, purpose has been linked to a variety of promising academic outcomes. For instance, compared to others, youth with purpose are more likely to possess characteristics associated with academic success, including grit (Hill, Burrow, & Bronk, 2014), resiliency (Benard, 1991), an internal locus of control (Pizzolato, Brown, & Kanny,

2011), and academic efficacy (Solberg, O'Brien, Villarreal, Kennel, & Davis, 1993). Based on these findings, it is probably not surprising that emerging research also finds that compared to other young people, youth with purpose perform better in school (Benson, 2006; Pizzolato, Brown, & Kanny, 2011). It has been argued that young people, propelled by a personally meaningful and highly motivating purpose, know why they are in school and work hard without feeling stressed; consequently they are more likely to excel academically (Damon, 2009). Underscoring this theory is research that finds that youth with purpose report that their schoolwork is more meaningful (Yeagar & Bundick, 2009).

Because purpose is closely linked to the adolescent stage of life and because it is associated with scholastic benefits, the present study attempted to design an intervention to nurture purpose among adolescents in secondary education settings.

Cultivating the virtue of purpose

Given the benefits and rarity of purpose, it is surprising that so few researchers have sought to cultivate it. Findings from a small cluster of studies suggest contextual factors may enhance it (e.g. Bundick, 2011; Damon, 2008; Dik, Steger, Gibson, & Peisner, 2011; Fry, 1998; Pizzolato, et. al., 2011). In particular, findings from these studies suggest that guidance and time to consider and discuss the things that matter most can contribute to its growth (e.g. Bundick, 2011; Dik, Steger, Gibson, & Peisner, 2011; Pizzolato, et. al., 2011). Underscoring the need for time to

reflect, a growing body of neuroscience research finds that the default mode, or the time when the brain is not engaged by external stimuli, is critical to the internally focused, psychosocial mental processing that allows the mind to engage in meaning making and reflect on abstract aims, such as a purpose in life (Immordino-Yang, Christodoulou, & Singh, 2012).

This small body of research further suggests that an enduring sense of purpose can be fostered in a relatively brief period of time. A recent study surveyed late adolescents about their purpose in life twice, nine months apart (Bundick, 2011). Between the two surveys, a subset of the youth participated in a guided, roughly forty-five minute discussion about the things that mattered most to them, and these youth showed significantly higher scores on Ryff's (1989) purpose in life subscale months later. This study suggests that scaffolded opportunities to consider the things that matter most may represent an effective means of cultivating purpose.

Finally, the existing empirical work on purpose suggests that it may be possible and valuable to foster purpose in the classroom. Studies find that while parents are integral to supporting an ongoing commitment to personally meaningful aspirations, adults outside the family and home are particularly important to its formation (Benson, 2006; Damon, 2008; Dik et al., 2011; Parks, 2011).

The present study

Based on this research, we created a series of online writing prompts designed to help young

people engage in the scaffolded-reflection helpful in developing a purpose in life. The writing prompts were preceded by a pre-test survey, which assessed participants' level of purpose and other indicators of thriving, and followed by a similar post-test. In between, youth were presented with four brief activities spread across the course of two-weeks. Students were divided into four conditions: an identity exploration condition, a goal-orientation condition, a values clarification condition, and a control condition.

Students in the first condition approached purpose through identity exploration. Activities in this condition featured quotations that highlighted each of the three components of purpose (personal meaningfulness, goal-orientation, and a commitment to aims beyond the self; Damon, Menon, & Bronk, 2003). For instance, the following quotation was included to help youth focus on the things that matter most to them: "Your purpose in life is to find your purpose and give your whole heart and soul to it," Gautama Buddha. A quotation by Ralph Waldo Emerson encouraged students to think about their responsibility to enhancing the world beyond the self: "The purpose of life is not to be happy. It is to be useful, to be honorable, to be compassionate, to have it make some difference that you have lived and lived well."

