

## **The Impact of Internship on Undergraduate Psychology Students' Ethical Sensitivity and Reasoning**

Di You\*  
*Alvernia University*

*\*Di You; Department of Psychology and Counseling; Alvernia University; 400 St. Bernardine Street; Reading, Pennsylvania, 19607; di.you@alvernia.edu (email).*

---

**ABSTRACT** - The purpose of this study is to examine the impact of a year-long internship on undergraduate psychology students' ethical sensitivity and reasoning using a repeated-measures design. Students' ethical sensitivity was measured by the Quick Racial and Ethical Sensitivity Test and ethical reasoning was measured by the Defining Issues Test -2. Based on the analysis, the internship experience had a positive effect on students' ethical sensitivity, whereas the effect on ethical reasoning was not as expected. Examination of the internship experiences has the potential to inform curricula design, especially with the national interest in assessing students learning outcomes in higher education.

---

**T**o most college students, the transition from college to work place is a significant challenge. As undergraduates, individuals usually get frequent feedback for their performance through grades and comments from faculty members and one's peers. The programs they major in typically are highly structured and provide detailed directions. They have flexible schedule which give them more control over their time and the interests they pursue. The focus is their own development and growth. However, as employees, the feedback individuals receive at the workplace is usually less frequent and detailed. They usually work in less structured environments and multi-task with fewer directions. More importantly, they usually encounter complex problems or situations which often do not have a single right answer.

Internships, which are structured and supervised professional experiences in an approved organization or agency where students earn academic credit upon completion of the experience (Inkster & Ross, 1995), as one form of experiential learning, has the potential to enhance undergraduates' development and growth. While students are still in college, internships provide them the opportunities to develop skills (better time management, better communication skills, better self-discipline) that will improve their college performance (Knouse, Tanner, & Harris, 1999). On the other hand, internships also provide students the opportunities for them to focus on their career choices and hone their job skills (Knouse et al., 1999). As Brown and Murphy (2005) stated, in the last two decades, college and university internship courses have been cited as being vital to securing satisfactory job placement in a variety of fields including psychology, sociology, business, journalism, mass communication and librarianship. Consequently,

internships are one way that undergraduates can be more effectively prepared for the transition to the workplace.

Given its importance, different professionals have investigated the impact of undergraduate internships from multiple aspects. For example, how valuable is the internship experiences according to the students? What is the relationship of internship experiences and subsequent job opportunities? How valuable is the internship experience from the employer's perspective? What is the impact of internship experiences on students' ethical sensitivity? What is the impact of internship experiences on students' ethical reasoning?

Some researchers have evaluated the impact of internships from the students' perspective. Williams and Alawiye (2001) sought teacher education undergraduates' feedback on their year-long internship experiences (N = 13). Based on the participants' comments, it appeared that the students got a better grasp of the course content from the internship experiences and the majority of the students also thought that they improved significantly in social interactions (e.g., ability to work as a team member, ability to speak publicly). However, more than 60% of the students didn't believe they received adequate feedback from their supervisors. In addition, nearly 50% of the students didn't think their journal writing promoted their self-assessment and reflection. According to the students, what promoted self-assessment and reflection was the conference and planning with the mentor teachers. Ross and Elechi (2002) explored criminal justice students' views and attitudes regarding their internship experiences. The internship experiences involved about 100 hours in the field, a daily journal that recorded the activities they engaged in, and a research paper. Based on the analysis of self-report surveys, the findings indicated that students regarded internship as invaluable in preparing them for their careers. For example, students believed that they benefited tremendously from the internship experiences because they had come to understand the requirement for the profession and consequently they were able to make an informed decision on their career choices. Many students developed an appreciation of the workings and challenges of a particular job. In addition, student interns developed enhanced appreciation of knowledge they learned in the classroom after applying the knowledge in a professional setting. Brown and Murphy (2005) interviewed undergraduate students majoring in Information Studies after they completed their 135 hours internship. The researchers investigated the importance to the internship of the participants' prior knowledge, communication and interpersonal skills, and ability to work independently. Based on the feedback from the participants, student interns believed that courses in the area of communication, speech, and psychology were critical to the success of the internship experiences because those courses improved their interpersonal skills. Rothman (2007) examined business students' evaluation of their internship and based on the analysis, it seemed that students held very positive views of their internships.

