

# Effects of mentoring on community college students in transition to university

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*The current study evaluates whether a mentoring program can increase self-esteem and internal locus of control in underrepresented community college students. The primary goal of the mentoring program was to facilitate Compton Community College (CCC) students' successful transfer to a four-year university by fostering relationships with mentors from California State University Northridge (CSUN). The authors hypothesized that CCC students would improve by working with mentors in a gardening program and on collaborative in-class projects. Results indicate that the students show higher self-esteem, significant increases in self-report measures of internal locus of control, and higher levels of academic performance and motivation.*

## Introduction

The CSUN/Compton Community College Mentoring program (CMENT) was developed to improve the transfer rate among underrepresented community college students to the four-year university level. The authors hypothesized that by implementing a mentoring program between four-year university students and community college students, attrition could be reduced and transfer rates bolstered among community college students. After several years of studying students in the classroom, the authors have found that when students work together in a gardening program or on in-class collaborative assignments, psychological well-being increases, and higher academic involvement, enrichment and achievement occur (Hoffman, 1995, 2001; Hoffman, Cruz, and Thompson, 2004).

These observations suggest that students require confidence in themselves and their abilities to succeed but may still need support when transferring to

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a four-year university. Only 3-5% of students from CCC transferred to a California State University or University of California school at the end of the 2000-2001 academic year. The high level of attrition was particularly reflected in transfer rates of underrepresented minority students, predominantly African-American. These observations led to the hypothesis that CCC students may benefit from gardening and in-class group work integrated with a mentoring program to assist successful transfer to a four-year university.

One of the challenges facing underrepresented students is a lack of academic counseling which is crucial to deciding an academic path. Because of California's budget crisis, during the 2002-2003 academic year, no academic counseling follow-up was offered to CCC students (State of California, California Community Colleges, Chancellor's Office, 2004). An additional challenge facing CCC students is the lack of role models. Prior research indicates that African-American adults noted the absence of a role model as a reason for not continuing higher education (Williams, 1990). CSUN mentors provided academic counseling and acted as role models for CCC students, both vital components of the transfer process.

Data shows that the area where the college is located, and where most of the students reside, encompasses a disproportionate number of students that completed high school or higher but did not earn

Bachelors degrees (U.S. Census 2000). In fact, the percentage of the population with a Bachelors degree or higher is significantly below state average. The data shows that students in Compton acquire some post-secondary education, but do not earn degrees in higher education. In addition, University of California schools will soon require a new grade point average (GPA)—increased from 2.8 to 3.0 (on a four-point scale)—that will be implemented in 2007 (*Los Angeles Times*, September 29, 2004), which could further impede CCC student transfer to four-year state universities.

## **Mentoring**

The mentoring program is unique in that it combines outdoor activity (a gardening program) with collaborative group work. Although research suggests that outdoor activity and volunteer work improve self-esteem and well-being (Thoits & Hewitt, 2001) as well as improving rates of learning within the classroom (Bouillion & Gomez, 2001; Vogelgesang & Astin, 2000), there is limited research that specifically explores gardening activity, self-esteem, locus of control, academic performance, and successful transfer to higher education. An important variable to consider when developing a mentoring program and its relationship to academic performance is how students feel about their ability to complete such a program, an indicator of their self-esteem and internal vs. external locus of control. The

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study sought to understand the psychological states of CCC students, the role self-perception plays in gardening and class group work, and whether mentoring creates a change in these processes.

The gardening program in the current study took place on the CCC campus. Those involved in the program witnessed the growth and progress of “the garden.” The study implemented the well-known pedagogical theory of Maria Montessori (1912). She exposed students to horticulture as “initiation into the virtue of patience and into confident expectation, which is a form of faith and of philosophy of life” (p. 159). Montessori claimed:

What most develops a feeling of nature is the cultivation of the living things, because they by their natural development give back far more than they receive. When the [student] placed in the soil a seed or a bulb and periodically watered it, or has planted a fruit-bearing shrub, and the blossomed flower and the ripened fruit offer themselves as a generous gift of nature, a rich reward for a small effort; it seems almost as if nature were answering with her gifts to the feeling of desire, to the vigilant love of the cultivator, rather than striking a balance with his material efforts. (p. 160)

