

## Teaching Online: Applying Need Theory to the Work–Family Interface

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### ABSTRACT

Using Warner and Hausdorf's (2009) framework, the authors empirically examined work–life balance and work outcomes among collegiate faculty teaching courses online. Quantitative and qualitative results from 138 online instructors demonstrated that basic psychological need satisfaction was related to higher levels of work–family enrichment, job satisfaction, performance, and intention to teach online courses again and lower levels of work–family conflict and stress. Work support was also related to job satisfaction, performance, and stress but was not related to work–family balance. These findings are important as universities are seeking ways to promote involvement with online education.

Universities have been pushing for research to examine learning outcomes and user satisfaction from a student perspective (Means et al. 2010) as a means to boost student enrollment and retention. Interestingly, however, far less is known about the experience of *instructors* teaching online, and existing research in traditional face-to-face classrooms may not generalize to online faculty. This is especially true given that many faculty teaching online are part-time adjuncts (Mandernach, Register, and O'Donnell 2015). More than two-thirds of academic institutions indicate that online learning is vital for their universities' long-term strategy (Allen and Seaman 2014). Thus, empirically examining the psychological effects of teaching online for faculty is of critical importance.

The twenty-four-hour classroom may blur the lines between work and home. It is unknown how teaching online impacts the well-being of instructors. Many stressors can be reduced by teaching courses online (e.g., childcare and commuting time), but a host of other stressors may be present in the home (e.g., children) or online environment (e.g., technology) that impact well-being. Although some research suggests the lack of structure traditional classrooms provide may be detrimental to online instructors (Oblinger and Hawkins 2006), other research argues that reducing external controls can foster well-being and growth (Ryan and Deci 2000). Therefore, the purpose of the present research is to examine faculty experiences with online education through the lens of the work–family interface.

### Theoretical background

#### *The work–family interface*

*Work–family conflict* occurs when the role demands stemming from one domain (work/family) are incompatible with the role demands from the other domain (family/work) (Greenhaus and Beutell 1985). Work can interfere with family (work-to-family conflict; WFC) and family can interfere with work (family-to-work conflict; FWC) (Frone, Russell, and Cooper 1992). For example, work-to-family conflict occurs when a parent cannot pick up a child from school due to working

late. On the other hand, family-to-work conflict occurs when a parent cannot attend an important meeting due to a sick child. In general, work–family conflict is negatively related to work- (Ernst Kossek and Ozeki 1998), family- (Frone, Russell, and Cooper 1992), and health- (T. D. Allen and Armstrong 2006) related outcomes. This is likely due to the notion that human energy is a limited resource, and the more roles one occupies the more chance there is for conflict (Goode 1960).

However, recent work suggests that multiple role memberships may in fact be beneficial. It is possible that the more roles one occupies, the more resources one has; thus, the more opportunities for energy to be recharged (Marks 1977). Greenhaus and Powell (2006) argued that resources gained in one role (e.g., work) enable improved performance in the other role (e.g., family). Similar to conflict, this can occur in both directions, such that work can benefit family (work-to-family enrichment; WFE) and family can benefit work (family-to-work enrichment; FWE). For instance, an employee may gain budgeting knowledge at his job, which positively impacts his family (work-to-family enrichment). Being with his family puts him in a positive mood, which leads to a more positive disposition at work (family-to-work enrichment). Research shows that enrichment is positively related to work- (e.g., commitment), family- (e.g., satisfaction), and health-related (e.g., stress) outcomes (McNall, Nicklin, and Masuda 2010).

