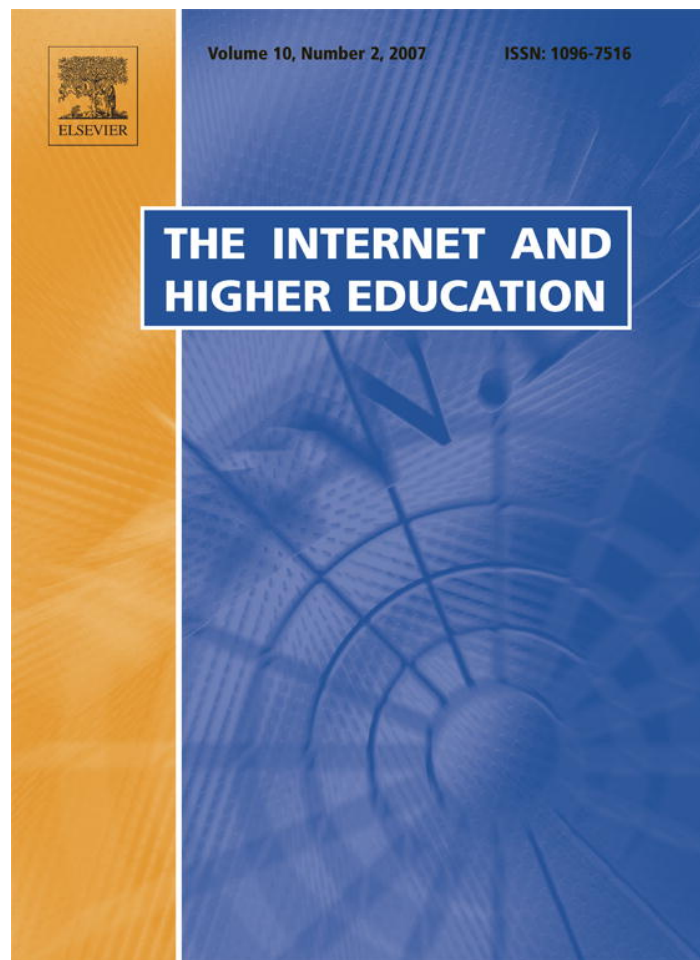


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Exploring burnout among university online instructors: An initial investigation

R. Lance Hogan ^{a,1}, Mark A. McKnight ^{b,*}

^a Eastern Illinois University, 600 Lincoln Avenue, Charleston, IL 61920-3009, USA

^b University of Southern Indiana, 8600 University Boulevard, Evansville, IN 47712, USA

Abstract

Burnout has been identified as a significant issue among those in instructional positions. The purpose of the present research was to identify and describe the status of burnout among higher education online instructors. The population for this study included responses of 76 online instructors employed by baccalaureate granting institutions within the United States. A demographic survey and the Maslach Burnout Inventory-Educators Survey (MBI-ES) were used to collect data from respondents. Data analysis revealed online instructors possessed an average score on the emotional exhaustion subscale, high degree of depersonalization, and low degree of personal accomplishment.

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1. Introduction

Online instructional delivery has become an important component in higher education (Farrington, 1999; Katz, 1999; Rickard, 1999). According to Huffstutter and Fields (2000), in 1999 one in three U.S. colleges offered some sort of accredited online degree and one million students took online courses. Further, Allen and Seaman (2004) reported at least 2 million higher education students were engaged in online learning in the year 2004. To date, more than 2.33 million college students are taking at least one online course (USA TODAY, 2006). This anytime, anywhere delivery of courses by computer networks has become a viable alternative for students who either cannot or choose not to travel to campuses to attend traditional class (Rovai & Gallien, 2005).

Levin (1997) established a basis for understanding how online teaching and learning presents new challenges for instructors in colleges and universities. Hogan, McKnight, and Legier (2006) asserted that the complexity of the learning paradigm increases because the instructor is not only responsible for lesson organization and the characteristics of the instructor and students, but must also take into account the methods, content and delivery systems employed in the distance learning environment. Further research has indicated the key competencies that are necessary

* Corresponding author. Tel.: +1 812 465 1012; fax: +1 812 465 1044.

