**Faculty Satisfaction in Online Higher Education**

**ABSTRACT**

The growth in online education has generated intense interest in questions about two main measures of e-learning success: learner satisfaction and learner outcomes. While the literature in these two areas has expanded considerably, not enough attention has been paid to faculty satisfaction, even though its critical impact on both areas has been established. This exploratory study surveyed 171 faculty from multiple institutions of higher education to learn about their experiences with online teaching, and examine how their satisfaction might be affected by training, flexibility in balancing work/life demands, institutional factors and technical factors.

**Keywords:**

Faculty satisfaction, online teaching, e-learning, training, flexibility, institutional support, organizational policies, technical factors, CMS

**Faculty Satisfaction in Online Higher Education**

Online education has become pervasive in the last two decades (van Rooij & Zirkle, 2016; Shelton & Pedersen, 2017). The 2015 Survey of Online Learning, conducted by the Babson Survey Research Group, found that 28% of U.S. higher education students (over 5.8 million students) are taking at least one distance education course, with a year-to-year 3.9% increase in number of students (Allen, Seaman, Poulin & Straut, 2016). This led them to conclude that “when more than one-quarter of higher education students are taking a course online, distance education is clearly mainstream” (p. 7).

Not surprisingly, research about online education has also grown by leaps and bounds. Given the fast rate of technological change, and the fast growth in online education offerings, research in this field has advanced considerably, both in terms of scholarly articles in traditional publications and through the growth of dedicated outlets such *as Journal of Distance Education* and *Internet and Higher Education*. The maturation of the field has also led to an increase in the quality of the scholarship that is being produced (Arbaugh, 2010; Zawacki-Richter & Naidu, 2016).

Despite the rapid growth in the scholarship of online education, there has been a glaring omission in the progress of this research: we still have a dearth of studies about faculty attitudes towards online higher education (Arbaugh, Dearmond & Raugh, 2013; Hoekstra, 2014; Rohland-Heinrich, 2016). Whereas a significant amount of research has focused on online students’ characteristics, attitudes and outcomes (Eom & Ashill, 2016; Ortagus, 2017), comparatively fewer studies have examined online faculty. This limited body of research about faculty is particularly noteworthy when we consider the importance of online faculty and their satisfaction. Faculty have been identified, consistently, among the critical success factors for online education, and among the determinants of students’ perceived learning outcomes and satisfaction in university online education (Baran & Correia, 2016; Eom & Ashill, 2016; Eom, Wen & Ashill, 2006; Hoekstra, 2014). Moreover, faculty satisfaction is so important for learning outcomes (Al Ghamdi, Samarji & Watt, 2016; Bolliger, Inan, & Wasilik, 2014; Rohland-Heinrich, 2016) that it is considered one of the “five pillars of quality online education” in the quality framework of the Online Learning Consortium (OLC, 2017)[[1]](#footnote-1). Advancing our understanding of online faculty satisfaction becomes even more relevant when we take into consideration the broader literature about the impact of faculty job satisfaction on outcomes such as performance, retention and turnover (Green, Alejandro & Brown, 2009; Spivey, Chisholm-Burns, Murphy, Rice & Morelli, 2009).

The need and urgency to develop a better understanding the nature and antecedents of faculty satisfaction in the online environment are being increasingly emphasized in the literature (Blackmon, 2016; Bolliger & Wasilik, 2009; Bolliger et al., 2014; Hoekstra, 2014; Blackmon, 2016; Rohland-Heinrich, 2016). This urgency becomes even starker when we compare two statistics from the Babson Survey of Online Learning (Allen et al., 2016): in 2015, 71.4% of academic leaders considered the learning outcomes the same or better in online education than those in face-to-face (f2f) instruction (a considerable increase from a 57.2% rate in 2003); however, this positive perception of online learning does not seem to be shared by their own faculty, since only 29.1% of these chief academic officers believed that their faculty had a positive attitude towards online education. As Blackmon (2016) remarked, the nature and speed of technological advances in online environments “strike both fear and joy for faculty members” (p. 80).

The goal of our exploratory study is to address this important gap in the literature by exploring faculty satisfaction with online teaching in higher education, and investigating possible factors that might contribute to it. We conducted a survey of faculty who had taught at least one fully online course at a college or university, across various disciplinary areas.

Our study is distinctive in various ways, when compared to the bulk of the field of online education research. First, it focuses on faculty, an important but overlooked constituency in this literature. Second, it examines multiple faculty, dispersed across multiple institutions of higher education, in contrast to the emphasis on single faculty/multiple students that is typical in this field of research. Third, our study included faculty in different career paths and stages, which is uncommon in the literature and yet conceptually relevant, since online education has been shown to have distinctive characteristics even between different functional areas of the same field, such as business education (Arbaugh, 2010).

