

# The Impact of Social Work Research Courses on Research Self-Efficacy for Social Work Students

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*This article reports on a study of research self-efficacy for a sample of BSW and MSW students at a large public university in the United States. This exploratory study examined gains in students' research confidence over the course of a semester according to when they had taken their required research course. BSW and MSW students taking a research class showed differential gains in research self-efficacy but ended up with similar levels at the end of the semester. Also, students who started their research course with lower levels of self-efficacy made substantially greater gains in their research confidence compared to students who started out with higher levels of self-efficacy. The findings are discussed in the context of the accrediting body of schools of social work in the United States, and have implications for how social work educators approach research instruction with social work students.*

*Keywords:* Research; Self-efficacy; Social Work Curriculum; Student Learning Objectives

The topic of research in practice is alive and well in our profession—especially when it comes to integrating research findings into practice (e.g. Gibbs & Gambrill, 2002). Many scholars have examined the relationship of research and practice in the context of social work education—the starting point where students' attitudes and competencies are developed and knowledge is supposed to be enhanced. The general impression, however, is that social work students are reluctant to learn research (Epstein, 1987), and perhaps more so than students in other disciplines. Studies have reported that social work students have higher levels of math anxiety compared to the general university population (Royse & Rompf, 1992) but about the same as nursing students (Brown, 1999). At the graduate level, students have reported greater research anxiety and less interest in research than their peers studying either psychology or business (Green *et al.*, 2001). Finally, Unrau & Beck (2004) found that social work

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students made fewer gains in research confidence when compared to speech pathology students; however, the differences were attributed to how research courses were structured and not to the characteristics of students.

Student anxiety about research-related topics appears to be an issue that goes deeper than students' self-perceptions. Many social work faculty teaching research perceive students entering research courses as anxious (Bogal & Singer, 1981). But a research study by Lazar (1991) cautions that faculty may underestimate the importance that social work students place on research in relation to practice. Faculty perceptions of students are critical because they influence the learning environment and the types of experiences to which students will be exposed. Rosenblatt & Kirk (1981), for example, describe a situation in one school of social work where a faculty member refused to distribute a national survey of research knowledge to his/her students out of fear 'that the students would become unduly discouraged in their studies because they might not know the answers to most of the items on the knowledge inventory' (p. 27). The attitudes and perceptions of faculty give texture to the learning environment, which has an influence on how students feel about research (Kahn & Scott, 1997; Yegidis & Weinbach, 2002).

A growing body of literature gives support to the notion that research courses have a positive impact on students' attitudes and knowledge of research concepts and skills. Research knowledge and attitudes have been found to improve as students take more research courses (Rosenblatt & Kirk, 1981). Olsen (1990) showed that students' attitudes toward research became more favorable as their knowledge about research methods and statistics increased. The gains made in research courses, however, appear to be greater for graduate versus undergraduate students (Nelson, 1983). There is also evidence to suggest that research courses taught by social workers are more likely to emphasize material relevant to social work students, as compared to courses that are taught by instructors from other disciplines (Bogal & Singer, 1981).

Studies that have examined the role of research courses in students' learning and attitudes provide direction for developing social work curricula, as well as ideas for structuring student learning experiences. Research is a critical knowledge and skill component of social work practice that seems to fade away after students graduate (Marino *et al.*, 1998). The literature informing social work educators about how students learn research, however, is diverse and somewhat fragmented. Social work educators would benefit from greater understanding of the process of how social work students come to learn and acquire competence in research knowledge and skill.

The general purpose of this study was to explore social work students' confidence levels in performing research tasks in relation to the social work courses they were taking. Specifically, the study aimed to examine whether such confidence levels differed between students enrolled in their required research course versus students that were not enrolled. Determining the amount of change in research-related confidence reported by social work students over the course of a 16-week semester was another aim of the study. Additionally, we examined whether social work students with low versus high levels of research-related confidence at the beginning of their research course would show differential gains of their confidence by the end of the course.