Some researchers have explored the relationship between internship and subsequent job opportunities. Knouse, Tanner, and Harris (1999) looked at the relation of internship and college performance as well as subsequent job opportunities and based on the results, compared with students without internship experiences, students with internships had a significant higher overall grade point average and were more likely to be employed upon

graduation. The researchers concluded that internships are associated with both better college performance and improved opportunities for finding a job upon graduation. Gault, Redington, and Schalger (2000) conducted a study of internship experiences and career success. Based on the feedback provided by about 500 undergraduate business alumni, the researchers found that alumni with internship experiences got job offers sooner, had a higher starting salary, reported higher degree of job satisfaction, and received faster promotion compared to alumni without internship experiences.

Gault, Leach, and Duey (2010) conducted a study to examine the perceived value of the internship experience, the effects of intern performance on internship value perceptions, and on employment selection and compensation from the employers' perspective. The results indicated more full time opportunities for undergraduates with internship experiences. Moreover, while even average-performing interns were significantly more likely to receive full-time job offers than non-interns, high-performing interns were more likely to receive higher starting salaries and high intern performance also resulted in enhanced employer-perceived value of the internship program.

Duckett and Ryden (1994) examined the impact of internship on students' ethical sensitivity. They suggested that a student's ethical sensitivity can be enhanced through internship when internship fosters perspective taking and empathy.

Other researchers examined the impact of internship on students' ethical reasoning development. Watson (1995) investigated the effects of an early internship experience on ethical reasoning abilities of undergraduates who are considering teaching as a profession. The curriculum is based on cognitive-developmental theory, perspective-taking, and guided reflection. For the first six weeks, students met for 75 minutes twice a week and after that students began their internship and met once a week in a seminar for the rest of the semester. In the seminar class, students engaged in reflection and role-taking. There was also a weekly journal requirement for the students to engage in further self-reflection. The researcher proposed that through role-taking experiences, opportunities to reflect with the field supervisors and instructors, and with support and challenge from the instructor and peers, ethical reasoning development will occur. Results indicated that there was a significant gain of ethical reasoning ability among the participants. Watson concluded that when an early internship was designed based on a cognitive developmentally theoretical framework; undergraduates are expected to grow ethically to be able to understand the profession in an ethical context. Porco (2003) investigated the relationship between undergraduate accounting students' cognitive ethical development and internship experiences and based on the self-reported survey, the researcher found that students with more than one year internship experience achieved higher stage of cognitive ethical development compared with students with short-term internship experiences. Craig and Oja (2013) investigated ethical reasoning changes among undergraduates in a recreation management internship experience utilizing DIT-2. The participants were 33 interns enrolled in the 14-week internship. Based on the results, there was a significant decrease in personal interest schema score and a significant increase in post-conventional schema score, which indicated that at the end of the 14-week internship, participants tended to reject the more simplistic and biased judgments and they prefer judgments based on ethical purposes. These studies provide evidence that

ethical development, especially ethical sensitivity and reasoning, can be an expected outcome of programs where internship is mandatory.

Although the impact of internship on undergraduate students has been explored in various fields, in psychology, internship is not mandatory for undergraduate students. Consequently, there is a paucity of research that specifically addresses the impact of internship on undergraduate psychology students. Prentice-Dunn and Roberts (1985) described an intensive 6-week summer internship which was intended to more effectively prepare minority undergraduates for graduate study. They concluded that due to the extensive feedback the interns received, the research internship would provide valuable experience to all undergraduates considering pursuing advanced degree in psychology. Arnold, Auburn, and Ley (1995) investigated the effects of internship on psychology undergraduates' personal development (self-esteem, career decidedness, and self-rated abilities). The average internship experience was 43 weeks with students reporting working 30 to 40 hours per week. The results did not provide evidence that the internship had a significant positive impact on students' self-esteem or career decidedness and there was modest impact of the internship on students' self-rated abilities. Arnold proposed that internship must be carefully designed if it is to enhance students' personal development. Specifically, a) the internship experiences have to be viewed by the students as challenging; b) the internship experiences provide work autonomy which will be a sign that the student is being trusted and respected at the placement organization or agency; and c) students experience support from staff in the placement organization or agency. Within the existing literature of the impact of internship on psychology undergraduate students, no study has been specifically focused on students' ethical sensitivity and reasoning.