 In the next section we offer a brief review of the literature and propose the hypotheses that were investigated in this exploratory study. We then describe our methodology and present our descriptive results, followed by the hypothesis-testing analysis and results. We conclude by summarizing our main findings, acknowledging their limitations, and exploring their implications for research and practice.

**LITERATURE REVIEW AND HYPOTHESES**

 The classic definition of job satisfaction emphasizes its affective component: “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences.” (Locke, 1976, p. 1304). Here we use a broader definition of job satisfaction as including “multidimensional responses to one’s job” (Hulin & Judge, 2003), where these responses include three components: cognitive (evaluative), affective (or emotional) and behavioral (Judge & Klinger, 2008).

Faculty satisfaction is recognized as “a complex issue that is difficult to describe and predict.” (Bolliger & Wasilik, 2009, p. 105). For the purposes of this study, online faculty satisfaction is defined “as the perception that the process of teaching in the online environment is efficient, effective, and beneficial for the individual.” (Bolliger et al, 2014, p. 184). According to the Online Learning Consortium (OLC, 2017), “Faculty Satisfaction means that instructors find the online teaching experience personally rewarding and professionally beneficial.” Our empirical study explored faculty, institutional and technical factors as possible antecedents of job satisfaction for faculty teaching online, as summarized below.

**Faculty Factors**

 Based on the emerging literature about the attitudes of college/university faculty towards teaching online, we examined two faculty-related factors that may play a prominent role in promoting satisfaction: whether faculty feel that they have been adequately trained (and are therefore prepared for the particular challenges of the online environment); and whether they perceive online teaching as providing the flexibility they might need to better balance work and personal life.

 *Training*. In the traditional face-to-face environment, faculty can expect to succeed by relying on their mastery of the subject and their mastery of how to teach it. In an online environment, however, faculty face a further challenge: they also need to master how to teach in that special context, both in terms of its particular pedagogical opportunities and constraints, and in terms of being knowledgeable about its technical aspects (Gay, 2016; Rohland-Heinrich, 2016). This special type of mastery may be developed over time, through individual effort and through trial and error, but this process may involve a good deal of frustration, and may yield doubtful results. A more effective and efficient way to develop such mastery may be, instead, to receive special training for the pedagogical and technical aspects of teaching online. Training is starting to be recognized as an important element in preparing faculty to meet the challenges of online teaching (; Allison, 2016; Almarashdeh, Sahari, Zin & Alsmadi, 2011; Bolliger et al., 2014; Guan & Stanford, 2016; Ling, 2014; Masoumi, 2010; OLC, 2017; Rohland-Heinrich, 2016; Terblanché, 2015) and has been identified as a predictor of success in online teaching (Al-Busaidi, 2012), but the link between training and faculty satisfaction in the online environment deserves further exploration (Almarashdeh, 2016; Hoekstra, 2014). Thus, we propose the following hypothesis:

*H1: Faculty who perceive their training to teach online to have been adequate will report higher levels of satisfaction.*

 *Flexibility*. Whereas online teaching may involve technical challenges that require special training, it may also offer opportunities for faculty to experience more flexibility in balancing work and personal life. Traditional face-to-face teaching involves a commitment to be present in a certain place, at a certain time. These location and synchronicity requirements can pose constraints for faculty’s ability to harmonize the demands of their professional and personal lives: for example, it may curb their ability to travel, restrict their degrees of freedom in managing time, limit their availability to friends and family, and even impair their ability to continue working when experiencing health issues that affect their mobility or physical endurance. In contrast, faculty may perceive the “anytime / anywhere” nature of online teaching as something that increases their flexibility in dealing with traditional constraints for work/life balance (Wasilik & Bolliger, 2009).

 There is considerable evidence, in the literature, that online education offers such flexibility to students (Al-Busaidi, 2012; Howell, Saba, Lindsay and Williams, 2004; Keengwe, Diteeyont & Lawson-Body, 2012; Ling, 2014). Researchers have also started to study the flexibility in balancing work and personal life that online education may afford to faculty as well (Hiltz, Kim & Shea, 2007; Hiltz, Shea & Kim, 2010; Hoekstra, 2014; Larkin, Brantley-Dias & Lokey-Vega, 2016). Bolliger et al. (2014) point out, however, that while some online faculty do perceive increased flexibility, others see teaching online as “time consuming and labor intensive, which can easily lead to burnout.”(p. 184). Other researchers (Allison, 2016; Blackmon, 2016; Rohland-Heinrich, 2016) have also found that some online faculty have concerns regarding flexibility, workload and time requirements. Therefore, we propose a second hypothesis:

*H2: Faculty who perceive online teaching to be a source of flexibility will report higher levels of faculty satisfaction.*

**Institutional Factors**

This study explored two sets of institutional factors that may be relevant in promoting satisfaction for faculty teaching online: institutional support and organizational policies.