### **Warner and Hausdorf's integrative framework**

Research consistently supports that conflict is detrimental and enrichment is beneficial for well-being. However, less is known about the *processes* by which conflict and enrichment occur. Warner and Hausdorf (2009) offer a framework suggesting that “involvement with family and work lead to instrumental and psychological benefits associated with each role” (378). More specifically, they propose that instrumental support, skill development, and income satisfaction at work are directly related to enhanced performance (*instrumental benefits*), whereas emotional support, competence, autonomy, and relatedness are directly related to enhanced affect (*psychological benefits*). Both performance and affect lead to higher levels of well-being and quality of life. Warner and Hausdorf call for more empirical research to test these tenets and the processes by which they operate. Therefore, in the present study we answer this call by specifically examining how psychological benefits associated with online teaching influence work–family enrichment and conflict.<sup>1</sup>

### **Psychological benefits**

#### **Need fulfillment**

Based on the tenets proposed by Warner and Hausdorf (2009), one potential reason that individuals experience more enrichment (and less conflict) may be through satisfaction of psychological needs. This is based on self-determination theory (SDT; Deci and Ryan 1987), which argues that people have innate tendencies toward psychological growth and development. The social context can support (or thwart) psychological growth through the fulfilment (or neglect) of the following:

- *Competence*: experience of effectiveness in dealing with one's environment;
- *Relatedness*: meaningful interaction and connectedness with others; and
- *Autonomy*: experience of control over one's behaviors in accord with interests and values.

Research shows that when psychological needs are met, individuals experience greater well-being (Deci and Ryan 2000), gravitate toward intrinsically enjoyable tasks (Ryan and Deci 2000), and perform better at work and school (Cerasoli, Nicklin, and Ford 2014).

<sup>1</sup>Warner and Hausdorf (2009) include fourteen tenets in their proposed framework. Testing all of them is outside the scope of the present study; we focus our efforts on the psychological benefits of work. We encourage interested readers to visit Warner and Hausdorf's full model on page 374.

According to the Warner and Hausdorf (2009) framework, dual roles provide the opportunity to impact needs for competence, autonomy, and relatedness, which in turn influence important work and family outcomes. Thus, instructors may experience decreased relatedness when teaching online because they lose face-to-face interaction with students and peers. However, getting to spend more time with family when working from home may offset this. Or, if the psychological needs are not met, it may create conflict between work and family roles. For example, in Senecal, Vallerand, and Guay's (2001) study, individuals reported less work–family conflict but only when they felt the employer fostered autonomy. Thus, the needs for competence, autonomy, and relatedness may help explain the process by which individuals experience work–family enrichment and conflict.

### **Support**

Another psychological benefit of work offered by Warner and Hausdorf (2009) is emotional support. Those who perceive the support of others may be less affected by resource drain (Hobfoll 2002) and able to transfer positive resources from one domain to another. Social support may reduce work–family conflict by reducing role pressures or acting as a buffer (Greenhaus and Beutell 1985). For instance, if an online instructor feels supported by a department chair and other colleagues, he/she may be less impacted by the stressors of balancing work and home. However, if the instructor does not feel supported by the department chair and others, he/she may become overwhelmed leading to more conflict and less enrichment. Although it has been shown that perceptions of support lead to enhanced well-being (e.g., Nicklin and McNall 2013) and decreased conflict (e.g., Ford, Heinen, and Langkamer 2007), this has not been examined specifically in the context of online teaching where perceptions of support may be especially relevant.

### **Present study and hypotheses**

We draw upon the Warner and Hausdorf (2009) framework to examine the influence of psychological benefits (competence, autonomy, relatedness, and support) on work–family enrichment and conflict. We then examine the relationship between enrichment and conflict with important work-related outcomes specific to those teaching online. Given their practical and theoretical importance, we focus on job satisfaction, stress, intent to teach again, and self-reported performance. These factors have been extensively examined among collegiate faculty and teachers in general but have not been explored as frequently among online instructors (e.g., Hagedorn 2000; Lin et al. 1985).

