

Work-Family Boundary Permeability and Bidirectional Work-Family Conflict among Construction Professionals in the United Arab Emirates: An Exploratory Cross-Sectional Study

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Abstract: ***Background:** Construction professionals often work under deadline and availability pressures, yet evidence from the United Arab Emirates (UAE) on the two directions of work-family conflict remains limited. This exploratory study distinguished work-to-family conflict ($W \rightarrow F$) from family-to-work conflict ($F \rightarrow W$) and examined their associations with work demands, role blurring, family-domain strain, and perceived support. **Methods:** A cross-sectional online survey of consenting construction professionals working in the UAE yielded 47 analytic responses. Five-point composite measures assessed work demands, role blurring, household strain, family-time strain, social restriction, psychosomatic symptoms, three sources of support, $W \rightarrow F$, and $F \rightarrow W$. Pearson correlations and two parsimonious linear-regression models were used. Findings are association estimates only. **Results:** $W \rightarrow F$ was modestly higher than $F \rightarrow W$ (means 2.72 and 2.41, respectively, on five-point scales). Work demands correlated positively with $W \rightarrow F$, but role blurring was the clearer adjusted correlate when both were entered together. Household strain and family-time strain each remained positively associated with $F \rightarrow W$ in their joint model. Supervisor and partner support were inversely correlated with both conflict directions; the evidence for co-worker support was less precise. The two regression models explained about one-third of the variation in their respective outcomes. **Conclusions:** The results are consistent with a bidirectional account of work-family conflict in this participating UAE construction sample. Boundary permeability appears particularly relevant to $W \rightarrow F$, while household and family-time strain appear relevant to $F \rightarrow W$. Given the small, non-probability, predominantly male and married sample and the cross-sectional self-report design, replication with a larger, more diverse, preregistered study is essential before drawing causal or sector-wide conclusions.*

Keywords: work-family conflict; boundary permeability; construction professionals; expatriate workforce; social support; United Arab Emirates

1. Introduction

Work-family conflict describes incompatibility between work and family role demands. Boundary Theory treats role transitions as boundary crossings and positions roles along a segmentation-integration continuum; greater integration may reduce transition magnitude but increase role blurring and make boundary maintenance more difficult. This framework is relevant to contemporary project work, where after-hours messaging, digital coordination, and unresolved deadlines can sustain work's psychological presence during family time.

The construct is directional. $W \rightarrow F$ concerns work requirements interfering with family responsibilities; $F \rightarrow W$ concerns family demands disrupting work concentration, availability, energy, or performance. This distinction has both theoretical and practical value because a work-side antecedent need not have the same relation to the two outcomes as a family-side antecedent. The meta-analytic evidence base is consistent with this domain-matching expectation: work role stressors and workplace support are antecedents of $W \rightarrow F$, whereas family role stressors and family/spousal support are antecedents of $F \rightarrow W$.

Construction is an informative setting in which to examine these processes. A large online study of South African construction professionals found that work pressure and work hours related to $W \rightarrow F$ directly and through role blurring; household task demands and young children

related to $F \rightarrow W$; and partner support related inversely to $F \rightarrow W$. Those findings are not UAE evidence, and no claim is made that they transfer unchanged across national and occupational contexts. They nevertheless motivate examining work demands, role blurring, household strain, family-time strain, and support in a UAE-based professional sample.

The present study therefore addressed three exploratory questions: (a) whether work demands and role blurring were associated with $W \rightarrow F$; (b) whether household and family-time strain were associated with $F \rightarrow W$; and (c) whether perceived co-worker, supervisor, and partner support showed different associations with each outcome. It was expected that work demands and role blurring would correlate positively with $W \rightarrow F$, household and family-time strain would correlate positively with $F \rightarrow W$, and support would correlate inversely with conflict. These were association hypotheses, not causal hypotheses.

2. Methods

2.1 Design and participants

The study used an exploratory, cross-sectional online survey. The target population was construction professionals working in the UAE. Recruitment used non-probability purposive sampling. Of 50 exported records, three non-consenting or blank records were excluded, leaving 47 consenting analytic cases. The sample was predominantly

male (44/47) and married (44/47); age was available as a plausible numeric value for 44 cases (mean 40.18 years, standard deviation 8.06; range 25–65). Participants reported engineering, design, supervision, site or construction management, architecture, project management, QA/QC, HSE, and quantity-surveying roles.

