Mentors in an Undergraduate Psychology Course: A Comparison of Student Experience and Engagement

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Abstract. *Curricular* peer mentoring is a specific course-based form of peer mentoring that is intended as academic support for students (Smith, 2013, Chapter 1). This study focussed on a curricular peer mentoring program being used specifically in an undergraduate child psychology course. This study aimed to discover differences in student experience, engagement, and achievement in three courses as impacted by having mentors or not having mentors. Students from all three sections of the course participated in the study. It was found that those in the *mentored group* (M = 7.73 ±2.45) reported significantly higher levels of Group Engagement as compared to those in the *non-mentored groups* (M = 5.83 ±1.93), yielding $t(120) = 3.88$, $p < 0.001$, Cohen's d = 0.71. Similarly, those in the *mentored group* (M = 9.02 ±2.20) reported significantly higher levels of Social Engagement as compared to those in the *non-mentored groups* (M = 7.55 ±2.56), yielding $t(120) = 3.31$, $p < 0.001$, Cohen's d= 0.60. Further, with regard to achievement There were significant main effects found for evaluation type and group membership; however, these differences were qualified by an interaction between evaluation type (midterm, final) and mentorship group (non-mentored-2011, non-mentored-2013, mentored-2012), yielding $F_{2, 500} = 52.85$, $p < 0.001$, $\eta^2 = 0.18$. Further investigation of the interaction using contrasts demonstrated that there were no differences between the *mentorship groups* on average *midterm* grades ($F_{1, 500} = 6.64$, ns) but that the grades on the cumulative final exam were significantly better in the *mentored group* when compared to the *non-mentored groups* ($F_{1, 500}=42.33$, $p<.001$, $\eta^2=.08$).

Keywords: education; higher education; mentoring; curricular peer mentoring

Introduction

Mentors lead us along the journey of our lives. We trust them because they have been there before. They embody our hopes, cast light on the way ahead, interpret arcane signs, warn of us lurking dangers and point out unexpected delights along the way. (Daloz, 1986, p.17)

While mentors and mentoring have gained momentum in many arenas since its emergence into the vernacular of business and education in the 1970s, it is not a new concept – it predates the 70s by several 1000 years (Lahman, 1999). While mentoring now is associated with broad personal and social development, the original "mentor" is referred to in Homer's *Odyssey*. Mentor was the trusted advisor of Odysseus. When Odysseus leaves to fight in the Trojan War, he entrusts his household and his son, Telemachus, to Mentor (Campbell,Smith, Dugan, & Kornives, 2012; Gannon and Maher, 2011; Lahman, 1999). While based in this historical atmosphere of guidance, mentoring today is a very relevant and multi-faceted "modern" concept, especially in the context of higher education. As institutions of higher education face ever-growing challenges ranging from economic to enrollment, the role of mentoring has gained increasing significance. Mentoring at all levels frequently comes into play as colleges and universities strive to make progress toward institutional goals of increasing both the quality of education and the undergraduate experience (Murray and Summerlee, 2007).

Mentoring

Various researchers have, over the years, posited many descriptions and definitions of mentoring. The key elements that appear in these definitions include opportunities for growth and individual development; a relationship between more experienced (mentor) and less experienced individuals (mentee); positive outcomes for the mentor and the mentee; and focused goal attainment (Fleck and Mullins, 2012; Kram & Bragar, 1992; Kram and Ragins, 2007; Tremblay & Rodger, 2014). While mentors have typically been thought of as senior professionals who are in the role of ""elder" professional overseeing the development of a protégé or junior member of an institution, this definition can be expanded. "…a mentor can also be a peer who is close to the protégé in age and position" (Holland, Major, & Orvis, 2001, p. 343). One advantage to having mentor and mentee be closer in age comes from the mentor being able to draw on more recent experiences when aiding in the mentee's transition and adoption of a new role (e.g., university student). The smaller age gap between a mentee and mentor who is more peer-like also results in mentees sometimes being more comfortable approaching the mentor for guidance (Parker, Hall, & Kram, 2008).