This research is important for several reasons. First, Warner and Hausdorf (2009) call for more research examining the processes outlined in their framework. They also suggest that by incorporating conflict we “allow for an alternative understanding of past conflict relationships” (380). Warner and Hausdorf further assert that by considering psychological needs we may unlock “a deeper understanding of the mechanisms involved in one’s experience” (381). Perhaps most important, we are applying a model of work–family balance to online instructors, which to our knowledge has never been done. Johnson, Stewart, and Bachman (2013) recently recommended that research specifically address the concepts of “autonomy, competence, and relatedness to determine how fulfillment of these basic psychological needs will influence sustained participation in online education” (12). Taken together, we are addressing several calls for more research examining factors associated with work–family balance and specifically for those instructors teaching online.

Based on the aforementioned theory (Deci and Ryan 2000; Warner and Hausdorf 2009) and research (Senecal, Vallerand, and Guay 2001), we expect that the needs for competence, autonomy, and relatedness will negatively impact work–family conflict and positively impact work–family enrichment. We also expect that work support is negatively related to conflict and positively related to enrichment (Greenhaus and Beutell 1985; Hobfoll 2002). More formally, we propose the following:

**Hypothesis 1:** Psychological need satisfaction is negatively related to (a) WFC and (b) FWC and positively related to (c) WFE and (d) FWE for online instructors.

**Hypothesis 2:** Work support is negatively related to (a) WFC and (b) FWC and positively related to (c) WFE and (d) FWE for online instructors.

Given that human energy is a limited resource, the more roles one occupies the more opportunity there is for conflict (Goode 1960). However, it is also likely that multiple roles create more resources, thus leading to enhanced well-being (Greenhaus and Powell 2006). Thus, based on previous theory and empirical research (Frone, Russell, and Cooper 1992; Greenhaus and Beutell 1985; McNall, Nicklin, and Masuda 2010), we predict the following:

**Hypothesis 3:** WFC and FWC are negatively related to (a) job satisfaction, (b) intent to teach, and (c) performance and (d) positively related to stress.

**Hypothesis 4:** WFE and FWE are positively related to (a) job satisfaction, (b) intent to teach, and (c) performance and (d) negatively related to stress.

Furthermore, it is likely that need satisfaction and work support act as resources gained, which enrich the experience of work and family, thus resulting in better outcomes for online instructors (e.g., Greenhaus and Powell 2006). Empirical research also supports enrichment as a mediating mechanism linking resources and outcomes (e.g., Nicklin and McNall 2013; Wayne et al. 2013). However, given the lack of research integrating the aforementioned constructs, we propose the following research questions:

**Research Question 1:** Do WFE and FWE mediate the relationship between resources and outcomes for online instructors?

**Research Question 2:** Do WFC and FWC mediate the relationship between resources and outcomes for online instructors?

## Method

### *Participants and procedures*

Online instructor e-mail addresses ( $N = 700$ ) were obtained from public directories available on the web where it was indicated that instructors taught online. Participants were contacted via e-mail asking for participation in a study concerning experiences with online teaching. Of the 700 individuals recruited, 23 e-mails bounced back. Of the remaining 677, 163 responded; of the 163, 154 indicated that they were currently teaching at least one class online. Sixteen participants did not complete the majority of the survey and were removed from the analysis, leaving a sample size of 138 (final response rate 19.71%).

The majority of the sample was female (71.7%) and Caucasian (94.2%), with a mean age of 51.71,  $SD = 10.26$ . More than half of the participants indicated being married (68.80%) and 41.30% indicated having at least one child under the age of eighteen living at home. Eighteen percent ( $n = 25$ ) of participants reported being responsible for caring for an older parent. Most participants identified as “traditional instructors” teaching online courses (44.2%), whereas 35.5% were primarily online instructors, 12.3% were “split” between the two, and 8% indicated being applied professionals who were also teaching online. Participants represented a variety of disciplines.

### *Instruments*

An online survey using SurveyMonkey was utilized. First, participants were presented with a series of questions assessed on a Likert-type scale. Then, participants were given the opportunity to respond to a series of open-ended items.