*Institutional support*. The emerging literature about online faculty satisfaction has emphasized the relevance of institutional support (Bolliger et al., 2014; Guan & Stanford, 2016). Rohland-Heinrich, 2016). This may include, for example, allowing faculty sufficient time to design and develop their online courses, and offering appropriate compensation or incentives for teaching online (Guan & Stanford, 2016; OLC, 2017). Thus we propose that:

*H3a: Faculty who are more satisfied with institutional support for online teaching will report higher levels of satisfaction with online teaching.*

*Organizational policies*. The literature also suggests that faculty satisfaction may be influenced by organizational policies regarding online teaching, which can be perceived as supporting or inhibiting the interests of students and faculty (Blackmon, 2016; Bolliger et al., 2014; Guan & Stanford, 2016; Hiltz et al., 2007; Hiltz et al., 2010; Howell et al., 2004; Masoumi, 2010; Rohland-Heinrich, 2016). For example, faculty may have a range of positive or negative attitudes towards organizational policies regulating aspects such as: evaluation of online teaching performance; retention of intellectual property rights (e.g. copyrights); expectations about on-campus presence, and type and timeliness of responsiveness and accessibility to online students; degree of autonomy in online versus face-to-face composition of faculty workload, and in online course design and delivery; rules about the level of e-readiness and commitment expected of online students, and so on (OLC, 2017). Therefore we propose that:

*H3b. Faculty who are more satisfied with organizational policies about teaching online will report higher levels of satisfaction with online teaching.*

**Technical factors**

Online teaching, by definition, involves technical issues that may facilitate or constrain the ability of faculty to do their jobs. Even the best designed online course will not work well if the underlying technology does not. In this study we considered two sets of technology-related factors that may impact faculty satisfaction: the level of support they can rely on to deal with the technical elements of teaching online; and the user-friendliness of the technological infrastructure for their courses.

*Support for technical elements*. When faculty teach in an online environment, they are relying on the good functioning of a complex system of interrelated technical elements: they face, therefore, the possibility that many more things, beyond their control, may go wrong than when they are teaching in a traditional face-to-face environment. In order to deal with this higher vulnerability, faculty may need buffers to protect them from the uncertainty potentially inherent in the technical elements underlying the design and delivery of their online courses (Allison, 2016; Ling, 2014; Masoumi, 2010; Selim, 2007; Rohland-Heinrich, 2016). One such uncertainty-absorbing buffer is the ability to rely on an adequate level of support when dealing with these technical elements (Allison, 2016; Bolliger et al., 2014; OLC, 2017), whether in terms of providing technological options to faculty (e.g. integration of streaming videos or other e-devices into CMS), or preventing things from going wrong, or addressing problems, when they arise, in a reliable and timely way. We therefore propose that:

*H4a: Faculty who are more satisfied with level support of technical elements for teaching online will report higher levels of satisfaction.*

 *CMS ease of use*. Even the best support for dealing with the technical elements of online teaching will not be enough if the underlying technology itself is not up to par. No matter how good the support system, its ability to buffer uncertainty is likely to be overwhelmed when an inadequate technology generates too much uncertainty. The reliability and user-friendliness of course management system (CMS) can be expected, therefore, to have an impact in reducing technology’s potential to generate uncertainty for faculty teaching online (Aggarwal, Adlakha & Ross, 2012; Almarashdeh, 2016; Almarashdeh et al., 2011; Keengwe, et al., 2012; OLC, 2017; Rohland-Heinrich, 2016). Thus, we propose the following hypothesis:

*H4b: Faculty who are more satisfied with the ease of use of their course management system (CMS) will report higher levels of satisfaction*.

**METHOD**

**Procedures and Sample**

We surveyed college and university instructors and professors about their experiences teaching online. We received responses from 193 faculty who have taught at least one fully online class. Of these respondents, 171 (89%) provided complete information for our study. The survey was administered online. Participants were solicited from universities known to offer online courses, and from Listservs run by the Academy of Management, Organizational Behavior Teaching Society, Production and Operations Management Society, and the Association for Information Systems.