Rest's (1982) Four Component Model of moral development, a cognitive-developmental model, served as the theoretical framework guiding the current study. The four components are: ethical sensitivity, ethical reasoning, ethical motivation, and ethical character. Ethical sensitivity is a psychological process in which one needs to make interpretation of a particular situation, decide on what actions are possible, and understand how all the involved parties will be affected. Ethical Reasoning is a psychological process in which one needs to decide what is ethically right and what is ethically wrong in a particular situation. Ethical motivation is a psychological process in which one needs to prioritize ethical values over personal interest. Ethical character refers to one's ability to follow through with one's ethical choice (Rest, 1982). Rest (1982) pointed out that each component is developmental in nature. The internship experience, as an intentional educational intervention, offers an ideal opportunity for the interns to experience ethical issues and practice ethical decision-making. Therefore it is reasonable to speculate that both ethical sensitivity and reasoning will be responsive to educational intervention.

Prior research has studied the impact of internship in different fields, but there are no studies specifically focused on the impact of internship on undergraduate psychology students' ethical sensitivity and reasoning. A major contribution of the current study is to extend what we know about the impact of a year-long internship on undergraduate psychology students' ethical sensitivity and reasoning as well as the implication for internship as an educational intervention tool.

## Method

### Participants

At a Catholic liberal arts university in the northeast area of the U.S., during their senior year, psychology undergraduate students need to fulfill a year-long internship requirement. For each semester, students need to complete 100 hours internship at an approved site (students have the option to complete the total 200 hours at the same site or they can switch to a different site during their winter break). In addition, each week, students will participate in a 2 hours internship seminar led by a faculty member. The seminars process shared experiences, help interns with difficult problems and provide support and introduce new knowledge and skills during the year. The main focus of the seminar is on ethical issues that are a concern and challenge to the interns. The weekly seminars provide the opportunities for interns to have on-going discussion and reflection on the ethical dilemmas they encounter during their internship. Seminars include discussions about ethical conduct and teaching interns review the ethical codes from the American Psychological Association and related organizations. All interns write weekly reflection papers that include the following: examples of the application of psychological theory and/or concepts experienced on the work site; a discussion of client issues, with a focus on ambiguity and diversity; ethical issues encountered on the work site and student's personal emotional reactions to the experiences encountered in the field. For the academic year of 2011-2012, 27 senior psychology students enrolled in two internship classes voluntarily participated in the study. Given the two instructors used the same syllabus, all the following analysis was based on the total sample. The average age of the participants is 23.56 (SD = 5.98). There were 22 females and 5 males.

### Measures

The Quick-Racial and Ethical Sensitivity Test (Quick-Rest, Sirin, Rogers-Sirin & Collins, 2010) is designed to assess individuals' abilities to identify ethical violations in various school based scenarios. It consists of two five-minute videotapes illustrating instances of racial intolerance in schools. Basketball Practice is about an African-American student received racist comments from his basketball coach. When the student complained to his guidance counselor about the racist behavior of his basketball coach, his counselor minimized the issue and told him that he needed basketball to get into college despite the fact the student is on the honor roll. Faculty Lounge is about two veteran teachers discussing a new immigrant student's academic and private life in biased and derogatory ways in front of a new teacher. When the new teacher tried to share her thoughts, she was met with hostility. Each scenario is accompanied by an 18-item survey afterwards. The score range for each survey is 18 to 90. Higher score indicates greater ethical sensitivity. Sirin et al (2010) recommended alternating between the two scenarios for a pre- and post-test design to avoid participants' familiarity with the scenarios. Cronbach's Alpha level for the full 36-item scale was .88.