## **Quantitative measures**

All quantitative measures were assessed on a 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-type scale unless otherwise noted. Reliability information (coefficient alpha) is located in [Table 1](#) on the diagonal.

### **Conflict**

WFC and FWC were both assessed using three items adopted from Netemeyer, Boles, and McMurrian (1996). An example of a WFC item is, “The demands of online teaching interfere with my home and family life.” An example of FWC is, “Things I want to do for my online classes don’t get done because of the demands of my family.”

### **Enrichment**

WFE and FWE were both assessed using three items adapted from the measure established by Carlson et al. (2006). An example of a WFE item is, “My involvement in online teaching provides me with a sense of accomplishment and this helps me be a better family member.” An example FWE is, “My involvement in my family requires me to be more focused and this helps me be a better instructor online.”

### **Need satisfaction**

Psychological need satisfaction was assessed with items adopted from the Basic Psychological Need Satisfaction at Work Scale (La Guardia et al. 2000). Four items were used to assess each of the three needs established by SDT (competence, autonomy, and relatedness) and were assessed on a 1 (*never true*) to 7 (*always true*) Likert-type scale. Example items include, “I feel like I am free to decide for myself how to get my work done when teaching online” (autonomy), “I really like the people I interact with when teaching online” (relatedness), and “I have been able to learn interesting new skills when teaching online” (competence).

### **Work support**

Support from department chairs, colleagues, and staff was assessed using items adapted from Siu et al. (2010) regarding how often participants receive support from supervisors, colleagues, and support staff on helpful information, sympathetic understanding, clear and helpful feedback, and practical assistance, respectively. This was measured on a 1 (*never*) to 6 (*all the time*) Likert-type scale. An example item is, “When teaching online, how often do you receive practical assistance from your colleagues?”

### **Job satisfaction**

Satisfaction with teaching online was assessed with three items adapted from Spector et al. (2007). For example, “In general, I like teaching online.”

### **Job stress**

Stress associated with teaching online was assessed with five items adapted from Bernas and Major (2000). For example, “I feel stress by teaching online.”

### **Intent to teach online**

Intent to teach online again was assessed with two items constructed by the authors and used in previous research. For example, “I intend to teach online again after this semester.”

### **Job performance**

Job performance was measured with six self-report items on a Likert-type scale constructed by the authors and used in previous research. For example, “The quality of my work teaching online is top notch.”



**Table 1.** Descriptive statistics, intercorrelations, and alpha coefficients.

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. BPNS	5.25	0.78	.81	.67**	.81**	.84**	.34**	.24**	.31**	.20*	-.29**	-.38**	.41**	.26**	.60**	-.47**	.26**	.55**
2. Autonomy	5.33	0.86	.57	.29**	.42**	.42**	.17	.11	.014	.12	-.35**	-.33**	0.15	.03	.31**	-.52**	.17*	.23**
3. Readiness	4.80	1.12	.70	.53**	.32**	.22**	.32**	.22**	.33**	.16	-.11	-.23**	.30**	.26**	.37**	-.23**	.13	.43**
4. Competence	5.62	1.02	.77	.77	.28**	.28**	.28**	.27**	.23**	.17*	-.25**	-.35**	.49**	.30**	.71**	-.40**	.32**	.63**
5. Work support	3.67	0.94			.90	.77**	.90	.77**	.79**	.68**	-.16	-.07	.10	.12	.32**	-.28**	.08	.18*
6. Chair support	3.35	1.37				.94	.94	.94	.44*	.23**	-.15	-.14	.12	.17*	.33**	-.34**	.06	.16
7. Coeague support	3.84	1.22					.94	.94	.95	.33**	-.09	-.06	-.02	.01	.20*	-.13	.08	.11
8. Staff support	3.82	1.20						.94	.94	.06	-.10	.06	.11	.06	.17*	-.12	.04	.12
9. WFC	3.36	1.65								.64**	-.09	.06	.11	.06	.38**	.66**	-.20*	-.02
10. FWC	2.73	1.38								.92	-.14	.07	-.23**	.01	-.38**	.53**	-.19*	-.19*
11. WFE	4.32	1.13									.82	.65**	.82	.65**	.45**	-.35**	.22**	.30**
12. FWE	4.64	1.11										.85	.82	.85	.31**	-.15	.22*	.27**
13. Job satisfaction	6.00	1.19													.91	-.45**	.52**	.54**
14. Stress	3.11	1.38														.92	-.24**	-.14
15. Intent to teach	6.66	0.59															.64	.30**
16. Performance	5.81	0.80																.79