E-mail address: mamcknight@usi.edu (M.A. McKnight).

¹ Tel.: +1 217 581 3913; fax: +1 217 581 6607.

for online instructors to be effective (Cyrus & Smith, 1988; Thach, 1994). More recently, Wilson, Ludwid-Hardman, Thornam, and Dunlap (2004) asserted that instructors are a key component of asynchronous online courses because they:

- Provide the infrastructure for learning (syllabus, calendar, communication tools, and instruction resources);
- Model effective participation, collaboration, and learning strategies;
- Monitor and assess learning and provide feedback, remediation, and grades;
- Troubleshoot and resolve instructional, interpersonal, and technical problems; and
- Create a learning community in which learners feel safe and connected and believe their contributions are valued.

One way for an online instructor to demonstrate the aforementioned components in an online environment is to be online constantly, which can lead to burnout (Dunlap, 2005). Further, the online teaching environment offers a variety of complexities, each of which could potentially lead to instructor burnout.

Initially, it is worth noting that faculty traditionally perceive teaching online as more work and more time consuming than teaching a traditional course (Hislop & Ellis, 2004). With such a stigma attached to online instruction, this becomes a major workplace stressor; possibly leading to burnout symptoms. In addition, because of the additional training and knowledge required to effectively teach online, it is reasonable to conclude that additional faculty effort would be needed; another possible source of burnout for online faculty. Shea (2006) indicated that students report higher levels of learning community and teaching effectiveness in situations when they perceive higher levels of teaching presence, such as active directed facilitation and effective instructional design practices. Certainly the process of acquiring the knowledge and training to deliver effective online instruction could be a source of added stress and/or burnout to faculty.

The growth of distance education in higher education establishes a need to examine burnout specific to online instructors. Although burnout among educators has been studied, no specific work has been conducted relative to burnout among higher education online instructors.

The present research examines burnout among higher education faculty members instructing online courses. Therefore, the purpose of this study was to examine levels of burnout among university faculty instructing courses in an online learning environment. Specifically, the present research examined the following research questions:

1. To what degree does burnout occur in higher education online instructors?
2. Is there a significant relationship between gender and burnout level of higher education online instructors?
3. How do measures of burnout among higher education online instructors compare with the existing normative data of educators?

In an effort to answer these questions, the term “online instructor” must be operationally defined. For purposes of the present research, the term “online instructor” indicates a college or university instructor who taught courses in a purely online environment (i.e., no face to face interaction).

2. Literature review

2.1. Burnout defined

For over three decades, researchers have examined burnout among various populations, including social workers, educators, medical and mental health workers, police officers, child care workers, lawyers, and customer service representatives (Maslach, Jackson, & Leiter, 1996). According to Maslach and Jackson (1981), burnout is a blanket term that is used to describe a syndrome of emotional exhaustion and cynicism that occurs in response to the stressors and strains of professional life. Originally, burnout was defined by Freudenberg's (1974) in an article entitled *Staff Burn-Out* as a specific psychological condition in which people suffer emotional exhaustion, experience a lack of personal accomplishment, and tend to depersonalize others. Maslach et al. (1996) updated this definition stating that burnout is “a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity” (p. 4). Subsequently, Maslach (2003) has refined the definition of burnout as job related and “a prolonged response to chronic emotional and interpersonal stressors on the job” (p.1).

Emotional exhaustion can occur when, “a worker’s resources are depleted and they feel that they are no longer able to give themselves at a psychological level” (Maslach et al., 1996, p.4). Maslach and Jackson (1986) identified three burnout dimensions:

- 1) emotional exhaustion, feelings of being emotionally overextended and exhausted by one’s work;
- 2) depersonalization, an unfeeling of impersonal response toward students; and
- 3) a reduced sense of personal accomplishment, a loss of personal self-efficacy.