Historically, college student attrition has been studied using several variables found in Tinto’s (1975) model of college attrition: lack of

connection to the social and academic life of the college, students’ backgrounds, commitments to college study, and interactions with peers and faculty. Other research has investigated variables such as academic performance (GPA), intent to leave (based on psychological variables), high school performance and educational goals, and environmental variables (Bean and Metzner, 1985). In addition, students who are employed full-time are more likely to drop out of school than those who work part-time or not at all (Lanni, 1997; Swager, Sarah, Campbell, and Orlowski, 1995). These findings are consistent with more recent research (Summers, 2003).

The authors hypothesized that initially students would be hesitant about gardening duties, working in groups in a classroom setting, and interacting with the mentors, but as the semester progressed, students would develop higher self-esteem, stronger internal locus of control, and improve academic performance based on their ability to work cooperatively in a garden, accept the mentors’ assistance, and become familiar with a large university campus, all resulting in higher transfer rates to a four-year university.

## Method

### Participants

Participants (n=27) were Introductory Psychology students enrolled at Compton Community College during the spring 2004 semester. The experimental group consisted

of 14 students. CSUN mentors (n = 10) enrolled in a CSUN independent study course earned one, two or three course units depending on the amount of work they completed in the mentoring program. A demographic analysis of the student participants is shown in Table 1.

**Table 1. Academic and demographic analysis of compton community college students**

Ethnicity	
African-American	7
Latino	15
Asian-American	1
Declined to State	3
Academic Performance	
Mean Grade Point Average	3.219
(Declined to State)	11
Mean Hours Studied Per Week	13.56
Mean Years Attended College	2.3
Planned Highest Degree	
Bachelors	6
Masters	6
Ph.D.	4
Four-Year/Graduate/Trade Programs	
Other Professional	3
Other	3
Declined to State	3
Nursing	11
Criminal Justice	2
Social Work	1
Psychology	1
Child Development	1
Political Science	1
Biomedical	1
Liberal Studies	1
Business Administration	1
Computer Science	1
Digital Photography	1
Employment	
Full-Time	10
Part-Time	8
Unemployed	9

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## Procedure

CSUN mentors and CCC students worked in a garden for one hour Saturday mornings beginning at seven o'clock. The students were given traditional garden work utensils (i.e., shovels, rakes, etc.). When the gardening segment was complete, CCC students addressed in-class group projects for an introductory psychology course under the supervision of the professor and CSUN mentors. The garden, located on the college campus, covered approximately one acre of vacant land which the students cultivated as a vegetable and flower garden. Both CCC students and CSUN mentors were assigned by the professor specific garden tasks that required one hour of work.

The tasks were categorized in terms of skill and complexity as beginner, moderate, and advanced:

- Beginner: unskilled manual labor, such as weeding, cultivating, watering and trimming plants and bushes;
- Moderate: planting flowers, vegetables; adding fertilizers, soil amendments;
- Advanced: use machinery such as mowers, pruning shears for shrubs and citrus trees, and electrical equipment (weed whips, blowers, etc.)

CSUN students traveled weekly to the Compton campus and worked with CCC students. Similarly, CCC students traveled to the CSUN campus where their mentors guided tours to the admissions

and records offices, library, bookstore, financial aid office, psychology department, dining areas, and on-campus gardens, as well as providing information on computer use for completing academic assignments. The mentors also introduced each of the CCC students to psychology professors and members of *Psi Beta* and *Psi Chi* psychology honor society organizations.

A pre-test measured two dependent variables among students: self-esteem and locus of control. Students in the experimental group ( $n=14$ ) were later asked to evaluate the overall quality of experience during the gardening/mentoring project in terms of internal locus of control and self-esteem (Appendix A). A second questionnaire focused on future academic goals and open-ended questions regarding the gardening program, how likely they were to transfer to higher education, and their views of CCC (Appendix B). The results were compared to a control group ( $n=13$ ) of introductory psychology students who were not participating in the program.