Note. N = 138. BPNS = basic psychosocial need satisfaction; WFC = work-family conflict; FWC = family-work conflict; FWE = work-family enrichment; FWE = family-work enrichment.

\*p < .05. \*\*p < .01. Alpha coefficients are located along the diagonal.

## Qualitative items

Given that this research was exploratory in nature, we asked participants to respond to the following open-ended items to gain additional information about their experiences teaching online:

- (1) Why do you teach courses online?
- (2) What challenges do you face when you teach online courses?
- (3) How does teaching online affect your personal/family life?
- (4) How does teaching online affect your professional development?
- (5) Do you have any recommendations for first-time online instructors?
- (6) Do you have any other thoughts, feelings, or concerns about teaching online?

## Analyses

First, the data were carefully screened in accordance with the recommendations of Tabachnick and Fidell (2012). Then we used Pearson- $r$  to examine Hypotheses 1–4. Pearson- $r$  is appropriate when dealing with *relationships* between two quantitative variables. Finally, to test the research questions concerning mediation, we utilized Baron and Kenny's approach (Baron and Kenny 1986; Judd and Kenny 1981). The following four steps establish that mediation exists:

- (1) Show that the causal variable is correlated with the outcome.
- (2) Show that the causal variable is correlated with the mediator.
- (3) Show that the mediator affects the outcome variable.
- (4) To establish that M completely mediates the X–Y relationship, the effect of X on Y controlling for M should be zero.

After employing the Baron and Kenny technique, we used the Sobel approach to test for mediation. The Sobel test is very conservative; thus it is a useful additional indicator to assess mediation. Finally, we employed thematic analysis to assess our qualitative data. More details regarding this analytic technique are included in the subsequent sections.

## Results

### Hypotheses

In support of Hypothesis 1, basic psychological need satisfaction was significantly ( $p < .01$ ) negatively related to WFC ( $r = .29$ ) and FWC ( $r = -.38$ ) and positively related to WFE ( $r = .41$ ) and FWE ( $r = .26$ ). However, contrary to Hypothesis 2, overall work support was not significantly related to the work–family variables. Examination of the different sources of support revealed that only chair support was significantly related to FWE ( $r = .17, p < .05$ ). Thus, it appears that need satisfaction is an important resource for online instructors but work support is not, supporting Hypothesis 1 but not Hypothesis 2.

In response to Hypotheses 3 and 4, WFC was significantly related to job satisfaction ( $r = -.38, p < .01$ ), intent to teach again ( $r = -.20, p < .05$ ), and stress ( $r = .66, p < .01$ ) but was not related to performance. FWC was significantly related to job satisfaction ( $r = -.35, p < .01$ ), intent to teach again ( $r = -.19, p < .05$ ), stress ( $r = .53, p < .01$ ), and performance ( $r = -.19, p < .05$ ). WFE was significantly ( $p < .01$ ) related to job satisfaction ( $r = .45$ ), intent to teach again ( $r = .22$ ), stress ( $r = -.35$ ), and performance ( $r = .30$ ). FWE was significantly related to job satisfaction ( $r = .31, p < .01$ ), intent to teach again ( $r = .22, p < .05$ ), and performance ( $r = .27, p < .01$ ) but was not related to stress. Therefore, Hypotheses 3 and 4 were mostly supported.