2.2 Measures

All core items used five-point agreement or frequency response scales. Work demands covered work pace, workload, long hours, schedule unpredictability, deadlines, after-hours availability, and exhaustion. Role blurring covered out-of-hours messages, difficulty disconnecting at home, digital interruptions of family time, work thoughts at home, overlapping roles, and technology-related boundary difficulty. Household strain and family-time strain measured household-task load and insufficient quality family time, respectively. The survey also separated co-worker, supervisor, and partner support; support was not treated as a single undifferentiated resource. Direction-specific WFC outcomes used separate five-item W→F and F→W sets. The survey's item map documents the construct domains and response formats.

The measure set was adapted for this study and assessed internal consistency in the participating sample. It was not subjected to confirmatory factor analysis, measurement-invariance testing, or independent cultural validation. These are limitations, not claims of measurement equivalence.

2.3 Analysis

Records without consent and blank records were excluded. Questionnaire-export revision artefacts included duplicate labels and blank columns; only populated, substantively labelled items in the documented item map were scored. "Not applicable" partner-support responses were treated as missing, so partner-support analyses used 44 cases. Composite reliability, descriptives, Pearson correlations, and two prespecified parsimonious ordinary-least-squares models were calculated: W→F was modelled using work demands and role blurring, and F→W using household and family-time strain. Given the sample size, the models were intentionally limited and no mediation, moderation, causal, or prevalence inference was attempted.

3. Results

3.1 Scale properties and descriptive findings

Internal consistency was high for the principal composites (Cronbach's alpha .87–.96 for role blurring, household strain, family-time strain, social restriction, psychosomatic symptoms, W→F, and F→W) and .79–.89 for the three support scales. Mean work demands were 3.38 (SD 0.78), role blurring 2.99 (SD 0.90), W→F 2.72 (SD 1.02), and F→W 2.41 (SD 0.84).

Work demands correlated positively with W→F ($r = .44$), and role blurring had a stronger positive correlation with W→F ($r = .57$). Household strain and family-time strain correlated positively with F→W ($r = .47$ and $.48$, respectively). Supervisor and partner support were inversely correlated with both outcomes, whereas correlations for co-worker support did not reach conventional statistical significance in this sample.

3.2 Primary regression models

The W→F model containing work demands and role blurring explained 32.3% of outcome variation. Role blurring showed a positive adjusted association with W→F ($B = 0.57$, 95% CI [0.17, 0.97]), whereas the adjusted work-demand estimate was imprecise and compatible with no unique association after role blurring entered the model ($B = 0.10$, 95% CI [−0.36, 0.57]).

The F→W model containing household and family-time strain explained 30.0% of outcome variation. Household strain ($B = 0.29$, 95% CI [0.02, 0.57]) and family-time strain ($B = 0.27$, 95% CI [0.03, 0.51]) were each positively associated with F→W.

These tables and figures report an exploratory cross-sectional analysis of 47 consenting respondents. They are not population estimates and should be verified against the final cleaned dataset before submission.

Table 1: Sample characteristics and descriptive statistics

Construct	n	M (SD) / %	Cronbach's α
Male	47	44 (93.6%)	—
Married	47	44 (93.6%)	—
Age (years)	44	40.18 (8.06); range 25–65	—
Work demands	47	3.38 (0.78)	.90
Role blurring	47	2.99 (0.90)	.92
Household strain	47	2.52 (0.88)	.91
Family-time strain	47	3.32 (1.01)	.89
W→F conflict	47	2.72 (1.02)	.96
F→W conflict	47	2.41 (0.84)	.94

Note. Composite scores range from 1 to 5; higher scores indicate more of the named construct. The age summary excludes three implausible/non-numeric entries. The sample was non-probability and predominantly male and married.

Table 2: Primary regression models predicting direction-specific work–family conflict

Outcome	Predictor	B	SE	95% CI	p
W→F conflict	Work demands	0.10	0.23	[−0.36, 0.57]	.654
W→F conflict	Role blurring	0.57	0.20	[0.17, 0.97]	.006
F→W conflict	Household strain	0.29	0.14	[0.02, 0.57]	.039
F→W conflict	Family-time strain	0.27	0.12	[0.03, 0.51]	.030

Note. W→F model: $R^2 = .323$, adjusted $R^2 = .293$, $F(2, 44) = 10.51$, $p < .001$. F→W model: $R^2 = .300$, adjusted $R^2 = .269$, $F(2, 44) = 9.45$, $p < .001$. B = unstandardized coefficient. These estimates are cross-sectional associations.