At the end of the semester, each CSUN mentor submitted a 5-10 page summary that detailed personal experiences with the mentoring program, its advantages and disadvantages, the mentoring relationship, and a chronology describing the various activities that helped prepare the community college student for successful transfer.

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## Results and discussion

Data was analyzed using a between-subjects design to measure locus of control, and showed no statistical significance ( $F < 1$ ), ( $M = 8.64$ ,  $SD = 3.855$ ). Self-esteem was measured using a within-subjects design and showed statistical significance ( $t(13) = -7.011$ ,  $p < .001$ ). Other data obtained from the results shows that CCC student performance in testing situations increased by over 60%. Students reported feeling “more confident” in beginning new tasks after the gardening activity (82%), improved self-confidence in completing future academic projects (71%), and increase in academic grade point average (68%).

In the open-ended questionnaire, one CCC student explained, when questioned about changes in academic performance, “I attend all my classes now and study for exams.” Another student wrote, “I felt better, more willing to learn [after the gardening program]” and “...Initially the gardening program sounded like too much work, but I enjoy it now.” Additional feedback included, “At first I was forcing myself through [the gardening program], but now I look forward to it.” A student responded to whether it felt good to attend the gardening program and if so, why. “Yes, [it] did. The crisp morning air and the camaraderie. The feeling of tending to life. The whole idea of being relevant, i.e., watching the plants, the beauty, and thinking, ‘I contributed to this!’” Other responses regarding the program

related to making friends as a result of the teamwork involved in gardening. When asked whether it was common to make friends in class, and if not, whether the situation changed in this introductory psychology class, a participant explained, “I usually don’t...because I am really shy, but the gardening program helped a lot.”

It is crucial that CCC students meet people who understand what it is like to be a new student on a large college campus. Mentors from CSUN reduced the intimidation and dispelled the myths of university campus life that concerned CCC students before the campus tours. CCC students benefit from their relationship with the CSUN mentors. When the mentors assisted in the psychology course, shared in the gardening work, and took time to explain the transition to a four-year university, CCC students reported positive feelings toward the mentors.

CSUN mentors kept their commitment to the students. Many drove in traffic up to two hours each way from their homes and arrived at the Compton campus early each Saturday morning to garden and help CCC students with their studies. The mentors also assisted the students with preparing research papers in APA format, co-authoring articles for assignments, providing information about accessing journal articles in psychology, and attending conferences in psychology to present research projects together.

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An important aspect of the mentoring program was that the relationship was reciprocal. Consistent weekly meetings during class with the community college students established a positive relationship where learning was facilitated with trust and communication during the group projects. The CSUN mentors reported feeling “very positively motivated in working with the community college students.” “They looked up to us...and that motivated us more to help them.” Several of the CSUN mentors commented that they felt they were providing a “proactive service” to the community college students, one in which they could see “direct and positive results” from their efforts.

As a culmination to the semester, CCC and CSUN students attended an undergraduate research conference at Stanford University where they presented their research. In addition, the group traveled to Hearst Castle in San Simeon, California, a historic monument once owned by the William Randolph Hearst family. During the seven-hour bus drive from their homes in Los Angeles to Hearst Castle and Stanford University, they experienced sights of the Pacific Ocean and open land throughout Central California. The students were able to witness flora and fauna in a rural setting, something they saw on a different scale in the gardening program. All the students experienced the aesthetics of culture and nature, important particularly to the CCC students, many of whom

had never gone beyond the inner-city where they were raised.

## **Suggestions for future research**

A mentoring program with diverse students of various academic levels (graduate, etc.) interacting with each other could further support these findings. Currently, a mentoring pilot study that combines community college students with graduate students at Pepperdine University (California) is in development. In addition, new students from CCC and CSUN have been involved in the mentoring gardening program fall semester, 2004. The authors also suggest the development of a mentoring program for community college students at high-risk for attrition, to assist in their communities, e.g., Boys & Girls clubs or after school programs, as a way of building confidence and self-esteem. As noted, not only did Compton Community College students benefit greatly from the program, the mentors enjoyed friendships they built, trust they instilled, and pride in following through on the commitment they made to the students. The results suggest that at-risk students could increase their self-confidence by helping others as well.