## Research questions

The research questions concerned whether enrichment and conflict play a mediating role between resources and outcomes. Because work support was not related to enrichment or conflict, we explored only need satisfaction. Using the steps outlined by Baron and Kenny (1986), we first explored Research Question 1. Table 1 demonstrates that basic psychological need satisfaction was significantly related to the four outcome variables (step 1) and that it was significantly related to WFE and FWE (step 2). Table 2 shows that WFE was a significant predictor of job satisfaction and stress controlling for need satisfaction, but FWE was not (step 3). Furthermore, when WFE was added the effect of need satisfaction on job satisfaction and stress was reduced but still significant, indicating partial mediation (step 4). It should be noted that we chose to examine WFE and FWE together because of the shared variance between the constructs.

To address Research Question 2, we first verified that steps 1 and 2 were met (Table 1). Table 3 shows that WFC was a significant predictor of job satisfaction, stress, and performance controlling for basic psychological need satisfaction, but FWC was not (step 3). Furthermore, when WFC was added, the effect of need satisfaction on the aforementioned outcomes was reduced but still significant, indicating partial mediation (step 4).

## Qualitative analysis

In order to expand our quantitative findings, we employed *thematic analysis* to assess our qualitative data. According to Braun and Clarke (2006), “thematic analysis is a method for identifying, analyzing, and reporting patterns (themes) within data. It minimally organizes and describes data in (rich) detail” (79). We followed Braun and Clark’s six-phase approach:

- (1) Familiarization with the data,
- (2) Generation of initial codes,
- (3) Searching for themes,

**Table 2.** Mediation analysis for research Question 1.

	Outcome variables										
	Job satisfaction			Stress			Performance			Intention to teach again	
	$\beta$	<i>t</i>	Sobel	$\beta$	<i>t</i>	Sobel	$\beta$	<i>t</i>	$\beta$	<i>t</i>	
Step 1											
BPNS	.60	8.67**		.47	6.27		.553	7.75	.26	3.15	
Step 3											
BPNS	.50	6.83**		.40	4.88		.519	6.68	.21	2.27*	
WFE	.23	2.84*	2.24*	.27	2.51	2.33*	.01	.07	.06	.51	
FWE	.03	.30		.12	1.27		.14	1.51	.12	1.16	

Note.  $N = 138$ . The Sobel test is only provided when there is evidence of mediation. BPNS = basic psychological need satisfaction overall; WFE = work family enrichment; FWE = family work enrichment;

\* $p < .05$ . \*\* $p < .01$ .

**Table 3.** Mediation analysis for research Question 2.

	Outcome variables										
	Job satisfaction			Stress			Performance			Intention to teach again	
	$\beta$	<i>t</i>	Sobel	$\beta$	<i>t</i>	Sobel	$\beta$	<i>t</i>	Sobel	$\beta$	<i>t</i>
Step 1											
BPNS	.60	8.67**		.47	6.27**		.55	7.75**	.26	3.15**	
Step 3											
BPNS	.53	7.32		.29	4.48**		.58	7.75**	.22	2.41*	
WFC	.22	2.50*	2.05*	.52	6.76**	3.15**	.22	2.40*	1.99*	1.11	
FWC	.01	.07		.08	1.04		.11	1.16	.03	.24	

Note.  $N = 138$ . The Sobel test is only provided when there is evidence of mediation. BPNS = basic psychological need satisfaction overall; WFC = work family conflict; FWC = family work conflict.

\* $p < .05$ . \*\* $p < .01$ .

- (4) Reviewing themes,
- (5) Defining themes, and
- (6) Naming themes.