2.2. Antecedents and symptoms of burnout

Burnout has been defined as both a psychological and physical response to workplace stress (Maslach, 1982). Burnout as a syndrome includes three dimensions; emotional exhaustion, depersonalization and reduced feelings of personal accomplishment (Maslach, 1982, 1993). Cherniss (1980) identified that, in the process of burnout, both attitudes and behaviors change in an unconstructive manner in response to work stress. Cedoline (1982) depicted the physical and behavioral symptoms of burnout as the reluctance to go to work, disappointment with performance, an extension of work problems into the person’s home life, and an ultimate feeling of worthlessness.

Pines (1993) reported that burnout systems include, but are not limited to, fatigue, poor self-esteem, inability to concentrate on a subject, and a tendency to blame others. Maslach et al. (1996) further asserts that individuals suffering from burnout experience a depletion of physical and emotional resources, develop cynical attitudes, and feel a loss of professional self-efficacy. Dunham and Varma (1998) stated that the most pervasive symptoms of teacher burnout are a noticeable lowering level of job commitment, a loss of enthusiasm and interest, and feelings of disaffection and alienation.

In addition to negative effects of burnout on individuals, organizations also face significant implications and costs associated with burnout. Among these negative impacts, organizations experience lower individual work performance, high rates of turnover, lower levels of organizational commitment, lower reported job satisfaction, high health care costs, and decreases in creativity, problem solving and innovation (Halbesleben & Buckley, 2004; Shirom, 2003).

As stated previously, the dimensions of burnout include emotional exhaustion, depersonalization and reduced feelings of personal accomplishment. In an effort to develop a comprehensive theoretical framework, Maslach and Leiter (1997) identified six major influences on burnout: (1) workload; (2) lack of control over establishing and following day-to-day priorities; (3) insufficient reward and the accompanying feelings of continually having to do more for less; (4) the feeling of community in which relationships become impersonal and teamwork is undermined; (5) the absence of fairness, in which trust, openness, and respect are not present; and (6) conflicting values, in which choices that are made by management often conflict with their mission and core values. While the presence of each of these would certainly indicate a strong likelihood of the development of burnout symptoms in an individual, it should be noted that any single one of these could also lead one to display symptoms of burnout.

2.3. Burnout research among higher education faculty

Research on burnout related to higher education faculty is sparse. The present review of literature identified four studies that examined burnout among higher education members. Blix, Cruise, Mitchell, and Blix (1994) reported that higher education instructors are likely candidates for burnout because of their relationship with large numbers of students, staff, and administration. The most recent study on faculty burnout was conducted by Lackritz (2004), who examined burnout among 265 higher education faculty members and found that burnout shows significant correlations with numbers of students taught, time invested in various activities, and numerical student evaluations. Further, female faculty members displayed significantly higher mean scores than their male counterparts on the emotional exhaustion scale of the MBI-ES.

Talbot (2000) studied burnout among 63 college nursing faculty members. Of the three dimensions of burnout, faculty members reported experiencing high to moderate levels of emotional exhaustion (39.7%), low feelings of personal accomplishment (73%) and minimal affects on the depersonalization dimension. Singh, Mishra, and Kim (1998) investigated the effects of intrinsic motivation to conduct research in relation to burnout among higher education faculty. They found a positive relationship between perceived lack of research rewards and burnout. Further,

they found a negative relationship between intrinsic motivation to conduct research and job satisfaction with burnout. Blix et al. (1994) examined burnout among 400 randomly selected tenure-track university instructors, finding that burnout correlated positively with stress-related health problems, productivity levels, work stress management, and job change considerations.

3. Methodology

3.1. Measures

A short demographic questionnaire and Maslach's Burnout Inventory Educator Survey (MBI-ES) were used in this study. The demographic questionnaire was designed to ascertain variables including age, gender, ethnicity, and education level. The MBI-ES was used to assess the levels of burnout among higher education online instructors. According to Maslach et al. (1996), the MBI-ES is designed as a diagnostic tool to label individuals as "burned out." The instrument is widely accepted among researchers and addresses the three dimensions of burnout (emotional exhaustion, depersonalization and personal accomplishment).