## Study Design

### *Dependent Variable*

The dependent variable in this study was students' self-reported confidence with their research knowledge and skills, which was measured using the *Research Self-Efficacy (RSE)* scale developed by Holden and his colleagues (1999). It was designed to 'assess social workers' confidence in their ability to complete specific research activities ... and was developed as an outcome measure for a series of evaluations for social work research education' (Holden *et al.*, 1999). The *RSE* is a nine-item scale that contains the following questions, each one beginning with the phrase 'How confident are you that you can ...'

1. do effective electronic database searching of the scholarly literature?
2. use various technological advances effectively in carrying out research?
3. review a particular area of social science theory and research, and write a balanced and comprehensive literature review?
4. formulate a clear research question or testable hypothesis?
5. choose a research design that will answer a set of research questions and/or will test a set of hypotheses about some aspect of practice?
6. design and implement the best sampling strategy possible for your study of some aspect of practice?
7. design and implement the best measurement approach possible for your study of some aspect of practice?
8. design and implement the best data analysis strategy possible for your study of some aspect of practice?
9. effectively present your study and its implications?

Respondents rate their current level of confidence on research tasks commonly taught in social work research courses using a scale range from 0 (cannot do at all) to 50 (moderately certain can do) to 100 (certainly can do). A total research self-efficacy score is computed by dividing the sum of individual item scores by the number of items in the scale. The total score can be interpreted within the parameters of having zero confidence (minimum score) to feeling 100% confident (maximum possible score).

The developers of the scale report 'very good' internal consistency that is supported by Chronbach's alpha of 0.94 at both pre-test and post-test. Additionally, the developers used an effect size estimate approach to test construct validity of the scale. In short, they predicted 'the actual effect size (validity coefficient) and then compared the observed effect size to the predicted' (p. 467). This approach yielded empirical estimates that support the developers' claims that the *RSE* is meaningfully related to overall social work self-efficacy.

The *RSE* is ideal for evaluating outcomes of social work students because the scale was developed and tested for its association with social work self-efficacy. The implication is that students who gain confidence in performing research tasks will

also gain in their overall confidence as social work practitioners. The scale was originally pilot tested on 71 BSW and MSW students taking one of two required social work research courses at New York University Ehrenkranz School of Social Work. Students' average levels of research self-efficacy at pre-test (beginning of the course) ranged from 40.7 to 60.9 for individual scale items, with a total pre-test mean of 53.3. Post-test research self-efficacy levels ranged from 65.9 to 80.6 for individual items, with a total post-test mean of 74.4.

In this study, a research assistant administered the *RSE* plus three additional questions that gathered data about gender, age, and status of required social work research course completion (i.e. not yet taken, currently taking, completed) to BSW and MSW students by paying a visit to their respective practice and research courses three separate times during the semester (i.e. 1st, 6th, 16th weeks). As suggested by Holden *et al.* (1999), data were collected in a manner that maintained students' anonymity. Furthermore, student participation was entirely voluntary and was not associated with any rewards or external incentives.

### *Independent Variables*

Given that the students' research self-efficacy was measured at three points in time over a semester, one independent variable was time—or more specifically, change in the student's research self-efficacy scores over time. The second independent variable, namely group, categorized students according to: (1) when, in their social work curricula, the students had taken their required social work research course (i.e. not yet taken, currently taking, completed), and (2) their level of study (i.e. BSW, MSW). More information on the group variable is described in the following section.

### *Sample*

A cross-sectional sample of 145 undergraduate ( $n=98$ ) and graduate ( $n=47$ ) social work students registered at a large fully-accredited publicly-funded university in the United States comprised the study participants. As can be expected of most Council on Social Work Education (CSWE) accredited schools of social work (Lennon, 2001), the majority of the sample was female (88%) and averaged 24 years of age ( $SD=6.6$  years). Sample demographics, however, varied between undergraduate and graduate samples. Ninety percent of BSW students were female who were an average of 22 years old ( $SD=4.2$ ). In contrast, 79% of MSW students were female with a mean age of 31 years ( $SD=8.4$ ). The majority of the sample was Caucasian. However, race, was not measured because of the need to protect anonymity of student participants. For example, in courses that had only one student of color, a race variable would have given the individual identity of the student.