The Defining Issues Test-2 (DIT-2, Rest & Narvaez, 1998) is a paper-and-pencil measure of the level of moral reasoning development. The test consists of five moral dilemmas that cannot be fairly resolved by applying pre-existing norms, rules, or laws. Participants rate and rank arguments (12 for each dilemma) that they consider important in coming to a decision about what they would do. The scores reflect the proportion of

choices that a person prefers to use each strategy. The PI Index (Personal Interest) describes the proportion of choices that a person selects arguments that appeal to personal interests or loyalty to friends and family, even when doing so compromises the interest of persons outside one's immediate circle of friends. The higher the score, the more self-interest the person shows. The MN Index (Maintaining Norms) describes the proportion of choices that a person selects arguments that appeal to the maintenance of law and order, irrespective of whether applying the law to the dilemmas presented results in an injustice. The higher the score, the more law and order oriented the individual is. Considered the highest level of moral reasoning and the most widely reported, the P Index (Postconventional), describes the proportion of choices that a person selects arguments that appeal to moral ideas. The higher the score, the more moral ideal oriented the person is. In addition to the three main indices, there is the N2 Index which takes into account how well a person discriminates among the various arguments and has been shown to be a better indicator of change than the P Index. If the N2 Index score is higher than the P Index score, it indicates that the respondent is better able to discriminate among arguments than to recognize postconventional arguments. The validity of the DIT has been assessed in terms of seven criteria: (1) differentiation of various age and education groups; (2) longitudinal gains; (3) correlation with cognitive capacity measures; (4) Sensitivity to moral education interventions; (5) correlation with prosocial behaviors and professional decision making; (6) correlation with political attitudes and choices and (7) adequate reliability (the Cronbach alpha value is in the upper .70s to low .80s; the test-retest reliability of DIT is stable). Furthermore, DIT shows discriminant validity from verbal ability/general intelligence and from conservative-liberal political attitudes (Rest, Narvaez, Bebeau, & Thoma, 1999).

### **Procedure**

During the first week of class in fall semester 2011, the researcher went to the internship classes to recruit participants. All students agreed to take part in the study. After the students turned in a signed copy of the consent form, the researcher showed them the Basketball Practice Scenario. Afterwards, the students completed the 18-item survey accompanying the scenario. When the students were done with the survey, they filled out DIT-2. During the last week of class in fall semester 2011, the researcher went again to the internship classes. The researcher showed the students the Faculty Lounge Scenario. Afterwards, the students completed the 18-item survey accompanying the scenario. When the students were done with the survey, they filled out DIT-2. During the last week of class in spring semester 2012, the researcher went to the internship classes for the third time, the researcher showed the students the Basketball Practice Scenario. Afterwards, the students completed the 18-item survey accompanying the scenario. When the students were done with the survey, they filled out DIT-2. There were 27 students enrolled in the fall classes. The researcher decided to collect data three times for the following reasons: 1) students have the option to switch to another site during the winter break if they choose to (for the current study, no student switched the site) and 2) some of the students graduated in December 2011. Consequently, for the ethical sensitivity measure, there were 16 students who completed the measure and the data were usable.

For the ethical sensitivity measure, there were 19 students whose data passed the reliability check.

### Results

A one-way repeated-measures ANOVA was calculated comparing the Quick-REST scores of participants at three different times: the beginning and end of the fall semester, and the end of the spring semester. A significant effect was found ( $F(2, 30) = 4.17, P = .025$ ). Follow-up protected  $t$  tests revealed that scores increased significantly from time 1 ( $M = 71.94, SD = 6.36$ ) to time 2 ( $M = 76.00, SD = 4.43$ ), but the scores decrease from time 2 ( $M = 76.00, SD = 4.43$ ) to time 3 ( $M = 73.38, SD = 5.58$ ). Overall, the students' ethical sensitivity score increased by 1.44 from time 1 to time 3. A one-way repeated-measures ANOVA was calculated comparing the DIT-2 scores of participants at three different times: the beginning and end of the fall semester, and the end of the spring semester. A significant effect was found on PI scores ( $F(2, 36) = 3.76, P = .033$ ). Follow-up protected  $t$  tests revealed that scores increased significantly from time 1 ( $M = 28.42, SD = 10.43$ ) to time 2 ( $M = 37.41, SD = 10.85$ ), but the scores decreased significantly from time 2 ( $M = 37.41, SD = 10.85$ ) to time 3 ( $M = 28.06, SD = 12.78$ ). Overall, the students' PI score decreased by 0.36 from time 1 to time 3. A significant effect was found on MN scores ( $F(2, 36) = 5.01, P = .012$ ). Follow-up protected  $t$  tests revealed that scores decreased from time 1 ( $M = 35.58, SD = 12.66$ ) to time 2 ( $M = 24.47, SD = 11.53$ ), but the scores increased significantly from time 2 ( $M = 24.47, SD = 11.53$ ) to time 3 ( $M = 35.39, SD = 11.73$ ). Overall, the students' MN score decreased by 0.18 from time 1 to time 3. No significant effect was found on P scores ( $F(2, 36) = .126, p = .882$ ). No significant difference exists among time 1 ( $M = 30.42, SD = 9.63$ ), time 2 ( $M = 32.22, SD = 10.98$ ), and time 3 ( $M = 32.12, SD = 15.68$ ). Overall, the students' P score decreased by 0.30 from time 1 to time 3. A significant effect was found on N2 scores ( $F(2, 36) = 3.50, p = .041$ ). Follow-up protected  $t$  tests revealed that scores decreased from time 1 ( $M = 25.21, SD = 9.86$ ) to time 2 ( $M = 22.70, SD = 12.14$ ) but the scores increased significantly from time 2 ( $M = 22.70, SD = 12.14$ ) to time 3 ( $M = 30.19, SD = 16.13$ ). Overall, the students' N2 score increased by 4.98 from time 1 to time 3.