The key to the mentor/mentee relationship is that the mentor provides guidance, encouragement, and support. The overarching conclusion drawn by researchers and practitioners is that mentoring is a powerful tool for influencing the personal development, empowerment, success, and goal attainment of those who are mentored. According to Kram (1985), these changes are brought about as a result of the relationship between mentor and mentee as the more experienced mentor guides the mentee by providing

"guidance, role modeling, and acceptance for the mentee (as cited in Campbell et al., 2012).

Mentoring Theory

The emergence of mentoring in the 1970s was supported theoretically by the examination of young men's lives as detailed by Levinson, Darrow, Levinson, and McKee's (1978) study in which they "found mentorship to be the single more important relationship in they psychosocial development process, influencing both commitment and self concept" (Campbell, et. al p. 4). Further current explorations of the theoretical underpinnings of mentoring include Tremblay and Rodger's (2014) summation of the potential for positive outcomes as a result of mentoring. They have concluded, based on the findings of a number of studies, that this positive outcome is based in social, cognitive, and motivation theory (Allen, McManus, & Russell, 1999; Bank, Slavings, & Biddle, 1990; Fantuzzo, Riggion, Connelly, & Dimeff, 1989; Hayes, 1999; Karabenick & Knapp, 1999; Selbert, 1999). More specific to educational mentoring, Tremblay and Rodger (2014) have discussed the impact of these three factors. The social perspective revolves around the idea of persistence, or not dropping out, as a result of peer influence; this persistence being the result of a feeling of belongingness resulting from the mentee having positive relationships with the members of the "organization," in this context the university or the course. The cognitive theoretical component of successful mentoring deals with cognitive skill development that results from the interaction of mentor and mentee. For example, this might include tutoring or study skill development. If approaching the mentor impact with a view toward the motivational component, the qualities of self-efficacy and help-seeking come into play. It is suggested that students who are involved in a mentor-mentee relationship will be more motivated to seek-help as well as feel more capable, thus increasing their chances of success and satisfaction with the educational experience.

The mentoring program discussed in the current study has used this theoretical explanation as a basis for the program. More specifically, the current study explores the impact of a curricular peer mentoring program in an undergraduate psychology course. While p*eer mentoring* is a widely used term that can refer to a variety of learning activities and programs, c*urricular* peer mentoring is more specific as it is a course-based form of peer mentoring that is intended as academic support for students (Smith, 2013, Chapter 1). Curricular peer mentoring has become more widely used in higher education in the last decade.

Other Studies

A number of researchers have explored peer mentoring in the educational setting from a variety of perspectives and with varying approaches and emphases. The studies cited here have in common the recognition that mentoring programs are used to overcome numerous challenges in the classroom, the university, and the larger social environment. Universities face challenges both economic and societal. As budgets shrink and the value of education comes into question, institutions of higher education find the need to be creative as they attempt to overcome many of these challenges. The state of

the economy affects enrollments which affect operating budgets and opportunity for growth. Student success, reputation, retention, graduation rates, and the provision of undergraduate experiences beyond just coursework are some of the things that can be enhanced by implementing mentoring programs and providing students with the opportunity to engage in developmental relationships (Gannon & Maher, 2012; Larose, Cyrenne, Garceau, Brodeur, Tarabulsy, 2010; Lahman, 1999; Noonan, Ballinger, & Black, 2007; Shojai, Davis, & Root, 2014). These studies, while taking different approaches and with different specific goals ranging from retention to academic success to human progress all have in common the acknowledgment of the changing face of education and how mentoring programs can address many of the challenges faced on the personal, pedagogical, societal, economic, and macro levels.