Fifty-one percent of participants were male; 87 percent were employed full-time, and 93 percent were teaching in the United States. Respondents indicated they have been teaching in higher education for an average of 18.2 years (s.d. = 10.5), and teaching in an online environment for 7.1 years (s.d. = 5.3). The majority (83%) taught in business-related fields: business/management, 49%; operations management, 9%, marketing, 6%; organizational behavior, 5%, human resources, 4%, accounting, MIS, and entrepreneurship, 2% each, and other business fields (e.g. finance, strategy, and international business), 4%. The 17% of respondents who reported teaching non-business disciplines taught information systems/technology (7%); English, healthcare administration and psychology (2% each), law (1%), and the remaining (3%) in fields such as government, public policy, humanities and mathematics. Most participants (31%) reported their age as being 51 – 60 years old, 27 percent were over 60, 23 percent were ages 41 – 50, and 19 percent listed their age as 40 or under. The majority of participants (82%) indicated their race/ethnicity as Caucasian, followed by Asian or Pacific Islander (8%), African-American (5%), Latino (3%), and other (2%). Ninety-two percent of respondents hold a doctorate, six percent a masters degree, and two percent were ABD. Participants held the position of professor (30%), followed closely by associate professor (29%), then by assistant professor (19%), adjunct (11%) instructor or lecturer (6%), administrator (3%) and other (2%). Eighty-five percent taught in a college or university with a tenure system, and 55% of those who did reported achieving tenure.

**Measures**

Given that this research is exploratory, a literature search found only a few validated scales, and we employed them whenever possible. However, in their absence, we created our own. The scales and items we used are described below. In all cases, our measures were created by averaging the items in the scales, and unless otherwise specified, we employed a strongly disagree to strongly agree, 5-point Likert-type scale.

 *Independent Variables. Institutional Support* was measured with the first five items from Bolliger et al.’s (2014) institutional support factor of their online instructor satisfaction measure. The sixth item, “I am satisfied with online teaching policies that have been implemented by my institution,” was not included because conceptually, it did not fit our model, as it was about institutional policies, not institutional support. Respondents were asked to indicate their agreement with the statement, “I am satisfied with the support my institution provides in the form of:” such things as “sufficient time to design and develop online courses,” and “adequate technical support.” The Cronbach’s alpha for this scale was .83.

 The remaining independent variables (Training, Flexibility, Organizational Policies, Technical Elements, and CMS Ease of Use) were measured using scales we developed based on our findings from our literature search. Table 1 shows the items used in each of our scales.

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Insert Table 1 about here

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*Training* was identified by a number of authors (Al-Busaidi, 2012; Almarashdeh et al., 2011; Ling, 2014; Masoumi, 2010) as an important factor, and Howell et al. (2004) went as far as to identify it as one of seven key strategies needed to ensure faculty success in distance education. From this work, we identified three aspects of training and created our training items. A principal components analysis of those items produced a one-factor solution which explained 72.4% of the variance in the underlying items. The alpha reliability coefficient for *Training* was .81.

 *Flexibility* is often mentioned in the online learning literature, but it generally refers to flexibility provided to students (Al-Busaidi, 2012; Howell et al., 2004; Keengwe et al., 2012; Ling, 2014). However, a qualitative study of faculty motivators of online teaching found that the flexibility of being able to teach “anytime, anywhere” was the leading motivator (Hiltz et al., 2007; Hiltz et al., 2010). Using this as a basis for our measure and by changing the focus of the flexibility models in the student satisfaction literature to faculty, we identified four aspects of flexibility to create our *flexibility* measure. A factor analysis of the four items (see Table 1) yielded a one-factor solution, which explained 65.5% of the variance in the items, and had an alpha of .82.

 *Organizational policies* and practices do not always support faculty success in online education (Howell et al., 2004; Markel, 1999), and can be a source of dissatisfaction among faculty (Hiltz et al., 2007; Hiltz et al., 2010), but Masoumi (2010) considers policies and procedures that relate to the teaching process to be a critical factor for e-learning success. Based on these studies, we culled nine policies and practices relating to online teaching to form our measure of organizational policies (see Table 1). We factor analyzed the nine items and based on a scree plot, there was a one factor solution (58.3% of variance explained; α = .85); however, the Kaiser criterion (Eigenvalue > 1) produced a two factor solution. Factor 1 included the first five items (46.4% of variance explained; α = .80), and the second factor included the remaining four items (11.9% of variance explained; α = .74). Given the discrepancy in these results and the acceptability of both possibilities, we tested our hypotheses using both the single factor and two factor solutions. Since there was no difference between the two options, based on parsimony, we used the single factor solution.