All students in the sample were enrolled in other social work courses (e.g. practice, policy, human behavior and the social environment) during the study period but none were taking their practicum. The sample was divided into groups based on students' level of study (i.e. BSW, MSW), and when they took their required social

work research course (i.e. not yet taken, currently taking, completed). Of six possible categories, the following four were included in the study.

*BSW students:*

- The first subgroup consisted of 36 BSW students who *had completed* their required generalist social work research course prior to the study (BSW COMPLETE).
- The second subgroup consisted of 62 BSW students who were *currently taking* their required generalist social work research course during one of the study semesters (BSW CURRENT).

*MSW students:*

- The third subgroup consisted of 26 MSW students that *had not yet taken* their required foundational social work research course (MSW NOT YET).
- The fourth subgroup consisted of 21 MSW students who *were currently taking* their required foundational social research course during one of the study semesters (MSW CURRENT).

The two remaining categories, BSW NOT YET ( $n=8$ ) and MSW COMPLETE ( $n=0$ ), did not contain enough cases to be included in the study. The empty set of MSW COMPLETE students was explained by the fact that the graduate program was only in its second year at the time of the study.

The obstacle of missing data also shaped the study sample. Specifically, 22% of the students (32 out of 145) did not complete either the 6th week or the 16th week administration of the *RSE*. Consequently, as a first step we tested whether the Week 1 *RSE* scores for the 22% of the sample with missing data (either from Week 6 or Week 16) differed from the 78% with complete data to determine whether the missing cases were somehow different from the rest of the sample at the outset. An independent *t*-test indicated they were not—students with missing data and students without missing data showed similar levels of research self-efficacy. Mean first week self-efficacy scores for students with missing versus complete data were 56.5 and 52.9, respectively ( $t=-0.85$ ,  $df=152$ ,  $p=ns$ ). Reasons for attrition were not pursued so that anonymity of participants was preserved. However, it is likely that students' data were lost either because of absenteeism during a particular data collection week (i.e. Weeks 6, 16) or because students withdrew from the course sometime after the first week.

*Goals of Research Courses*

The BSW and MSW research courses at the heart of this study were separate courses but had five mutual goals that aimed to provide students with introductory (BSW level) or foundational (MSW level) research knowledge. Specifically, the following five common goals were contained within both the BSW and the MSW course syllabi: (1) increase students' knowledge and skills relating to basic quantitative and qualitative research approaches and processes in social work; (2) enhance students'

awareness and understanding of major research issues, with particular attention to issues of diversity, values and ethics, persons living in poverty, populations-at-risk, as well as any confounding socio-economically disadvantaging factors; (3) enhance students' awareness of basic data analyses; (4) improve students' abilities to critically review research reports and publications; and (5) increase students' ability to apply research knowledge and skills to evaluate their social work practice.

Social work faculty taught both levels of research courses using the conventional 'A to Z' approach of taking students through the entire research process in a linear fashion (Kirk & Kolevzon, 1978). Qualitative and quantitative methodologies were addressed at each step in the process. Additionally, the overall aim of both levels of courses was to give students experiences as both consumers and producers of research through a variety of assignments that included critiquing published studies, exams, quizzes, papers, as well as designing and implementing (to varying degrees) research projects. A priority for both levels of courses was to teach research within the generalist practitioner context.

### Findings and Discussion

The mean research self-efficacy scores for the 113 students with scores at all three time points was 53.4 ( $SD=21.9$ ) at Week 1, 56.7 ( $SD=20.3$ ) at Week 6, and 68.9 ( $SD=18.8$ ) at Week 16. Thus, our mean research self-efficacy score for Week 1 was only less than one point ( $-0.1$ ) different from Holden and his colleague's sample and our mean research self-efficacy score for Week 16 was 5.5 points lower than their pilot post-test score (Holden *et al.*, 1999).