Students in the goal-orientation condition participated in a modified best possible selves intervention (Oyserman, Terry, & Bybee, 2002), in which they wrote about the feelings and events

they would experience if their life unfolded in an ideal way. Picturing one's hoped for future should conjure up images of who one hopes to become and of what one hopes to accomplish, and in so doing should serve as a guided opportunity to clarify personally meaningful motives and aims (Odou & Vella-Brodrick, 2011). In addition to reflecting on far horizon aims, students in this condition were asked on subsequent days to reflect on the steps they would need to take to make this image a reality and the likelihood of achieving their ideal future.

The third condition utilized personal values as a catalyst for the development of purpose. In this condition, participants completed a modified version of the Moral Identity Q-sort (Ball, Lapsley, Stey, & Hill, 2014). Completing a Q-sort requires participants to rank order characteristics, traits, or values based on their subjective understanding of each concept (Ellingsen, Størksen, & Stephens, 2010; Waters & Deane, 1985). In the Moral Identity Q-sort, participants are asked to rank order personal values from "most characteristic" to "least characteristic" of themselves (Hill & Lapsley, under review; Waters & Deane, 1985). On the following day, students were asked to write about the things they hoped to accomplish in their lives, and on the last day, with their personalized results of the Q-sort before them, students were asked to draw connections between their personal values and their most meaningful aims.

In addition to the three experimental conditions, we also included a control condition in

which students completed writing exercises about their favorite class and homework assignments.

Method

Participants

Participants were recruited from psychology courses at a local southern California high school. Only those students who returned a signed parent consent form and student assent form and who completed both the pre- and post-tests were included in the following analyses. The final participant pool consisted of 230 students. Participants ranged in age from 14 to 18 ($M = 16.88$, $SD = 0.98$) and were 68% female, 41% Caucasian, 30% Hispanic/Latino, 11% Asian, 3% African American, and 15% identified as either mixed race or other.

Procedure

Participants were randomly assigned to one of the four conditions described above: the goal-orientation condition ($n = 59$), the identity exploration condition ($n = 56$), values clarification condition ($n = 56$), or the control condition ($n = 59$). Over the course of two-weeks, students were asked to complete a pre-test survey, four intervention-specific activities, and a post-test survey. The pre- and post-test surveys included the following measures in randomized order: purpose in life, self-concept clarity, prosocial behavior, and achievement motivation. The surveys were followed by questions about educational aspirations and demographics (e.g. age, gender, and ethnicity). In the

post-test, participants also responded to items about their motivation to participate in the study.

Participants completed the pre- and post-tests online in class on their own personal mobile device. The four intervention activities were completed online at the participants' convenience, outside of school, on a computer. Participants received email reminders to complete each activity. Upon completion of the four intervention activities, participants completed the post-test. Participants were thanked, debriefed, and compensated for their time with gift certificates; for each activity completed, participants received a \$5.00 gift card. The maximum possible compensation was \$30.00 (Five dollars for each the pre-test and post-test and \$5 for each of the four of the intervention activities.)

Measures

All items were included in both the pre- and post-test surveys, with the exception of the motivation to participate items, which were only included in the post-test. Unless otherwise noted, all measures used a seven-point Likert type response scale anchored by 1 (*Strongly disagree*) to 7 (*Strongly agree*).

Purpose in Life. Purpose in life was measured using the 15-item Claremont Purpose Scale (CPS; Bronk, Riches, & Mangan, under review). This scale was created to assess each of the three dimensions of purpose: goal orientation (e.g. "I am working to make my goals a reality"), personal meaningfulness (e.g. "I know what gives my life meaning"), and a commitment to aims beyond the

self (e.g. “It is important to me to be loyal to my friends; I want to devote myself to people close to me.”) The CPS was found to have a Cronbach’s alpha of .92 for the full scale and its subscales ranged from .72 to .96.

Self-Concept Clarity. Self-concept clarity was measured using the Self-Concept Clarity Scale (SCCS; Campbell, Trapnell, Heine, Katz, Lavalley, & Lehman, 1996). The SCCS is a 12-item scale with items such as: “I seldom experience conflict between the different aspects of my personality” and “My beliefs about myself seem to change very frequently (reverse coded).” This scale has an average Cronbach’s alpha of .90 and test-retest correlations of .79 and .70 after four and five-month intervals, respectively (Campbell et al., 1996).