Themes were generated for each individual question, and then they were used to identify overall themes. Four overall themes were identified from our qualitative data:

- (1) *Learning opportunity*: centered on the participants' reasoning for teaching online courses. The theme highlighted the participants' justification for engaging in this method of instruction and how the experience affected their professional development, such as learning new skills sets, discovering new ways to present material, and being motivated to keep up to date with technology.
  - (2) *Classroom involvement*: referred to the advantages and disadvantages of online instruction. It included challenges with engaging students and identifying students who may not fully understand the material. This theme also included the belief that the physical isolation from campus and the lack of face-to-face interaction breed a lack of appreciation toward instructors and a greater need for outside support (technical, professional, peers, and higher university officials). For instance, some comments included thoughts about how the impersonal nature of online teaching may influence fulfillment of course requirements and how the inability to get in touch with technical support negatively impacts the class.
  - (3) *Personal responsibility*: encompassed both negative and positive impacts of online teaching. The negative aspects of this theme referred to time management; the inability to separate work from home; and self-imposed deadlines for grading, feedback, and answering questions. The positive aspect of the third theme referred to schedule flexibility. This third theme also included the need for preparation, organization, and personal discipline.
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- (1) *Match teaching and learning styles*: related to the idea that online courses and instruction are not for everyone. This theme also referred to the misconception of the easiness of online courses and online teaching being less of a time commitment than the traditional classroom setting.

## Discussion

### Summary of findings

Using the Warner and Hausdorf (2009) theoretical framework, this study sought to examine the influence of psychological benefits on work–family conflict and enrichment for online instructors. We also strived to understand how conflict and enrichment influence workplace outcomes. Consistent with Hypothesis 1 and complementary to Warner and Hausdorf's model, need satisfaction is an important psychological benefit for online instructors. Contrary to Hypothesis 2 and previous research (Ford, Heinen, and Langkamer 2007; Greenhaus and Beutell 1985), work support is not. This may be due to the fact that in an online environment, work support is less salient, and therefore less important, than other psychological benefits for work–family balance constructs. Interestingly however, a closer look at Table 1 shows that work support is significantly positively related to job satisfaction and performance and negatively related to stress. The qualitative analysis (theme 2) also points to support as an important factor on the minds of online instructors. Thus, work support may be important but less so for family-related concerns.

Consistent with Hypotheses 3 and 4, perceptions of work–family conflict and enrichment are related to a number of work-related outcomes, including job satisfaction, intent to teach again, stress, and performance. Our qualitative analyses (namely, theme 3) also draw attention to the

impact of work–family balance for teaching online. Instructors consistently mentioned issues surrounding difficulty separating work from home yet also appreciate the schedule flexibility associated with online teaching. These results highlight the need for promoting enrichment and reducing conflict to augment positive work outcomes for online instructors. It should also be noted that, in general, the relationships were stronger for the work-to-family direction rather than the family-to-work direction. This is consistent with previous research showing that the domain providing the benefit (e.g., work) is more strongly related toward outcomes related to that domain compared with the receiving domain (e.g., family; McNall, Nicklin, and Masuda 2010). Finally, the results of our mediation analysis suggest that WFE and WFC may be important mechanisms linking psychological need satisfaction and work outcomes, namely, job satisfaction and stress. However, the direct effects between need satisfaction and outcomes remained strong, highlighting the importance of psychological need satisfaction for online instructors. To further support this, the findings of the qualitative analysis (theme 1) specifically point to learning opportunities and professional development as a reason for online teaching. By offering opportunities to challenge and develop instructors, colleges may be enhancing instructors' psychological needs (namely, competence), thereby impacting a number of important outcome variables. Nevertheless, this finding is the first to demonstrate that work–family conflict and enrichment are important mechanisms linking psychological benefits to workplace outcomes for online instructors.

### ***Limitations and future directions***

Given that this study was self-report and cross-sectional in nature, future research would benefit from exploring psychological benefits and work–family balance among online instructors using longitudinal designs. Additional insights to changes in motivation and need satisfaction have been found over time in existing research (e.g., Cerasoli and Ford 2014). This would also allow for exploring causal mechanisms linking need satisfaction and outcomes as this study cannot determine directionality given the correlational nature. Future researchers might also consider obtaining course evaluations or student performance indices as more objective measures of performance. Another limitation was that we examined only need satisfaction at work and work outcomes. A more comprehensive study should include need satisfaction at home and family-related outcomes.