The results from this study and Holden *et al.* (1999) provide research instructors beginning estimates of students' research self-efficacy levels upon entry to a social work research course, as well as the amount of gains the students are expected to make throughout the course. While mean entry-level research self-efficacy score was in the mid-50s, the range of the students' research self-efficacy scores is great. Specifically, two-thirds of students' research self-efficacy scores fell between 36 and 76 in the first week of the semester. This finding is no surprise to social work research instructors who have shared the experience of being challenged by such a wide degree of preparedness among their students in a single course. Furthermore, it seems that research instructors and students alike can expect research self-efficacy among students to increase an average of 20 points per course over a semester.

How research instructors tackle the double-edge sword of creating unique learning environments that satisfy their students who are at both ends of the confidence continuum is a pedagogical challenge. Using rapid assessment instruments (RAIs), such as the *RSE*, to gauge students' self-perceptions about their research knowledge as the course progresses (e.g. Springer *et al.*, 2002) can facilitate the learning process, particularly if instructors use data from the RAIs as feedback to inform which learning activities best match a particular group of students. Moreover, the use of RAIs as monitoring tools to gauge students' learning provides instructors the

opportunity to demonstrate the integration of research and practice (teaching) in action. We do this with our clients (e.g. Bloom *et al.*, 2003; Fischer & Corcoran, 2000), why not with our students as well?

### *Research Self-Efficacy by Group and Over Time*

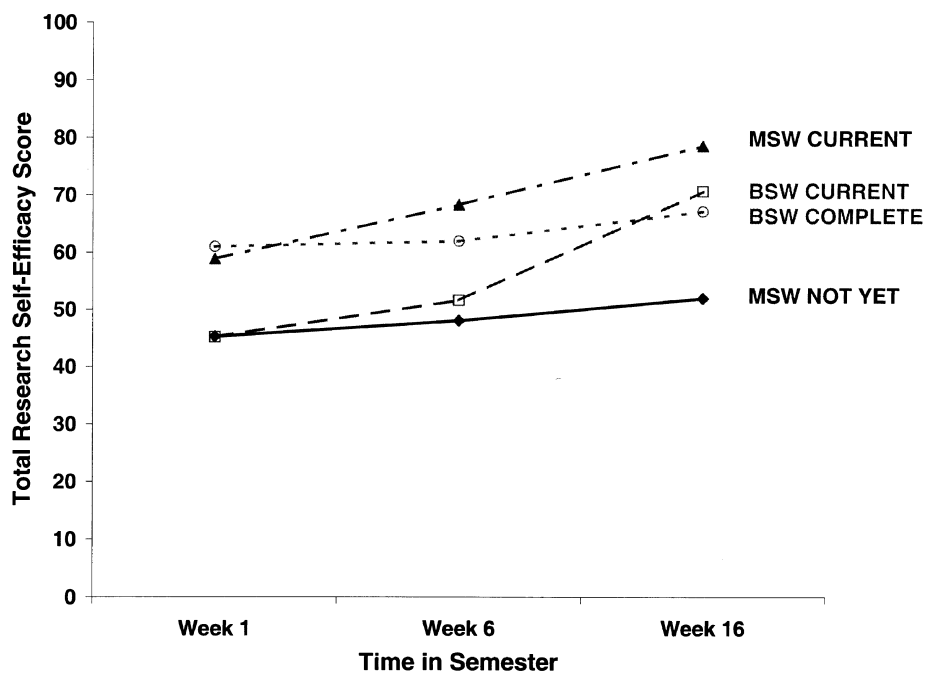
A two-factor repeated measures ANOVA was used to test the relationship between the study's two independent variables (i.e. group and time) with the dependent variable (i.e. research self-efficacy). The analysis required equal *Ns* per cell (Rosenthal, 2001), which was achieved by randomly selecting student cases from each group so that all cells had an *N* that equaled the group with the lowest number of cases with entirely complete data (i.e. MSW CURRENT group with 20 students). Thus, the analysis was conducted with a reduced sample of 80 that had mean research self-efficacy scores of 52.6 ( $SD=21.3$ ) at Week 1, 57.5 ( $SD=19.7$ ) at Week 6, and 67.0 ( $SD=19.3$ ) at Week 16. A series of independent *t*-tests confirmed that the *RSE* scores at each time period for the sub-sample of 80 were not significantly different from *RSE* scores for the sample of 113.