 Our *technical elements* were derived from the work of Ling (2014), Masoumi (2010), and Selim (2007). We identified ten possible elements that directly pertain to the features of the online environment (see Table 1). A factor analysis produced a one factor solution which explained 45.3% of the variance in the items, and the Cronbach’s alpha for *technical elements* was .86.

 *CMS Ease of Use* was created by asking about the ease of use (1 = very difficult; 5 = very easy) in nine areas typically found in course management system. These items were selected after reviewing the work of Aggarwal, Adlakha and Ross (2012), Almarashdeh et al. (2011), and Keengwe, et al. (2012). We factor analyzed the ten items (see Table 1) and the one factor solution explained 54.4% of the variance in the items. The alpha reliability coefficient for these ten items was .89.

 *Outcome Variable*. We adapted Judge and Klinger’s (2008) overall measure of job satisfaction by replacing references to “job” with “online teaching” to create *Satisfaction with Online Teaching*, our outcome variable. Sample items include, “I feel fairly satisfied teaching online,” and “I find online teaching to be rather unpleasant (reverse-coded).” The coefficient alpha coefficient for this measure was .88.

*Control Variables*. Control variables were included because prior research shows them to be related to either online teaching or teacher satisfaction (Hoekstra, 2014). Demographic control variables included participant *age* (1 = under age 21, 2 = age 21 to 30, 3 = age 31 to 40, 4 = age 41 – 50, 5 = age 51 – 60, and 6 = over 60 years old), *sex* (1 = male, 0 = female), and *race* (1 = white, 0 = non-white. We also controlled for respondent’s *education* (1 = bachelors, 2 = masters, 3 = ABD, and 4 = doctorate), whether the respondent is *employed full-time* or part-time (1 = full-time, 0 = part-time), and *online teaching experience*. Online teaching experience was measured as the number of years the participant has been teaching in an online environment.

 Descriptive statistics and correlations for all measures can be found in Table 2.

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Insert Table 2 about here

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**RESULTS**

Table 3 shows the results of the hierarchical regression model we used to test our hypotheses. In the first step, we entered our controls: age, sex, race, education, employed full-time, and online teaching experience. This was followed by our predictors, entered in the second step. Both our full model (F(12, 158) = 8.7, p < .001) and the change in R2 (∆R2 = .29, p < .001) at step 2 were significant. Also, given the size of some of the correlations, we were concerned about collinearity being a potential problem in our model. To test this, we calculated the Variance Inflation Factor (VIF) for each predictor in our model, and all VIF scores were below the threshold of five indicating that collinearity was not a concern in the model.

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Insert Table 3 about here

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Our first hypothesis examined the relationship between training and faculty satisfaction with online teaching. The positive and significant coefficient for training in our (*β* = .22, p<.05) supports this hypothesis. Faculty who feel their training in online teaching was adequate reported higher levels of satisfaction with online teaching. In our second hypothesis, we expected that faculty who perceive online teaching to be a source of flexibility would be more satisfied teaching online. This hypothesis was also supported (*β* = .31, p<.001).

 Hypotheses 3a and 3b explored the institutional factors and satisfaction with online teaching. H3a expected faculty who were more satisfied with institutional support to be more satisfied with online teaching, while H3b predicted that faculty who were more satisfied with organizational policies and practices about online teaching would be more satisfied. Neither of these hypotheses was supported, as evidenced by the non-significant coefficients on *institutional support* and *organizational policies*.

 The last two hypotheses, H4a and H4b looked at the relationship between technical factors and satisfaction with online teaching. H4a posited that instructors and professors who are more satisfied with support provided for technical elements of their online teaching experiences would report higher levels of satisfaction with the experience. Although the coefficient on technical elements (*β* = –.26, p<.01) was significant, it was negative. Contrary to our expectations, faculty who were more satisfied with the technical elements of online teaching were *less* satisfied with their online teaching experience. H4b predicted a positive relationship between the ease of use of their course management system and satisfaction teaching online. However, there was no relationship between these variables as shown by the non-significant coefficient on *CMS ease of use*. Thus, there was no support for Hypothesis 4a or 4b.

**CONCLUDING THOUGHTS**

 Online education is at a special juncture. In a recent special issue of the *Decision Sciences Journal of Innovative Education*, Eom and Ashill (2016) have said that we are, indeed, “entering a golden age of e-learning,” and that e-learning could be at a “Tipping Point” (p. 186): having gained public trust and attracted record numbers of students, “now is the time to make e-learning more successful” (p. 186).