### Discussion

The general purpose of this study is to explore the impact of a year-long internship on psychology undergraduate students' ethical sensitivity and reasoning. Based upon the findings from the analysis, it appeared that the internship had a positive effect on ethical sensitivity. For the Quick-REST scores, the maximum is 90. The participants' average score at time 1 was over 70. Despite the relatively high pre-score, the average increased significantly at the end of the fall semester, which means that the internship experiences seemed to have a positive impact on participants' ethical sensitivity development. Even though the scores at the end of spring semester decreased a little, it was still higher than their score at time 1, which means that the internship has the potential to enhance students' ethical sensitivity. The effect of internship on ethical reasoning was not as expected. Specifically, the Personal Interest Score increased significantly from the beginning of to the end of the fall semester, which meant participants were more concerned with their own welfare. However, the score decreased significantly by the end

of the spring semester, at which point their score at time 3 was virtually the same as at time 1. Based on the result, it seemed that the internship experience didn't make an impact. For the Maintaining Norms score, it decreased from the beginning to the end of the fall semester but increased significantly from the end of the fall semester to the end of the spring semester. The score at time 1 and time 3 followed the same pattern as the PI score. It seemed that at time 2, the students were more self-interest oriented, however, at time 3, they are more law and order oriented. Prior research found that first year employees were vulnerable to the work place norms. Despite that the work place values and behaviors were not in line with their own beliefs about ethical practice, they were inclined to conform to conventional wisdom and behaviors around them (Zeichner & Tabachnick, 1985). However, for the most frequently reported score in the literature, Post-conventional scores virtually stayed the same at all three time points. For the new index N2 scores, it was not higher than P scores, which meant the students didn't become better at discriminating among arguments than to recognize postconventional arguments. Based on the prior research, for internship to be an effective intervention, there are several key components (oja, Graham & Andrew, 2010): a) intense supervision, not only from the site supervisor, but also from the faculty supervisor; b) careful matching for intern placement: require interns to visit at least three potential sites before they decide on a mutually agreeable site; c) weekly seminar with their faculty supervisor. For the current study, only the weekly seminar is fully fulfilled. In order to observe significant increase in ethical sensitivity and reasoning, the program might need to add more intense supervision from both the site supervisor and the faculty and more careful matching for intern placement. Moreover, Thies-Sprinthall (1984) suggested the conditions for promotion of psychological growth: 1) qualitatively significant role-taking experiences for the interns; 2) careful and continuous guided reflection; 3) balance between real experience and reflection; 4) instruction to provide support and challenge; and 5) continuity in the opportunities provided. Elements 2, 3, 4 and 5 are met but element 1 was partially met in the current curriculum. For any kind of human service professionals, there is no doubt that ethics is vital to student professional development. Educators have a responsibility to foster the ethical development of the students and the formal internship experience is an ideal mechanism through which this development can occur. Examination of the internship experiences from a developmental perspective has the potential to significantly inform curricula design, thus leads to improve practice, especially with the national interest in assessing students learning outcomes in higher education. Moreover, by examining the value of the internship experiences on students' ethical development, as educators, we are taking more serious responsibility toward the formation of more ethical employees and ultimately, we are taking more seriously our ethical obligations to the general public.