The MBI-ES (Maslach, Jackson, & Leiter, 1996) is comprised of 22 statements in which participants rate items on a seven-point Likert scale where responses can range from 0 to 6 (0 = Never, 3 = a few times a month, and 6 = Every Day). The 22 items are broken down into three subscales:

- 1) emotional exhaustion;
- 2) depersonalization; and
- 3) personal accomplishment.

These subscales are categorized in three ranges (low, average, high). The first subscale, emotional exhaustion, consists of nine questions and assesses the feelings of being overextended and exhausted in one's employment setting. The second subscale, depersonalization, has five questions and measures impersonal responses toward co-workers and recipients of services. The third, personal achievement, has eight questions assessing feelings of competence and success in one's work.

Table 1
Demographic data

Demographic data characteristics	<i>N</i>	Mean	SD	%	Frequency
Gender	76				
Male				60.5	46
Female				39.5	30
Age	76	47.22	10.93		
20 to 25 years				2.6	2
26 to 35 years				13.2	10
36 to 45 years				27.6	21
46 to 55 years				31.6	24
56 to 65 years				22.4	17
66 to 75 years				2.6	2
Ethnicity	76				
African American				6.6	5
Asian				2.6	1
European American				89.5	68
Hispanic				1.3	1
other				0	0
Education level	76				
Associate				1.3	1
Bachelor				13.2	10
Master				42.1	32
ABD				1.3	1
Doctorate				42.1	32

Table 2
Burnout levels of online instructors

Burnout factors				
Factor	Items	Alpha	Mean	SD
Emotional Exhaustion	1,2,3,6,8,13,14,16,20	0.938	22.08	11.59
Depersonalization	5,10,11,15,22	0.724	9.81	4.68
Personal accomplishment	4,7,9,12,17,18,19,21	0.734	46.91	6.62

The validity and reliability of the MBI-ES was assessed via a series of analyses. Iwanicki and Schwab (1981) initially reported the Cronbach alpha estimates of .90 for emotional exhaustion, .76 for depersonalization, and .76 for personal accomplishment. Gold (1984) further examined the reliability of the MBI-ES reporting Cronbach alpha estimates of .88 for emotional exhaustion, .74 for depersonalization, and .72 for personal accomplishment. Lee and Ashforth (1993) confirmed the three dimensions through factor analysis.

3.2. Population

Study participants included 76 university instructors that are currently instructing academic courses in a technology-enhanced (online) format. Specifically, the population was derived from U.S. academic institutions that grant undergraduate and graduate degrees and included:

- Instructors from a regionally accredited technological college's online division.
- Instructors from a regionally accredited university that teach online courses.
- Instructors from a nationally accredited "virtual" university that does not offer a residential component.

3.3. Procedure

The researchers contacted administrators from academic institutions to request their permission to participate in the study. Those administrators who accepted the offer to participate distributed a message (which was prepared by the researchers) through email correspondence to all faculty members currently instructing online at their respective institutions. Included in the message was a description of the study and a weblink to an online survey. Informed consent to participate in the research study was indicated by the completed and submitted survey.

The online survey was activated from January 15, 2005 to January 30, 2005. Data were collected from 78 respondents, of which 2 were invalid; leaving 76 usable responses. Two respondents duplicated their submission, thus eliminating their second responses from the data set.

3.4. Descriptive analysis

A summary of the descriptive statistics can be found in Table 1. Of the 76 participants, 30 (39.5%) were females and 46 (60.5%) were male. The mean age for the population was 47 and ranged from 20 to 75 years. The ethnic makeup of the population largely consisted of Caucasians (89.5%, $N=68$), 5 African-Americans

Table 3
Burnout among male and female university online instructors

Subscale	Female ($N=29$)		Male ($N=46$)		t	P
	M	SD	M	SD		
Emotional exhaustion	23.82	11.66	20.97	11.54	-1.037	0.614
Depersonalization	9.79	3.92	9.82	5.14	0.02	0.59
Personal achievement	47.34	4.69	46.63	7.62	-0.453	0.011