Along with these factors, one that might be considered the core issue in many mentoring programs is the idea of growth for the mentee, and, though sometimes overlooked, also growth in leadership skills for the mentors. As a result of growth and the resulting academic personal success experienced by mentees, retention rates are positively affected. Fleck and Mullins (2014) report that "California University of Pennsylvania found that 10% more undergraduate students were likely to stay the following school years when participating in the university's peer mentoring program" (p.272). This increase in retention as a result of a mentoring program follows from the support mentored students receive with regard to planning their future, studying, psychosocial development, and identification with the community of scholars (Fleck & Mullins, 2012). Gannon and Maher (2012) have likewise explored the components most critical for mentoring programs to be successful in socializing mentees into new environments and roles. This identification and socialization results in growth, satisfaction, and persistence in the goal of the mentee. In short, retention. The university where this study was conducted has been implementing mentoring programs in the faculty of arts and social sciences since 2004. These programs have taken various forms and there have been multiple iterations. In a current study evaluating the effects of mentoring programs for arts and social sciences students, Pugliese et. al (2015) found positive effects for both the students and the mentors in these programs. Namely, the students experienced increased retention between first and second year as well as academic and social benefits. For the mentors, Pugliese et. al (2015) noted increased personal growth for the mentors in a number of areas including leadership, presentation, and organizational skills. Also noted were increases in self-esteem and self-confidence for the mentors.

An additional example of the use of mentoring undergraduate education comes from Holland et al.'s investigation of the "role of peer mentoring and voluntary self-development activities (i.e., capitalization) in anchoring science, technology, engineering, and mathematics students to their college majors" (2012, p.343). In this study, the investigators found a positive relationship between mentoring and capitalization as well as discovering that capitalization and mentoring both positively impacted students' "satisfaction with one's major, involvement in one's major, and willingness to be a mentor (Holland et al., p. 343).

Further, mentoring programs can be used in any discipline or major and at any level of education to increase retention, achievement, degree completion and to enhance student experience. A high quality program, undergraduate or graduate, includes a variety of educational experiences that reach past the coursework. While the content of coursework at all levels is critical for mastery of the field of study, there is more to be gained in the educational setting with regard to socialization and leadership (Noonan et al., 2007). With this in mind, mentoring has been used to enhance the curricular and extracurricular content of students in graduate programs as well as undergraduate programs. For example, while widely established as a means of enhancing undergraduate education, mentoring has also been used in graduate level programs to "motivate and retain doctoral students, provide them with necessary experiences associated with future job responsibilities, or socialize them into their new leadership positions" (Noonan et al., 2007, pg. 251). Other findings with regard to graduate student specific mentoring programs indicate that participant reported outcomes include "psychosocial assistance, networking help, and relational outcomes…." (Fleck & Mullins, 2012, p.271).

The Current Study
This study was conducted as a formative and exploratory investigation of a mentoring program that was used in a 200 level (second year) undergraduate child psychology course. This study was an attempt to take the things known historically and through current research regarding mentoring and investigate a current application of the established theories and principles. The purpose of the study was to gain information from mentored students about the nature of their experiences of being mentored and how this impacted engagement, experience, and achievement in the course for them.

The mentors in this program took a prescriptive approach to mentoring in of that they engaged in their relationship with the mentees with the goal of helping the mentees increase academic performance, engage with their classmates, and have an enhanced experience both in the class, the department, and in the university environment as a whole. One of the driving forces behind the prescriptive nature of the mentoring program described in this study is the phenomenon wherein large courses in which the main teaching method is lecture can lead to student passivity with students being oriented toward marks as opposed to learning. Canaleta, Vernet, Vicent, and Montero (2014) have discussed the use of active learning strategies to combat this passivity that leads to a performance orientation as opposed to a learning orientation. The mentors in this study approached their goals of increasing achievement, experience, and engagement by taking an active learning approach with their mentees. Specifically, for the mentored section of the course, mentors were assigned small groups (10-12) students at the onset of the course. The groups and mentors stayed the same for the duration of the course. For the majority of the course meetings, mentors were given 20-30 minutes in each 80 minute lecture block to work with their mentees in small breakout groups. The breakout sessions were designed by the mentors and coordinated, for the most part, with the lecture