 For this to happen, though, we need to pay more attention to faculty’s interests and concerns. Faculty have been proven to be critical contributing factors to both learner satisfaction and learning outcomes, the two core measures that Eom and Ashill use in their definition of e-learning success. And yet, we still lag in our understanding of the nature and understanding of faculty satisfaction in teaching online, since this constituency has not, so far, received the level of research attention that would be commensurate with its vital relevance for e-learning success.

There are reasons for concern about faculty attitudes towards online education. After almost two decades of accelerated growth, online programs in higher education have reached such a level of maturation that they are now considered “clearly mainstream” (Allen et al., 2016 p. 3), as we pointed out in the Introduction. But looking back across a 13-year series of annual reports, the editors of the Babson Survey Research Group’s “*2015-2016 Online Report Card – Tracking Online Education in the United States*” remark that faculty have still not embraced online education as fully as students, administrators and other stakeholders have done: “Throughout this time we have observed very little change in faculty acceptance of the value and legitimacy of online education” (p.3).

Our study was motivated by a desire to find out more about factors that contribute to faculty satisfaction in online higher education. Even though it was exploratory in nature, the study yielded some intriguing findings.

For example, the results supported our first hypothesis: faculty who felt that they had received adequate training for teaching online did, indeed, report higher levels of satisfaction. This has practical implications, as it highlights a concrete “lever” that can be pulled to improve satisfaction with the experience of teaching online, since this is a variable over which both faculty and administrators may have at least some degree of control. Based on our findings, we would encourage faculty to see training as a worthwhile alternative to the frustrations often associated with trial and error. Also, we would suggest to administrators that investments in providing faculty better access to good quality training might result not only in an improvement in their technical and/or pedagogical skills to operate in an online environment, but also in their satisfaction with the overall experience of teaching online.

These practical implications for faculty and administrators suggest, as well, some promising directions for future research into the dynamics of the link between training and faculty satisfaction in the online education. Scholars might look into questions such as: what aspects of training (method, content, timing, frequency, delivery medium, provider legitimacy, individual vs. group setting, etc.) are most likely to lead faculty to perceive it as adequate in preparing them to teach online? What are the main drivers of faculty feelings of self-efficacy when teaching online? Under what conditions would faculty be more willing to seek training, and to more actively and effectively engage in learning when such training opportunities are provided? What factors contribute to faculty perceptions of training as being instrumental for achieving valued outcomes? How might learning theories, goal setting and motivation theories, theories about interpersonal influence and other theoretical approaches help guide future investigations into these and other questions about the attractiveness and effectiveness of training faculty for teaching online?

The findings of this study also provided support for our second hypothesis: faculty who perceived online teaching to be a source of flexibility were, as predicted, more satisfied with teaching online. Here, again, there are some interesting implications for practice and theory. For example, we would encourage administrators to examine more carefully the various ways in which they can manage the organization of online teaching, so that faculty can experience it as something that adds flexibility and helps them balance work and professional life, not something that is more labor intensive and time consuming than teaching face-to-face. We would also encourage faculty to explore ways in which they can alter their online teaching practices, so that the online environment increases, rather than decreases, their flexibility in balancing the demands of work and personal life.

Once more, these practical implications of our results for administrators and faculty also open relevant directions for future research. For example: which organizational policies and procedures (e.g., regarding workload, expectations for campus presence or for speed and type of response to student requests) might lead online teaching to be perceived as more flexible? What kinds of resource deployments might contribute to such flexibility (e.g., availability of teaching assistants to help with reading and grading large volumes of student contributions to online discussion forums, university-provided technologies for working at home, etc.)? What kinds of practices should faculty adopt, so that, when teaching online blurs the boundaries between work and home, this blurring might result in improved flexibility, rather than a perceived pressure to work 24/7, with the associated stress and burnout? What sorts of demographic characteristics (sex, age, ethnicity, career stage, etc.) and dispositional factors (e.g., personality), might lead faculty to experience online teaching as providing more, or less, flexibility? What insights for addressing these questions can be gained, for example, from the career literature, and in particular the research on kaleidoscope careers (Mainiero & Sullivan, 2005 and 2006)?

 The results of this study did not offer support for our third set of hypotheses, regarding institutional factors: neither institutional support nor organizational policies were found to influence satisfaction. Perhaps faculty perceive organizational policies and practices such as institutional support as something broader, a part of the organizational environment, and not merely associated with teaching online. Further research is needed to test this and to understand, or contradict, these findings.