Prosocial Behavior. Prosocial behavior was measured using the Prosocial Tendencies Measure- Revised (PTM-R; Carlo, Hausmann, Christiansen, & Randall, 2003). This 25-item measure was created for use with adolescents and is a self-report measure of six different types of prosocial behavior: anonymous (five items; sample item, “I think that helping others without them knowing is the best type of situation.”), altruistic (six items, “I often help even if I don’t think I will get anything out of helping.”), dire (three items, “I tend to help people who are in real crisis or need.”), emotional (five items, “I respond to helping others best when the situation is highly emotional.”), compliant (two items, “When people ask me to help them, I don’t hesitate.”), and public (four items, “I can help others best when people are watching me.”) For a sample of middle adolescents, Cronbach’s

alpha ranged from .75 to .86 and test-retest reliability ranged from .56 to .82 across a span of two weeks (Carlo, Hausmann, Christiansen, & Randall, 2003).

Achievement Motivation. The Ability Goal and Learning Goal items from Grant and Dweck's (2003) Achievement Goal Inventory were used to assess achievement motivation. The full scale includes six types of goals, each measured by three items. The ability goal items (e.g. "It is important to me to confirm my intelligence through my schoolwork.") have been found to have a Cronbach's alpha of .81, and the learning goal items ("I strive to constantly learn and improve in my classes.") have been found to have a Cronbach's alpha of .86 and an average test-retest correlation was .79.

Aspirations. Participant aspirations were assessed using five items related to education and community involvement. Participants were asked to rate from 1 (*Not at all sure*) to 7 (*Very sure*) the likelihood that they would do the following: finish high school, go to college, finish high school, get involved in political issues, and get involved in social issues.

Motivation to participate. Participant motivation was examined in the post-test using 11 items. Participants were asked to rate why they continued participating in the activities. Sample items include "Because somebody else wanted me to, or because my situation forced me to" and "I found them enjoyable."

Demographics. Participants were asked to provide their age, gender, and ethnicity.

Results

Paired t test were used to examine all scales for significant changes between pre- and post-test. Additionally, using pairwise comparisons we conducted ANOVAs to compare the increase in purpose between pre- and post-test in each group. The paired t-tests indicated if the intervention (e.g., Identity Exploration, Values Clarification, or Goal-orientation) was responsible for an increase in purpose, or any other measure; ANOVAs with pairwise comparisons were used to indicate if this change was more significant than changes in the control group.

We found no significant differences between groups based on age, gender, or ethnicity. We also found no significant differences between any of the pre-test measures between groups suggesting that random group assignment was successful. However we did find a gender difference on altruistic prosocial tendencies and the CPS measures such that female participants were slightly more likely to report altruistic prosocial tendencies and to report having a purpose in life. We also found a slight difference on ethnicity for the altruistic prosocial tendencies and public prosocial tendencies pretest measures such that participants who reported their ethnicity as Asian scored lower on altruistic prosocial tendencies, and higher on public prosocial tendencies. Finally, there were no significant differences on the CPS pre- and post-test change scores based on age, gender, ethnicity, or motivation to participate, therefore the following results do not control for these variables.

As reported in Table 1, a sense of purpose in life increased in each group over the course of the

intervention. The increase was most dramatic among students in the Identity Exploration group, where scores increased by 0.26 from the pre- to post-test. This change was statistically significant at $p=0.03$. The Goal-orientation and the Values Clarification conditions also increased in purpose from pre- to post-test (0.12 and 0.02, respectively), but these changes were not statistically significant. Finally, the control condition also showed a non-significant increase on purpose in life (0.24). The implications of this change are addressed in the discussion section.