* $p < .05$

Table 4
Normative data comparison

Profession	Emotional exhaustion	Depersonalization	Personal accomplishment
Study findings:			
Online instructors ($n=76$)	22.08 (11.59)	9.81 (4.68)	46.91 (6.62)
Normative data:			
Teaching (K-12) ($n=4163$)	21.25 (11.01)	11.00 (6.19)	33.54 (6.89)
Postsecondary education ($n=635$)	18.57 (11.95)	5.57 (6.63)	39.17 (7.92)

(6.6%), 2 Asians (2.6%), and 1 Hispanic (1.3%). Significantly more than half hold (85.5%) a Master's or doctorate degree.

4. Results

4.1. Burnout level of higher education online instructors

Research question 1 asked, "To what degree does burnout occur in higher education online instructors?" Online instructor burnout scores on each of the three burnout dimensions were computed following the directions in the *Maslach Burnout Inventory Manual*. Reliability coefficients for emotional exhaustion (Cronbach's $\alpha=.94$), depersonalization (Cronbach's $\alpha=.72$), and personal accomplishment (Cronbach's $\alpha=.73$) were all satisfactory (See Table 2). Responses within each subscale of the MBI-ES were aggregated, resulting in measures of emotional exhaustion ($M=22.08$, $SD=11.59$), depersonalization ($M=9.81$, $SD=4.68$) and personal accomplishment ($M=46.91$, $SD=6.62$). Thus, online instructors had an average score on the emotional exhaustion subscale, high degree of depersonalization, and low degree of personal accomplishment.

4.2. Gender and burnout

Research question 2 asked, "Is there a significant relationship between gender and burnout level of higher education online instructors?" Independent sample t -tests were used to compare differences between male and female university online instructors across job burnout measures. As shown in Table 2, there were no statistical significant differences in levels of burnout between male and female university online instructors. Female university online instructors had higher levels burnout on emotional exhaustion ($M=23.82$, $SD=11.66$), than their male counterparts ($M=20.97$, $SD=11.54$; $t=-1.037$, NS). Female online instructors ($M=9.79$, $SD=3.92$) experienced a higher degree of burnout on the depersonalization subscale than did male online instructors ($M=9.82$, $SD=5.14$; $t=.02$).

Personal accomplishment is the final subscale from the Maslach Burnout Instrument. This subscale is measured in the opposite direction by which the higher score reflects a positive accomplishment. Female university online instructors also had higher levels of burnout on personal accomplishment subscale ($M=47.34$, $SD=4.69$) than male university online instructors ($M=46.63$, $SD=7.62$; $t=-.453$, NS).

4.3. Online instructors compared to other educators normative data

Research question 3 asked, "How do measures of burnout among higher education online instructors compare with the existing normative data of educators?" Table 3 contains previously reported by Maslach et al. (1996) educator's standard deviations and means on the three burnout subscales. The mean burnout subscale scores of emotional exhaustion (22.08) is aligned closely with K-12 educators. The depersonalization burnout subscale (9.81) for online instructors is between normative data of K-12 and postsecondary educators (see Table 4). However, the mean burnout personal accomplishment (46.91) is somewhat lower than normative data for other educators.

5. Discussion

Burnout is an important concept and has rarely been investigated among higher education faculty. The results have several implications for institutions and researchers. Wood and McCarthy (2004) reported it is far better with burnout to

eliminate the syndrome before it develops. To eliminate burnout Kyriacou (as cited in Wood & McCarthy, 2004) offered the following advice for institutions:

1. Consult with online faculty on matters directly impacting their learning environment (i.e., curriculum development);
2. Provide adequate resources to support online instructors (i.e., technology support resources);
3. Provide detailed job descriptions and faculty expectations to reduce role ambiguity;
4. Create and maintain clear lines of communication between online faculty and administrators by providing performance feedback;
5. Facilitate professional development activities (i.e., mentoring, advanced training using online technology); and
6. Reduce teaching load and number of students per online course.