topic(s) for that day's class meeting. The goal was to increase engagement with fellow students and with the material. Breakout sessions did, on other occasions, cover more general "survival" skills (e.g, time management, study skills, exam taking techniques). For the non-mentored courses, the students did a comparable amount of small group covering the same material, but they worked independently and did not have facilitation by a mentor. For this study, we specifically set out to discover if there existed differences in student experience, engagement, and achievement in a course with mentors as compared to alternative sections of the same course that did not have mentors.

Method
Participants and Procedure
Students who had completed an undergraduate child psychology course at the University of Windsor in the fall semester of 2011, fall semester of 2012, or winter semester of 2013 were invited to participate in an online survey about their experience in the course. Students in these three semesters took the same course taught by the same professor, with the exception being the inclusion of a peer mentorship program in the fall 2012 semester. All students were invited to participate after their grades were finalized, and participants were reminded that their involvement had no repercussions for their grade in the course. Of these students, 123 opted to complete the survey. Of the 123 participants (92%) were female, and nine were male (0.08%). One student identified as transgender. A total of 97 of the students surveyed identified as Caucasian/White, accounting for 79% of participants. Of the 123 participants, 72 were students from either the fall 2011 or winter 2013 semesters, which featured no peer mentorship component. The remaining 51 participants had been enrolled in the fall 2012 version of the course featuring peer mentorship.

Measures
All the participants were given a link to access an online survey comprised of a number of measures. The measures included the following: general demographics; Motivated Strategies for Learning Questionnaire (MSLQ); Student Attitudes toward Group Environments (SAGE); and a modified version of the National Survey of Student Engagement (NSSE). The NSSE was abbreviated in order to reduce the length of the survey and to narrow the items down to those most relevant to the goals of this study. This was done with the permission of the NSSE office at Indiana University Center for Postsecondary Research. Additionally, participants from fall 2012 were given survey questions relating specifically to their experience with being in a course with mentors in their course.

Results
Data Analysis
This study relied on both qualitative and quantitative data analysis approaches. First, participants provided open-ended information about their class experience. A content analysis was conducted, which resulted in the more specific quantitative items mentioned above that were given to the mentored students. These data were analyzed at the item level using descriptive statistics.

Group comparisons were made using t-tests for follow-up questionnaires specific to student engagement. The corresponding assumptions were assessed and found to be tenable prior to analyzing these data.

In addition, midterm and final examination grades were analyzed across the 3 mentorship comparison groups (non-mentored-2011, non-mentored-2013, mentored-2012). This resulted in a 3 (non-mentored-2011, non-mentored-2013, mentored-2012) by 2 (midterm, final) mixed by repeated measures ANOVA design. These data were assessed for the assumptions of ANOVA; 4 outliers (SD > 3.0; 0.79%) were removed from the analysis resulting in a final sample size of 503. With these outliers removed the assumptions were found to be tenable. All analyses were conducted using an alpha of 0.05.

Exploratory Findings

Participants from the *mentorship group* (2012) were provided an opportunity to voice their opinions of the class and the following themes came to the forefront: breakout sessions benefited students' peer integrations, the classroom community, and the work environment. Table 1 includes items that were asked about breakout session efficacy as part of the quantitative follow-up regarding these themes. In general, the students from the *mentorship group* agreed that breakout sessions assisted in peer learning, perspective taking, and fostering a positive work environment.