The analysis revealed that the two main effects (group, time), as well as the interaction (group  $\times$  time) were all statistically significant. The between-subject component of the analysis revealed overall statistical differences in levels of research self-efficacy based on which of the four groups the students belonged to [ $F(3,76)=5.48$ ,  $p<0.002$ ]. The within-subjects component of the analysis showed that students made statistically significant gains in their research self-efficacy as a function of time over the semester [ $F(1,76)=45.44$ ,  $p<0.000$ ]. Finally, there was a statistically significant group by time interaction [ $F(1,76)=5.40$ ,  $p<0.002$ ].

Figure 1 graphically displays the estimated marginal means for research self-efficacy scores for each of the four subgroups at the 1st, 6th, and 16th week of a semester. As expected, the group of students who had not yet taken their required social work research course (MSW NOT YET) had the lowest mean research self-efficacy score. BSW students currently enrolled in a social work research course (BSW CURRENT) profiled similarly to the MSW NOT YET group at the 1st and 6th weeks of the semester but by the end of the semester (Week 16) their mean research self-efficacy score increased by 25.4 points, which slightly surpassed the mean research self-efficacy score of the BSW COMPLETE and approached the final levels of the MSW CURRENT group.

Post hoc comparisons using the Scheffe test ( $p<0.05$ ) revealed that research self-efficacy gains made over the semester by the MSW CURRENT and BSW CURRENT groups were significantly different from the MSW NOT YET group; 20.1 and 14.9 points respectively. Although MSW students currently taking a research course had a higher mean research self-efficacy score than BSW students (COMPLETE or CURRENT) by the end of the semester, the differences between their respective mean research self-efficacy scores were not statistically significant.

The question of whether BSW or MSW students ought to have different levels of research self-efficacy (confidence and proficiency) in performing basic research tasks



**Figure 1** Mean Research Self-Efficacy (RES) Scores by Group Over a 16-Week Semester.

or consuming basic research findings into practice has not been adequately addressed in social work education. Bogal & Singer (1981) discussed this idea of differential expectation by noting that CSWE was promoting different emphasis of expectation for BSW and MSW students but that it was not happening in reality. Like the previous CSWE's *Curriculum Policy Statement*, the new one (effective 1 July 2002) also fails to adequately identify any meaningful differences between the BSW and MSW research curricula.

Over the years, the content of social work research textbooks has changed precious little. Two major changes have been inclusion of qualitative research content (Unrau *et al.*, 2002), and increased emphasis on diversity examples issues related to research. Both of these advancements, however, have arrived with equal force to the BSW and MSW classrooms. Social work research textbooks in print today, for example, are designed—or more accurately, commercially marketed—for either a BSW or MSW audience, suggesting there is little difference between the two levels of professional social work education. It appears to be common practice for research textbook authors and editors to state in their prefaces that their books can be used at both undergraduate and graduate levels.

Without clarifying differences in level of expectation between BSW and MSW students, we cannot know where one course ends and the other begins. A fully articulated policy statement from CSWE that delineates minimum-level research competencies for BSW and MSW students is needed in order to provide a benchmark from which to measure and assess research self-efficacy, as well as research competence.

Clarifying expectations of research for students within their educational experience may also help to increase confidence to use research in ways that inform and monitor social work practice after students graduate (e.g. Duehn & Mayadas, 1977).

Another compelling finding of this study is that BSW and MSW students taking research courses made gains in their research self-efficacy scores at differential rates over the semester. Figure 1 shows that the mean research self-efficacy level for the BSW CURRENT group was little affected in the first six weeks of the semester but largely affected by the last 10 weeks of the course. Specifically, the BSW CURRENT subgroup showed gains marked by 6.4 points from Week 1 to Week 6, and 19.0 points from Week 6 to Week 16, for an overall average gain of 25.4. This pattern of self-efficacy gain is consistent with Linn & Greenwald's (1974) observation that anxiety levels of social work students diminish midway through the semester as students become more comfortable and competent.