Tables 2-5 include pre- and post-test results for each group and each measure, but for the sake of parsimony we discuss only the statistically significant relationships here. In addition to the statistically significant increase in purpose from pre- to post-test in the Identity Exploration group, this intervention also increased the tendency of participants to report that they would act prosocially in anonymous ($M= .45, SD=.81, p= .05$) and public ($M= .50, SD=.96, p= .01$) situations (Table 3). The Goal-orientation intervention also increased participants' tendency to act prosocially in anonymous situations ($M=.44, SD=.92, p=.01$). Finally, the Goal-orientation intervention increased participants' aspirations to get involved in political issues in their local community ($M=.87, SD=1.61, p=.01$; Table 5). The Values Clarification condition did not result in any statistically significant changes, although the increase in self concept clarity was marginally significant ($M=.16, SD=.53, p=.08$).

Table 6 includes results from the ANOVA with pairwise comparisons. While the Identity

Exploration group showed a statistically significant increase on purpose in life between the pre- and post-tests, this increase was not significantly different from the change around purpose in any of the other groups, including the control group. This pattern held true for all conditions and all variables. Changes in the t-tests reported above were not significantly different than the changes in the control group.

Discussion

Initial results of the pilot test were fairly promising. Rates of purpose increased among individuals in each of the experimental conditions and were statistically significantly higher among individuals in the Identity Exploration condition. Additionally, individuals in one or more of the experimental conditions reported significant increases in aspirations and prosocial tendencies.

It is noteworthy, however, that none of the increases in purpose among students in the experimental groups was significantly greater than the increase in purpose among individuals in the control group. In other words, though individuals in the experimental conditions showed greater levels of purpose after the post-test, so too did individuals in the control group. There are at least three potential explanations for this. First, it is possible that the changes we saw from the pre- to post-tests were due only to chance. However, given that the changes were consistently in the expected direction and that they were expected based on relevant theory and research, this explanation does not seem highly likely. Second, it is possible that the changes were the effect of

normal maturation. Studies find that rates of purpose increase over the course of adolescence and emerging adulthood, after all (Bronk, 2013). However, given the relatively brief two-week timeframe in which this study was conducted, this explanation too seems highly unlikely. Finally, the most probable explanation is that our control condition was problematic. Students in this condition were asked to write about their favorite class and homework assignments and why these assignments appealed to them. It seems likely that this reflective activity inadvertently spurred thoughts about the purpose of education and perhaps even about the relationship between education and students' aspirations. Students who find purpose in serving others, for instance, might have written about a class assignment that engaged them in service learning.

Based on these findings, we revised and re-launched the study with a larger sample of 355 secondary education students this fall. The first change we made was with our control condition. Instead of asking students to reflect on class and homework assignments, we asked them to complete various personality measures. This was done to differentiate the control from the experimental condition activities. Second, we eliminated the stand-alone Values Clarification condition, since it did not generate significant changes, and we added an All-activities condition. Students in the All-activities condition completed all of the intervention activities, including the goal-orientation, identity exploration, and values clarification activities. Next, we lengthened the implementation timeframe from two weeks to three weeks, and rather than having students

complete the activities at home (which led to a relatively high rate of participant attrition), we had them complete the activities in class, which meant teachers introduced each activity. Other than this, the intervention was kept the same, and we implemented it with a demographically similar sample of secondary education students.

We are still in the process of analyzing these results, but initial findings are mixed. There were no significant changes in purpose levels from pre- to post-test among the experimental or control conditions, with one exception: Students in the All-activities condition ($n=61$) showed a significant increase in levels of purpose following the intervention. Due to practical constraints, unlike students in the other conditions, who participated in activities just once or twice a week for three-weeks, these students participated in activities every day for two weeks. Their significant increase in purpose suggests (1) that the intervention activities likely are effective, but (2) that students may require a higher dose in a shorter period of time to show an increase in their level of purpose.

To learn more about why increases did not appear among the other two experimental conditions, we conducted interviews with a subset of participants, including students in these conditions for whom the intervention produced an increase in purpose and for whom it did not produce an increase in purpose. We are still analyzing the interview transcripts, but initial results, along with reports from evaluators who sat in the classrooms while teachers administered the

activities, suggest non-supportive teachers were a significant impediment to the intervention's success. In some cases, teachers did not allot sufficient time for activities, in other cases they made the activities optional, and in still other cases, teachers made it clear they were more concerned with their normal class content than with the study. These behaviors appear to have compromised students' opportunity to reflect in a meaningful way on the intervention.