Student Engagement

Those in the *mentored group* (M = 7.73 ±2.45) reported significantly higher levels of Group Engagement as compared to those in the *non-mentored groups* (M = 5.83 ±1.93), yielding $t(120) = 3.88$, $p < 0.001$, Cohen's d = 0.71. Similarly, those in the *mentored group* (M = 9.02 ±2.20) reported significantly higher levels of Social Engagement as compared to those in the *non-mentored groups* (M = 7.55 ±2.56), yielding $t(120) = 3.31$, $p < 0.001$, Cohen's d= 0.60. It it important to note here that as described above, all students, mentored and non-mentored did engage in group work.

Student Achievement

There were significant main effects found for evaluation type and group membership; however, these differences were qualified by an interaction between evaluation type (midterm, final) and mentorship group (non-mentored-2011, non-menotred-2013, mentored-2012), yielding $F_{2, 500} = 52.85$, $p < 0.001$, $\eta^2 = 0.18$. All means and standard deviations for the interaction can be found in Table 2 and a visual representation of the interaction can be found in Figure 1. Further investigation of the interaction using contrasts demonstrated that there were no differences between the *mentorship groups* on average *midterm* grades ($F_{1, 500} = 6.64$, ns) but that the grades on the cumulative final exam were significantly better in the *mentored group* when compared to the *non-mentored groups* ($F_{1, 500} = 42.33$, p<.001, $\eta^2 = .08$). These findings suggest that the mentorship program resulted in greater academic performance on the final cumulative evaluation, while at the first evaluation (midterm) the groups were statistically equivalent in terms of academic performance.

Table 1. Follow-up Breakout Sessions Responses Based on Qualitative Themes.

Items	Agree	Disagree	Undecided
Breakout sessions allowed me to learn from my peers.	76%	18%	6%
Breakout sessions helped me better consider the views of others.	82%	14%	4%
Breakout sessions allowed me to share ideas.	74%	12%	14%
Breakout sessions created a positive work environment.	74%	8%	18%

Note: Questions were provided to those from the *mentorship group,* those who responded completed all of the questions, N = 51.

Table 2. Grade Means and Standard Deviations for Mentorship Groups by Evaluation Type

	Mentorship Group	Mean	SD	N
Midterm	Non-mentored 2011	68.28	13.99	183
	Non-mentored 2013	68.94	12.88	135
	Mentored 2012	68.37	14.25	185
	Midterm Total	68.49	13.77	503
Final	Non-mentored 2011	64.38	13.17	183
	Non-mentored 2013	61.80	13.42	135
	Mentored 2012	70.66	11.05	185
	Final Total	65.99	13.02	503

Note: Mean represents average scores as a percentage on midterm and final evaluations.
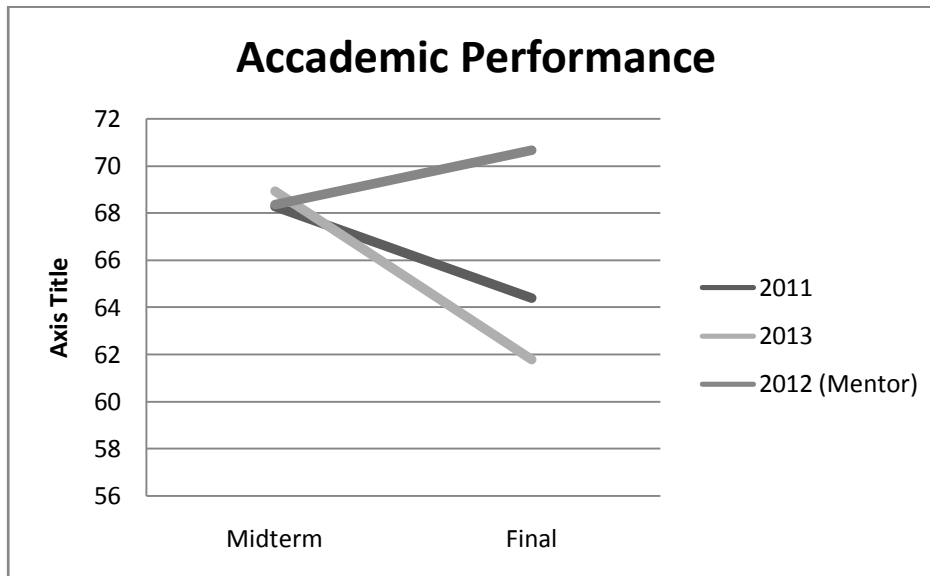
Accademic Performance

Figure 1. Mentorship Group by Evaluation Type on Academic Performance
Note: Mean represents average scores as a percentage on midterm and final
evaluations.