We chose to combine autonomy, competence, and relatedness into a single measure of psychological need satisfaction because we did not have a compelling theoretical rationale for why one need would be more important for online instructors. Also, an exploratory factor analysis demonstrated some overlap among the constructs and the alpha coefficients of the separate scales were moderate at best. Future researchers may want to use different measures of need satisfaction that appropriately capture the purported constructs and explore how they are differentially related to enrichment and conflict. For instance, Johnson, Stewart, and Bachman (2013) recently developed and validated a scale measuring intrinsic and extrinsic motivation for teaching online. Future research would benefit from developing measures of need satisfaction for online instructors.

### ***Implications for theory and practice***

Despite the aforementioned limitations, the present research was preliminary in nature and lays the groundwork for future research: (a) combining need satisfaction and work–family theories and (b) focusing on the implications of work–family dynamics for online instructors. We answered Warner and Hausdorf's (2009) call for applying need-type theories to the work–family interface. Although not a direct test of their model, our findings offer support for their tenets and offer suggestions for future work. We also answered Johnson, Stewart, and Bachman's (2013) call to specifically examine psychological needs for online instructors. Perhaps our greatest contribution is in demonstrating that among online instructors psychological need satisfaction is critical for enhanced job satisfaction,

performance, intent to teach again, and reduced stress. In some instances, this was weakened by the presence of enrichment and conflict, but a direct effect was typically present. The qualitative analysis also revealed opportunities for learning to be of critical importance for online instruction. This highlights the need for universities and colleges to find ways of promoting competence, autonomy, and relatedness among online faculty. Providing feedback and learning opportunities to promote competence and creating an online community to enhance relatedness are good places to start.

It should also be noted that although work support was not related to work–family conflict or enrichment as predicted, it was indeed related to job satisfaction, performance, and stress. This was also apparent in the qualitative analysis. Therefore, consistent with enhancing the need for relatedness, universities and colleges must make sure there are measures in place to enhance perceptions of support for online faculty. This may include twenty-four-hour IT service, online communities, or one-on-one chair meetings.

Furthermore, we encourage university personnel to provide online faculty with resources for reducing conflict and promoting enrichment between work and home. For instance, when academic institutions provide options for affordable childcare, this could lessen the burden on online instructors. Human resources should also provide practical recommendations for how to appropriately balance work and life for those specifically teaching online. However, much of the responsibility of work–life balance does indeed fall on the individual instructor; therefore, it is important for faculty to have clear expectations and support from family and institutional members. Finally, in light of our findings, we encourage both instructors and administrators to consider the personal needs of the faculty. Although teaching online might be a good option for some (because of flexibility for family, for example), it may not be a good fit for all instructors.

## Conclusion

Research examining the experience of online instructors is critical. Colleges and universities are placing increasing strategic importance on online education, but little is known about the very instructors who are responsible for the success of online courses. Our research is among the first to empirically demonstrate a link between online instructors' experience of work–family balance and outcomes (satisfaction, stress, turnover, and performance). This is also the first study to demonstrate the importance of psychological need satisfaction and support from university personnel. Simply put, when individuals have better work–life balance, feel supported, and have their psychological needs met, they are likely to be more satisfied and perform at higher levels for the institutions than when they do not. Our results suggest institutions of higher learning may be able to improve performance and satisfaction in online classes by focusing on the experiences of instructors, not just student outcomes.

## Acknowledgments

An earlier version of this manuscript was presented at the 2014 meeting of the Society for Industrial and Organizational Psychologists in Honolulu, Hawaii. We thank three anonymous reviewers for their helpful suggestions.

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