In addition, the results of this study have several implications for researchers. First, Table 2 revealed that online instructors had an average score on the emotional exhaustion subscale, high degree of depersonalization, and low degree of personal accomplishment. According to Budinick (2005), higher scores on emotional exhaustion and depersonalization subscales indicate higher levels of burnout. Personal accomplishment subscale is scored in the opposite direction; where lower scores on personal accomplishment indicate higher burnout. According to Jackson (2006), the overall results describe the online instructors to be on the borderline of burnout showing signs of moving toward a high degree of burnout (Personal communication via e-mail).

Differences between female and male online instructor's burnout levels provided an interesting comparison. Although no statistical significant was found, female higher education instructors were found to have scored higher on all three burnout dimensions over their male counterpart. These results point to a significant need for further research related to gender and burnout in higher education (specifically, online higher education).

Based on initial findings from the present research, additional study of online higher education faculty is warranted. Initially, present findings should be validated with additional groups of online faculty.

Further research should also investigate the difference, if any, among higher education online instructors from various disciplines. Because of the pedagogical differences that are inherent in various types of disciplines, a cross-section of disciplines would be both subject matter specific and generalizable within regard to pedagogy and andragogy.

Finally, further research is needed to investigate factors that could contribute to burnout such as education level, job classification (teaching assistant, instructor, assistant/associate professor), online teaching experience, overall teaching load, class size, or academic training for online instruction. Through a comprehensive cataloging, validating and grouping of factors that lead to burnout specific to online instruction, recommendations for both theory and practice might result from these types of research endeavors.

References

- Allen, E., & Seaman, J. (2004). *Entering the mainstream: The quality and extent of online education in the United States, 2003 and 2004*. Needham, MA: Sloan Center for Online Education at Olin and Babson Colleges.
- Blix, A. G., Cruise, R. J., Mitchell, B. N., & Blix, G. G. (1994). Occupational stress among university teachers. *Educational Research, 36*(2), 157–169.
- Budinick, L. (2005). A study of teacher burnout and school psychologist support (Doctoral dissertation, Fairleigh Dickinson University, 2005). Dissertation Abstract International, 66, 602.
- Cedoline, A. J. (1982). *Job burnout in public education: Symptoms, causes, and survival skills*. New York: Teacher's College Press.
- Cherniss, C. (1980). *Staff burnout: Job stress in the human services*. Beverly Hills, California: Sage.
- Cyrs, T., & Smith, F. A. (1988). *Faculty training for television teaching: State of the art*. Paper presented at the Annual Conference for the Association of Educational Communication and Technology, New Orleans.
- Dunham, J., & Varma, V. (Eds.). (1998). *Stress in teachers: Past, present, and future*. London: Whurr Publishers Ltd.
- Dunlap, J. C. (2005). Workload reduction in online courses: Getting some shuteye. *Performance Improvement, 44*(5), 18–26.
- Farrington, G. (1999). The new technologies and the future of residential undergraduate education. In R. Katz (Ed.), *Dancing with the devil: Information technology and the new competition in higher education*. San Francisco: Jossey-Bass.
- Freudenberger, H. J. (1974). Staff Burnout. *Journal of Social Issues, 30*(1), 159–165.
- Gold, Y. (1984). The factorial validity of the Maslach burnout inventory in a sample of California elementary and junior high school classroom teachers. *Educational and Psychological Measurement, 44*, 1009–1016.
- Halbesleben, J. R. B., & Buckley, M. R. (2004). Burnout in organizational life. *Journal of Management, 30*, 859–879.
- Hislop, G., & Ellis, H. (2004). A study of faculty effort in online teaching. *Internet and Higher Education, 7*(1), 15–32.