Taking these two experiences together, we plan to revise our curriculum once more and to conduct another intervention in the spring. This intervention will be guided by the lessons learned from the first two interventions. For instance, we plan to only implement the program with students in classes where teachers have expressed an interest in the curriculum. We hope doing so will ensure they encourage students to engage in the activities in a serious and thoughtful manner. Second, we are in the process of lengthening the intervention activities as a means of increasing the dosage. Rather than requiring only 15 minutes to complete, each activity will take closer to 45 minutes to finish. Third, we have further revised the control condition so that it focuses on study skills lessons. This change is intended to further differentiate its focus from the purpose-fostering activities. Finally, we will change the implementation timeframe. Based on the initial implementation efforts, we are convinced a daily, two-week implementation is best, but schools are unlikely to allow us that much time. Based on student feedback, it seems likely that spreading the activities over too long a period of time dilutes their effectiveness. Therefore, our plan for the spring is to conduct the study in one

week. Students will complete pre- and post-test surveys on Monday and Friday respectively, and experimental activities on the intervening three days.

Though we still have a ways to go, we are heartened by the progress we have made in developing tools to effectively cultivate the virtue of purpose among adolescents. Once we achieve the optimum combination of dosage, duration, and teacher support, we will be eager to share widely an implementation plan for our purpose-fostering tools. Our admittedly ambitious aim is that these tools will considerably boost rates of purpose among adolescents in the United States, and perhaps even abroad.

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Table 1. *Mean Scores on Purpose Between Groups in Pilot Study*

	<i>Pretest</i>	<i>Posttest M</i>	<i>Difference</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig</i>
	<i>M</i>						
Goal-orientation	5.48	5.60	0.12	0.46	-1.45	29	0.16
Values clarification	5.53	5.54	0.02	0.45	-0.22	35	0.82
Identity exploration	5.43	5.69	0.26	0.63	-2.30	30	0.03*
Control	5.43	5.66	0.24	0.84	-1.48	27	0.15

Table 2. Mean Scores on Self Concept Clarity Between Groups

	<i>Pretest</i>	<i>Posttest M</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig</i>
	<i>M</i>		<i>Difference</i>				
Goal-orientation	3.91	3.91	0.00	0.60	0.00	29	1.00
Values clarification	4.18	4.34	0.16	0.53	-1.83	35	0.08
Identity exploration	3.75	3.81	0.06	1.09	-0.30	30	0.77
Control	4.18	4.26	0.08	0.64	-0.64	27	0.53

Table 3. Mean Scores on Prosocial Tendencies Between Groups

<i>Prosocial</i>								
<i>Tendencies</i>	<i>Condition</i>	<i>Pretest</i>	<i>Posttest</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig</i>
<i>Sub-Scale</i>		<i>M</i>	<i>M</i>	<i>Difference</i>				
PTM Public	Goal-orientation	3.05	2.84	0.21	1.41	0.81	29	0.43
	Values clarification	2.97	2.85	0.12	1.29	0.55	35	0.59
	Identity exploration	2.75	2.25	0.50	0.96	2.89	30	0.01*
	Control	2.92	2.78	0.14	1.28	0.59	27	0.56
PTM	Goal-orientation	5.48	5.59	0.11	1.00	-0.62	29	0.54
Emotional	Values clarification	5.27	5.23	0.04	1.01	0.23	35	0.82
	Identity exploration	5.23	5.23	0.00	0.94	0.00	30	1.00
	Control	5.47	5.33	0.14	0.96	0.78	27	0.44
PTM Altruism	Goal-orientation	5.10	4.80	0.30	1.01	1.63	29	0.12
	Values clarification	5.01	5.06	0.05	0.87	-0.34	35	0.73
	Identity exploration	5.10	5.23	0.12	0.85	-0.81	30	0.43
	Control	5.26	5.03	0.23	0.84	1.44	27	0.16
PTM Dire	Goal-Orientation	5.04	5.22	0.18	0.88	-1.10	29	0.28
	Values clarification	4.81	4.92	0.10	1.24	-0.49	35	0.63
	Identity exploration	4.56	4.89	0.33	1.07	-1.74	30	0.09
	Control	5.08	5.04	0.05	1.20	0.21	27	0.84
PTM	Goal-orientation	5.48	5.38	0.10	1.11	0.49	29	0.63
Compliant	Values clarification	5.43	5.44	0.01	1.16	-0.07	35	0.94