 When testing our fourth set of hypothesis, regarding technical factors, we were surprised to find that satisfaction with technical elements was indeed related to faculty satisfaction with online teaching, but in the opposite direction from what we had expected: faculty who were more satisfied with the technical elements of online teaching were *less* satisfied with their online teaching experience. By the same token, our results did not support the predicted effect of the other technical factor we examined -- ease of use of the course management system. We found no relationship between ease of CMS use and faculty satisfaction with online teaching. Again, further research is needed to explain or refute these unexpected findings about technical factors. Possible avenues to explore include the relative attention to technology versus content, and the potentially motivational aspects of technical challenges: maybe there is a trade-off, where faculty who concentrate more on the technical aspects of teaching online do so at the expense of focusing on teaching, and end up with poorer results and lower satisfaction? Maybe faculty who are more proficient with technical factors might end up becoming bored, if the technology becomes too routine, and the lack of challenge turns into de-motivation? This is definitely a matter for future research.

 *Limitations*. The limitations of this exploratory study suggest a need for caution in interpreting either the presence or the absence of empirical support for our hypotheses. This was a cross-sectional study, mostly U.S.-centered and relying on self-reports. The relative scarcity of empirical studies about faculty satisfaction in online environments, quite noticeable when compared with the attention given to student satisfaction, represented both a constraint and an opportunity for this study. A significant limitation we faced was that we had to rely on several scales we developed ourselves: not enough effort has been devoted in the literature towards the development and validation of scales to measure faculty satisfaction in online environments (with the notable exception of Bolliger et al.’s 2014 Online Instructor Satisfaction Measure – OISM); and even less for scales to measure the factors that might influence.

On the other hand, the realization that the literature on faculty satisfaction with online teaching is still at an early stage -- typically offering small empirical studies that look at single faculty/multiple students, single institutions or single disciplinary areas – encouraged us to take a bolder stance. Even though our study was still of an exploratory nature, it examined multiple instructors and professors, in different career paths and stages, across multiple institutions of higher education and across multiple disciplinary areas. We hope that both the strengths and the limitations of our study will encourage others to further advance the exploration of the nature and antecedents of faculty satisfaction in online higher education – an under-researched but deeply relevant topic.

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| **TABLE 1** |
| ***Factor Loadings for Antecedents of Online Teaching Satisfaction Scales*** |
| Scale | Items | Loading |
| Training | I feel I have been adequately trained in: |  |
|  |  teaching in an online environment |  .86 |
|  |  the use of our course management system  |  .88 |
|  |  the use of other technology (e.g. voice threads, podcasts, etc.) |  .81 |
|  |  |  |
| Flexibility | I am satisfied with online teaching because: |  |
|  |  of the flexibility it provides with respect to my time management |  .76 |
|  |  it allows me to spend quality time with friends and family |  .84 |
|  |  it allows me to travel without missing work |  .80 |
|  |  it allows me to remain active regardless of health issues |  .84 |
|  |  |  |
| Organizational | I am satisfied with: |  |
|  Policies |  the student evaluation instrument we use for online courses |  .52 |
|  |  any special incentives I receive to teach online (e.g. pay, release time) |  .70 |
|  |  policies requiring on-campus presence by faculty |  .77 |
|  |  policies requiring online teaching by faculty  |  .83 |
|  |  policies requiring face-to-face teaching by faculty |  .67 |
|  |  my institution’s norms or expectations about how quickly I respond  |  .80 |
|  |  to online students  |  |
|  |  retention of intellectual property rights  |  .67 |
|  |  my ability to use the pedagogical model of my choice |  .47 |
|  |  the e-readiness of my students |  .62 |
|  |  |  |
| Technical  | I am satisfied with: |  |
|  Elements |  the statistics generated by our course management system  |  .54 |
|  |  firewall support |  .66 |
|  |  seamless integration with other devices such as mobile phones, etc |  .79 |
|  |  seamless transfer of computer files |  .69 |
|  |  accessibility from any browser (e.g. Internet Explorer, Safari, etc.) |  .64 |
|  |  support for streaming videos |  .79 |
|  |  support for sharing of social web sites like Facebook & Twitter |  .74 |
|  |  ability to create wikis & blogs |  .66 |
|  |  a choice of instructor-controlled security settings |  .63 |
|   |  maintaining the integrity of online exams  |  .55 |