- Hogan, R. L., McKnight, M. A., & Legier, J. T. (2006). Moving from traditional to online instruction: Considerations for improving trainer and instructor performance. *Journal of Human Resources and Adult Learning*, 2(2), 34–38.
- Huffstutter, P. J., & Fields, R. (2000, March 3). *A virtual revolution in teaching*. : Los Angeles Times.
- Iwanicki, E. F., & Schwab, R. L. (1981). A cross-validation study of the Maslach burnout inventory. *Educational and Psychological Measurement*, 41, 1167–1174.
- Jackson, S. E. (2006). Personal communication via email.
- Katz, R. (1999). Competitive strategies for higher education in the information age. In R. Katz (Ed.), *Dancing with the devil: Information technology and the new competition in higher education*. San Francisco: Jossey-Bass.
- Lackritz, J. R. (2004). Exploring burnout among university faculty: Incidence, performance, and demographic issues. *Teaching and Teacher Education*, 20(1), 713–729.
- Lee, R. T., & Ashforth, B. E. (1993). A longitudinal study of burnout among supervisors and managers: Comparisons between the Leiter and Maslach (1988) and Golembiewski et al. (1986) models. *Organizational Behavior and Human Decision Processes*, 54, 369–398.
- Levin, D. (1997, March). Institutional concerns: Supporting the use of Internet discussion groups. Paper presented at the annual meeting of the Conference on College Composition and Communication, Phoenix, AZ.
- Maslach, C. (1982). *Burnout: The cost of caring*. Englewood Cliffs, NJ: Prentice Hall.
- Maslach, C. (1993). Burnout: A multi-dimensional perspective. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research*. Washington, D.C.: Taylor & Francis.
- Maslach, C. (2003). Job burnout: New directions in research and intervention. *Current Directions in Psychological Science*, 12(5), 189–192.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior*, 2(1), 99–113.
- Maslach, C., & Jackson, S. (1986). *Maslach burnout inventory manual*. Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., Jackson, S., & Leiter, M. (1996). *Maslach burnout inventory manual*. (3rd Ed.). Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., & Leiter, M. (1997). *The truth about burnout: How organizations cause personal stress and what to do about it*. San Francisco: Jossey-Bass Publishers.
- Pines, A. (1993). Burnout: An existential perspective. In W. B. Schaufeli, D. Maslach, & T. Marek (Eds.), *Professional burnout: Research developments in theory and research*. Washington, D.C.: Taylor & Francis.
- Rickard, W. (1999). Technology, education, and the changing nature of resistance. *Educom Review*, 34(1), 42–45.
- Rovai, A. P. & Gallien Jr., L.B. (2005). Learning and sense of community: A comparative analysis of African American and Caucasian online graduate students. *Journal of Negro Education*, 74(1), 53–62.
- Shea, P. (2006). A study of students' sense of leaning community in online environments. *Journal of Asynchronous Learning Networks*, 10(1) (Retrieved online at http://www.sloan-c.org/publications/jaln/v10n1/v10n1_4shea.asp).
- Shirom, A. (2003). Job-related burnout: A review. In J. C. Quick, & L. E. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 245–264). Washington, DC: American Psychological Association.
- Singh, S. N., Mishra, S., & Kim, D. (1998). Research-related burnout among faculty in higher education. *Psychological Reports*, 83(2), 463.
- Talbot, L. A. (2000). Burnout and humor usage among community college nursing faculty members. *Community College Journal of Research and Practice*, 24(5), 359–373.
- Thach, E. C. (1994). *Perceptions of distance education experts regarding the roles, outputs, and competencies needed in the field of distance education*.
- USA TODAY. (2006, March 2). *Snapshots: More students taking online courses* (pp. 1A). USA TODAY.
- Wilson, B. C., Ludwig-Hardman, S., Thornam, C., & Dunlap, J. C. (2004). Bounded community: Designing and facilitating learning communities in formal courses. *The International Review of Research in Open and Distance Learning*, 5(3).
- Wood, T., & McCarthy, C. (2004). *Understanding and Preventing Teacher Burnout (Report No. EDO-SP-2002-03)*. Washington, DC: Office of Educational Research and Improvement (ED) (ERIC Document Reproduction Service No. ED. 477726).