	Identity exploration	5.55	5.34	0.21	1.12	1.04	30	0.31
	Control	5.79	5.54	0.25	0.95	1.40	27	0.17
PTM	Goal-orientation	4.11	4.55	0.44	0.92	-2.62	29	0.01*
Anonymous	Values clarification	4.27	4.33	0.07	0.91	-0.44	35	0.67
	Identity exploration	4.22	4.66	0.45	0.81	-3.07	30	0.05*
	Control	4.26	4.58	0.32	0.85	-1.99	27	0.06

Table 4. *Mean Scores on Achievement Motivation Between Groups*

	<i>Pretest M</i>	<i>Posttest M</i>	<i>Mean Difference</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig</i>
Goal-orientation	4.82	4.97	.15	0.45	-1.80	29	0.08
Values clarification	4.86	4.92	0.06	0.68	-0.52	35	0.61
Identity exploration	4.71	4.58	0.13	0.59	1.18	30	0.25
Control	4.75	4.89	0.14	0.62	-1.22	27	0.23

Table 5. Mean Scores on Aspirations Between Groups

<i>Achievement Item</i>	<i>Group</i>	<i>Pretest M</i>	<i>Posttest M</i>	<i>Mean Difference</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig</i>
Finish High School	Goal-orientation	6.97	6.97	0.00	0.26	0.00	29	1.00
	Values clarification	6.83	6.97	0.14	0.54	-1.54	35	0.14
	Identity exploration	6.97	6.94	0.03	0.18	1.00	30	0.33
	Control	6.86	6.57	0.29	1.30	1.16	27	0.26
Go to College	Goal-orientation	6.93	6.97	0.03	0.41	0.44	29	0.66
	Values clarification	6.56	6.72	0.17	0.70	-1.44	35	0.16
	Identity exploration	6.81	6.74	0.07	0.51	0.70	30	0.49
	Control	6.89	6.50	0.39	1.03	2.02	27	0.06
Finish College	Goal-orientation	6.87	6.97	0.10	0.40	-1.36	29	0.18
	Values clarification	6.61	6.78	0.17	0.70	-1.44	35	0.16
	Identity exploration	6.81	6.71	0.10	0.54	1.00	30	0.33
	Control	6.75	6.61	0.14	0.76	1.00	27	0.33
Get Involved in Political Issues in Community	Goal-orientation	4.13	5.00	0.87	1.61	-2.94	29	0.01*
	Values clarification	3.89	3.72	0.17	1.54	0.65	35	0.52
	Identity exploration	4.10	4.10	0.00	1.13	0.00	30	1.00
	Control	4.61	4.89	0.29	1.30	-1.16	27	0.26
Get Involved in Social Issues in Community	Goal-orientation	4.80	5.17	0.37	1.16	-1.73	29	0.09
	Values clarification	5.03	5.00	0.03	1.30	0.13	35	0.90
	Identity exploration	4.97	5.23	0.26	1.46	-0.98	30	0.33
	Control	4.96	4.75	0.21	1.32	0.86	27	0.40

Table 6. *Difference Scores on CPS Pre- and Post-test Between Groups*

<i>Group</i>		<i>Mean Difference</i>	<i>Std. Error</i>	<i>Sig</i>
	Values clarification	0.11	0.11	0.34
Goal-orientation	Identity exploration	-0.07	0.12	0.57
	Control	0.03	0.12	0.80
Values	Goal orientation	-0.11	0.11	0.34
Clarification	Identity exploration	-0.17	0.11	0.12
	Control	-0.08	0.11	0.51
Identity	Goal-orientation	0.07	0.12	0.57
Exploration	Values clarification	0.17	0.11	0.12
	Control	-0.10	0.12	0.41