Future research may examine whether a more explicit ethical outcomes need to be specified and consider the value to utilize DIT-2 as one of the outcome evaluation tools that are required at the end of the internship year. Program faculty could discuss whether the program should be even more intentional in internship curriculum which may result in increase in students' ethical sensitivity and reasoning.



---

### Author Note

This research was supported in part by Alvernia University Summer 2012 Faculty Excellence Grant.

---

### References

- Arnold, J., Auburn, T.C., & Ley A. (1995). The effects of supervised work experience on the personal development of psychology undergraduates. *Applied Psychology: An International Review*, 44(2), 95-110.
- Brown, C.M., & Murphy, T. J. (2005). Understanding student learning in undergraduate information studies internships. *Journal of Education for Library & Information Science*, 46(3), 234-247.
- Craig, P. J., & Oja, S. N. (2013). Moral judgment changes among undergraduates in a capstone internship experience. *Journal of Moral Education*, 42 (1), 43-70. doi: 10.1080/03057240.2012.677603
- Duckett, L. J. & Ryden, M. B. (1994). Education for Ethical Nursing Practice. In J. R. Rest & D. Narvaez (Eds.), *Moral Development in the Professions: Psychology and Applied Ethics* (pp.51-69). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Gault, J., Leach E., & Duey, M. (2010). Effects of business internships on job marketability: The employers' perspective. *Education & Training*, 52(1), 76-88.
- Gault, J., Redington, J., & Schlager, T. (2000). The benefits of undergraduate business internships: Implications for the student, university and business community. *Journal of Marketing Education*, 22(1), 45-53.
- Inkster, R. P., Ross, R. G. (Ed.). (1995). *The internship as partnership: A handbook for campus-based coordinators and advisors*, Raleigh, NC: National Society for Experiential Education.
- Knouse, S. B., Tanner, J.R., & Harris, E. W. (1999). The relation of college internships, college performance, and subsequent job opportunity. *Journal of Employment counseling*, 36(1), 35-43.
- Porco, B. M. (2003). Factors affecting the cognitive moral development of undergraduate accounting students: Ethics education, internships, volunteerism and Beta Alpha Psi. *ProQuest Dissertations and Theses*.
- Prentice-Dunn, S., & Roberts, M. C. (1985). A summer internship in psychological research: Preparation of minority undergraduates for graduate study. *Teaching of Psychology*, 12(3), 142-145.
- Rest, J. R. (1982). Morality. In P. Mussen (Ed.), *Carmichael's Manual of Child Psychology, Fourth Edition, Volume on Cognitive Development*, J. Flavell & E. Markman (Volume eds.). New York: Wiley.
- Rest, J. R., & Narvaez, D. (1998). *Defining Issues Test-2*. Minneapolis, MN: University of Minnesota.
- Rest, J. R., Narvaez, D., Bebeau, M. J., & Thoma, S.J. (1999). *Postconventional moral thinking: A Neo-Kohlbergian approach*. Hillsdale, NJ: Erlbaum.

- Ross, L. E., & Elechi, O. O. (2002). Student attitudes towards internship experiences: from Theory to Practice. *Journal of Criminal Justice Education*, 13(2), 297-312.
- Rothman, M. (2007). Business students' evaluation of their internships. *Psychological Reports*, 101(1), 319-322.
- Sirin, S.R., Rogers-Sirin, L., & Collins, B. A. (2010). A measure of cultural competence as an ethical responsibility: Quick-Racial and Ethical Sensitivity Test. *Journal of Moral Education*, 39(1), 49-64.
- Thies-Sprinthall, L. (1984). Promoting the developmental growth of supervising teachers: theory, research programs, and implications. *Journal of Teacher Education*, 35(3), 329-336.
- Watson, R. W. (1995). Early field experiences in teacher Education: A developmental model. *Dissertation Abstracts International*, 56(10), 3922.
- Williams, H. S., & Alawiye, O. (2001). Assessment: Lessons learned from a year long undergraduate teacher education pilot program. *Journal of Instructional Psychology*, 28(4), 229-233.
- Zeichner, K., & Tabachnick, B.R. (1985). The development of teacher perspectives: social strategies and institutional control in the socialization of beginning teachers. *Journal of Education for Teaching*, 11, 1-25.

Copyright of Psychology Journal is the property of Psychological Publishing and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.