In contrast, Figure 1 reveals that MSW gains in research self-efficacy were constant over time. MSW students showed a steady increase over the three data collection points with a 9.4 point gain from Week 1 to Week 6, and a 10.3 point gain from Week 6 to Week 16, for an overall average gain of 19.7 points. These findings suggest that BSW and MSW students may have different learning curves on the topic of research, which implies different instructional approaches or teaching strategies may be necessary to maximize student learning across both levels of the professional curriculum (e.g. Smith & DeLisi, 2000).

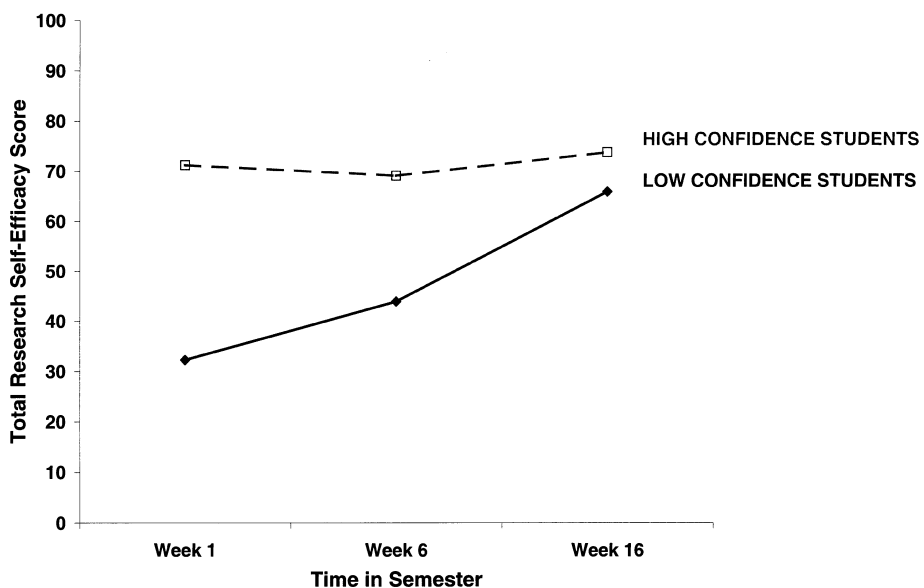
It was not at all surprising to see in Figure 1 that the mean research self-efficacy score increased for those students taking a social work research course (MSW CURRENT and BSW CURRENT), as compared to those who were not (BSW COMPLETE and MSW NOT YET). While it was encouraging to note that BSW students who had completed their research course maintained higher levels of research self-efficacy over time, it was somewhat troubling to see that they did not show additional gains in research self-efficacy as they continued in their social work studies. There is a long-standing argument for integrating research and practice courses especially when it comes to utilizing research findings to guide practice (e.g. Gibbs, 1991, 2003; Gibbs & Gambrill, 2002). The findings of this study support a curriculum structure that has research as a separate course; however, taking one research course may not be enough. Ideally, the research course ought to bolster confidence by providing social work students with a solid foundation of knowledge and skill but the integration of research activity in other social work courses ought to advance students' research self-efficacy up to the point of graduation. A gradual increase in students' research self-efficacy over time may promote continued learning in research, as well as increased research activity and proficiency, in professional practice.

#### *Research Self-Efficacy Gains by Students with Low versus High Research Self-Efficacy at Week 1*

The final aim of this study was to explore whether students who begin a social work research course with low research self-efficacy levels make differential gains in their

research self-efficacy by the end of the course, as compared to those students with high research self-efficacy levels. To answer this question, we used another subsample of students that combined BSW ( $n=49$ ) and MSW ( $n=20$ ) students currently taking a research course and who had complete data. These 69 students were then divided into two groups based on their research self-efficacy scores at Week 1. Students scoring less than 50 at Week 1 were labeled as the 'low-confidence group', while students with scores of 50 or higher were labeled the 'high-confidence group'. Two separate independent  $t$ -tests comparing low versus high confidence groups in terms of gains made in their research self-efficacy scores from the 1st to the 6th week, and the 6th to 16th week of their research course revealed significant difference. From Week 1 to Week 6 the low confidence students showed an average gain of 11.7 points in research self-efficacy, while the high confidence students showed a loss of 2.1 points ( $t=4.83$ ,  $df=67$ ,  $p<0.000$ ). From Week 6 to Week 16 the low confidence students showed an average gain of 21.96 points in research self-efficacy, while the high confidence students showed a gain of 4.7 points ( $t=4.17$ ,  $df=67$ ,  $p<0.000$ ).