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| **Table 1 (continued)** |
| ***Factor Loadings for Antecedents of Online Teaching Satisfaction Scales*** |
| CMS  | Please rate the ease of use of your Course Management Software  |  |
|  Ease of Use |  E-mail management  |  .70 |
|  |  File management |  .82 |
|  |  Use of online tutorials designed for faculty |  .75 |
|  |  Creation of online tutorials for students |  .73 |
|  |  Creating chat rooms |  .63 |
|  |  Creation of tests and quizzes  |  .71 |
|  |  Creation of groups |  .70 |
|  |  Assignment management |  .79 |
|   |  Gradebook management |  .78 |

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| **TABLE 2** |
| ***Data Descriptives and Correlations*** |
|   |   | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | Age |  4.64 |  1.12 |  |  |  |  |  |  |  |
| 2 | Sex |  .53 |  .50 |  .05 |  |  |  |  |  |  |
| 3 | Race |  .82 |  .38 |  .14 |  –.10 |  |  |  |  |  |
| 4 | Education |  3.86 |  .50 |  .04 |  –.04 |  .05 |  |  |  |  |
| 5 | Employed Full-time |  .87 |  .34 |  –.07 |  –.06 |  –.00 |  .17\* |  |  |  |
| 6 | Online Teaching Experience |  7.06 |  5.35 |  .38\*\*\* |  .18\* |  –.02 |  –.01 |  .04 |  |  |
| 7 | Training |  3.16 |  1.26 |  .06 |  .04 |  –.13 |  .02 |  –.08 |  .17\* |  |
| 8 | Flexibility |  3.50 |  1.05 |  –.08 |  –.09 |  –.09 |  –.06 |  –.11 |  .08 |  .25\*\*\* |
| 9 | Institutional Support |  3.05 |  1.15 |  .02 |  .10 |  –.07 |  –.02 |  –.13 |  .11 |  .72\*\*\* |
| 10 | Organizational Policies |  3.13 |  .89 |  –.10 |  .03 |  –.01 |  –.02 |  –.10 |  .00 |  .50\*\*\* |
| 11 | Technical Elements |  3.06 |  .87 |  .09 |  .08 |  –.09 |  –.01 |  –.06 |  .12 |  .52\*\*\* |
| 12 | CMS Ease of Use  |  3.49 |  .85 |  .12 |  .04 |  –.13 |  –.03 |  –.08 |  .14 |  .48\*\*\* |
| 13 | Satisfaction with Online Teaching |  3.04 |  .60 |  .01 |  –.03 |  –.14 |  .03 |  –.09 |  .27\*\*\* |  .42\*\*\* |
| \* p  .05. \*\* p .01. \*\*\*p  .001. |  |  |  |  |  |  |  |  |  |

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| **Table 2 (Continued)** |
| ***Data Descriptives and Correlations*** |
|   | 8 | 9 | 10 | 11 | 12 |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| *3* |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| 6 |  |  |  |  |  |
| 7 |  |  |  |  |  |
| 8 |  |  |  |  |  |
| 9 |  .37\*\*\* |  |  |  |  |
| 10 |  .37\*\*\* |  .69\*\*\* |  |  |  |
| 11 |  .16\* |  .61\*\*\* |  .53\*\*\* |  |  |
| 12 |  .24\*\*\* |  .55\*\*\* |  .41\*\*\* |  .67\*\*\* |  |
| 13 |  .49\*\*\* |  .43\*\*\* |  .36\*\*\* |  .18\* |  .30\*\*\* |
| \* p < .05. \*\* p < .01. \*\*\*p < .001. |  |

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| **TABLE 3** |
| ***Standardized Regression Coefficients Predicting Satisfaction*** |
| ***with Online Teaching*** |
| Step |  | Final β |
| 1 | Age |  –.01 |
|  | Sex |  –.06 |
|  | Race |  –.09 |
|  | Education |  .07 |
|  | Employed Full-time |  –.04 |
|  | Online Teaching Experience |  .19\*\* |
|  |  |  |
| 2 | Training |  .22\* |
|  | Flexibility |  .31\*\*\* |
|  | Institutional Support |  .08 |
|  | Organizational Policies |  .15 |
|  | Technical Elements |  –.26\*\* |
|  | CMS Ease of Use |  .16 |
|  |  |  |
|  | Overall Model F |  8.70\*\*\* |
|  |  Degrees of Freedom  | (12, 158) |
|  | Change in R2 at Step 2 |  .29 |
|   | Adjusted R2 |  .35 |
| \* p  .05. \*\* p .01. \*\*\*p  .001. |  |

1. The OLC was formerly known as Sloan’s Consortium [↑](#footnote-ref-1)