The research helped create a better understanding of how students can enhance their short and long term academic experiences by working cooperatively. When CCC students worked with CSUN mentors and fellow students in an

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informal atmosphere such as the gardening program and a traditional classroom environment, they felt better about themselves. Such improvement in self-perception may provide them with motivation needed to pursue and achieve their academic goals. The combination of trust in those who can help them with outdoor projects, advice regarding the transition to a university, and in-class learning experiences (reviewing and retaining material from lectures), is a cost-effective method of assisting students who otherwise would be denied adequate educational needs.





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## Appendix A

Please rate each response with a score of “1” (not true at all) through “5” (very true):

1. After working in the garden, I feel much better about myself. \_\_\_\_\_
2. I feel very satisfied about working and planting in the garden. \_\_\_\_\_
3. My academic work in psychology also improved when I began working in the garden. \_\_\_\_\_
4. I feel that when I can work in the garden, I feel more relaxed and can therefore study better. \_\_\_\_\_
5. After working in the garden, I feel better about completing tasks and I feel more confident about starting new tasks in the future. \_\_\_\_\_
6. I feel more confident about taking more classes and doing better in psychology classes since I began working in the garden. \_\_\_\_\_
7. I feel that I can relate and communicate better about how I feel since working in the garden. \_\_\_\_\_
8. I feel more confident now about beginning new projects and that I can complete them successfully. \_\_\_\_\_
9. Since I began working in the garden, I feel that I can concentrate better on a variety of homework assignments. \_\_\_\_\_
10. I think working in the garden has helped me to become a more responsible person in other events in my life. \_\_\_\_\_
11. I think that I can be accepted to a four year university after attending Compton College. \_\_\_\_\_
12. Since I have been working in the garden, I feel that I can achieve more in school and be successful in graduating from a four year college. \_\_\_\_\_

Were you anxious about starting the gardening program? If so, why, and did this feeling change as the semester progressed?

How did you feel about yourself while you were taking part in the gardening program?

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Did you look forward to going to the gardening program? If so, what was it that made you feel this way?

When you attended your Introductory Psychology class after the gardening program each week, did you feel you were better able to achieve your goals? Why or why not?

Did you have fun while you were gardening? If so, what was your favorite part?

Do you usually become friends with people in your classes? If not, did this change with the people in your Introductory Psychology class who were also part of the gardening program? Have you ever worked in a garden before? If not, what did you learn about gardening? Is it something you like to do? Why or why not?

Did you work harder in your classes this semester than you have in the past? Why or why not?

If you had the opportunity, would you volunteer your time in the gardening program again?

Do you have any suggestions about how to make the gardening program better?

## Appendix B

Please complete the following questions. When you are finished, please place this questionnaire in the envelope provided.

Age \_\_\_\_\_

Sex M \_\_\_\_\_ F \_\_\_\_\_

Ethnicity Asian American \_\_\_\_\_  
African American \_\_\_\_\_  
Latino \_\_\_\_\_  
White \_\_\_\_\_  
Decline to State \_\_\_\_\_

Total Number of Years in College \_\_\_\_\_

Number of children \_\_\_\_\_

Academic Major \_\_\_\_\_

Planned Highest Degree Bachelor's \_\_\_\_\_  
Master's \_\_\_\_\_  
Ph.D. \_\_\_\_\_  
Professional \_\_\_\_\_  
Other \_\_\_\_\_

Work Status Full-time \_\_\_\_\_  
Part-time \_\_\_\_\_  
Unemployed \_\_\_\_\_

Total Hours Study per Week \_\_\_\_\_

Number Units Currently Enrolled \_\_\_\_\_

Current Grade Point Average \_\_\_\_\_

Other information you would like to include regarding your educational status and/or goals:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*Thank you for your time.*

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