Figure 2 illustrates that students who scored less than 50 points at the start of their research course made substantial greater average gains compared to students who initially reported relative higher levels of research self-efficacy (i.e. greater than 50 points). The results of this analysis might be challenged by the presence of a regression effect, which would offer an alternative interpretation of our results. Indeed, we examined the gains in research self-efficacy based on perceptions of students who rated themselves as low versus high on this dimension. However, if



**Figure 2** Mean Research Self-Efficacy (RES) Scores by High and Low Confident Students over a 16-Week Semester.

regression effects alone were to account for our results, then we would have anticipated equal amounts of bias among the low and high confidence groups. A quick look at Figure 2 shows that this did not occur.

To rule out the possibility of both floor and ceiling effects, which are arguments of bias that suggest that low scores cannot get any lower than 0 and high scores cannot get any higher than 100, we repeated the analyses by excluding all participants with a Week 1 self-efficacy score of less than 25 ( $n=9$ ) and greater than 75 ( $n=13$ ). The cutoff values of 25 and 75 were based on the assumption average change scores would not exceed 25 points. The results using the truncated sample produced the same levels of significance as the larger sample, and the same trend illustrated in Figure 2.

It may be that students in the high confidence group overestimated their research self-efficacy at the beginning of the course. Indeed, this group mean research self-efficacy score dropped 2 points from the first to the sixth week of their research course. It is also plausible, however, that students that begin with higher levels of research self-efficacy are not challenged to extend their research knowledge and skills beyond a certain level.

The results are far from conclusive but raise important questions as to how social work students are responding to research instruction. This finding stresses the importance of social work educators having an accurate assessment of students' readiness for learning research so that goals for student learning are appropriately set to advance research and knowledge and skills among up-and-coming social work professionals. It appears that the danger is not setting research expectations high enough for students who perceive themselves as capable of performing research tasks at the outset of their social work research course.

### *Limitations*

There are several study limitations that deserve comment. First, the study sample was drawn from one large public state university, so generalizations of the findings to dissimilar institutions must be made with caution. Second, the *RSE* is a self-report measure that gives only estimates of how well students would actually perform research activities. While measures of self-efficacy are theoretically more grounded for making predictions about performance than measures of anxiety (Holden *et al.*, 1999), it is certainly possible for students with high levels of research self-efficacy to perform poorly, and vice versa. Third, because students had personal choice as to when they took their research course, it may be that the threat of selection bias was present. Specifically, the MSW NOT YET group may represent graduate students who elected to put off taking their research course until later in their studies. Finally, the research design used prevents any definitive conclusions that observed differences in levels of research self-efficacy were caused by the timing of taking a research course. The study did not control for other variables such as students' previous research experience (or courses) or the fact that students were exposed to different research instructors, books, course content, and pedagogy depending upon their specific research course.

## Summary

This study examined the research self-efficacy of undergraduate and graduate social work students who varied in terms of when they took their required research course. Some students had not yet taken their required research course, others had already completed it, and still others were currently taking it. The findings showed that students range widely in their confidence to perform research tasks at the beginning of a research course, as well as the amount of gains made in their confidence over a semester. Additionally, the study results revealed that students made differential gains in research confidence depending on whether they were BSW or MSW students, and whether they had high or low levels of confidence at the outset of their research course. Understanding both confidence levels and confidence gains of students are important dimensions of the student learning experience, and essential for research instructors to consider as they plan their research courses, set expectations for student learning, and implement learning activities in social work research courses.

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