Discussion

Based on our qualitative investigation, the students who were in the mentored classroom experience expressed that the class format allowed them opportunities to learn from their peers, consider the views of others, and share their own ideas, culminating in a positive classroom work environment and achieve a higher final exam and final course grade. The mentorship model appears to provide an opportunity for students to connect with their peers by offering them an outlet through which they can share ideas and raise questions about course content and general academic concerns. Further, mentored students report that their interactions within their groups offered them opportunities to learn from the perspectives of a diverse peer group. Such perspective taking is a valuable skill in the classroom, workplace, and interpersonal relations, however it is typically absent in the traditional lecture style learning environment. As similarly found by Smith and Cardaciotta (2011) in their study of the effects of active learning approaches, in terms of student engagement, we found that students in the mentored class environment reported that they had higher levels of Group Engagement and Social Engagement, suggesting that students in the mentored environment were more engaged in the social components of the learning experience. Students in the mentored class expressed that being a part of a small group gave them a sense of accountability which motivated them to complete readings and assignments in order to contribute to the group activities and discussions. This aligns with the findings of Teng (2006) who reported that students in her study experienced several positive academic and interpersonal effects as a result of collaborative work. This format of using mentors allowed for more active and collaborative learning, which can help overcome some of the downfalls of large lecture-based classes. Moreover, this sense of accountability serves to challenge the anonymity that is often associated with the lecture format. The intimate group

structure may provide students with a peer-support network and keep them engaged in their studies and academic community. By bringing students together, this model seems to offer students support and recognition amongst their peers, and may keep them socially and academically engaged, both factors that have been established as important in retention (Pugliese et al., 2015).

Regarding academic performance, we found that at the initial evaluation (midterm) mentored and non-mentored students performed at the same level; however, in the cumulative final assessment students in the mentored classroom experience outperformed those in the non-mentored classes. Given that the students had approximately equivalent performance early in the class (midterm), this would provide additional evidence that the process of the mentored class experience contributed to the success of the students over the course of the semester. Because academic improvement was not realized until the final cumulative exam, it is possible that students required some time to acclimate to the new model of learning; however, the significant improvement in exam performance suggests that a mentorship model leads to substantial benefits when sustained over time.

The current study was exploratory in nature and had its limitations. Most significantly, all responses required students to reflect on past experiences, thus leaving the data vulnerable to inaccurate recall. Further, without longitudinal data, it is impossible to determine if the benefits reported were sustained over time. Future research should explore the long term effects of participating in a mentorship program and to determine if the benefits outlast the novelty of the new experience. It is also suggested that the efficacy of such programs be explored when provided by different instructors across multiple subject areas. Finally, all data were collected from students who attended the University of Windsor and were enrolled in Developmental Psychology: The Child. As all respondents shared multiple experiences (city, university, and course selection, and instructor), we cannot rule out the influence of common factors. This model should be explored across numerous disciplines and schools to explore the generalizability of our findings.

Based on the results of our investigation, it is reasonable to conclude that participation in the mentorship experience contributed to an enhanced learning experience and increased engagement. Our data indicates that those who participated in the mentored class experienced greater social and academic engagement resulting in overall higher satisfaction with the course and higher grades upon conclusion of the program. The mentorship model is a diverse pedagogical method with potential for adaptability to other programs and classroom environments and is deserving of continued study in higher education.

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