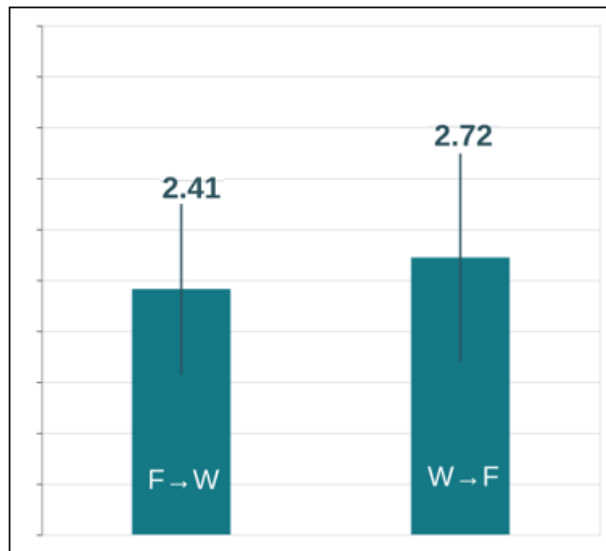


Figure 1: Mean direction-specific work-family conflict scores

Note. Bars show sample means; whiskers show ± 1 SD, not confidence intervals. W→F = work-to-family conflict; F→W = family-to-work conflict.

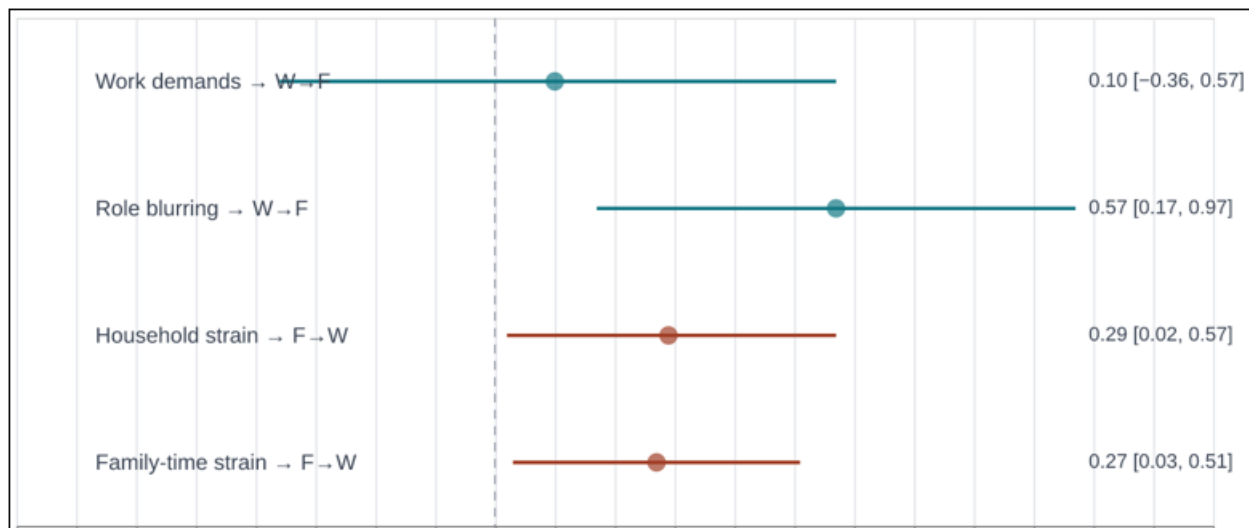


Figure 2: Adjusted associations in the two primary regression models

Note. Points are unstandardized regression coefficients; lines show 95% confidence intervals. The dashed vertical line denotes zero. W→F = work-to-family conflict; F→W = family-to-work conflict.

4. Discussion

This pilot study does not establish the prevalence, causal structure, or population distribution of WFC among UAE construction professionals. It does, however, provide preliminary evidence that the two directions of conflict should not be collapsed in this setting. The adjusted pattern was compatible with the study's direction-specific logic: role blurring was more clearly associated with W→F in the work-domain model, whereas household and family-time strain were both associated with F→W in the family-domain model.

The W→F pattern is plausible within Boundary Theory. Work's intrusion into non-work time may be experienced through calls, messages, inability to disengage, and persistent work-related thought rather than through aggregate workload alone. The construction study by Zhang and Bowen reported a comparable role for role blurring, but

its substantially larger South African sample and structural-equation design cannot be treated as a direct replication of the present UAE findings.

The inverse correlations between supervisor and partner support and the two WFC directions should not be read as intervention effects. They may reflect practical flexibility, shared household work, perceived relational quality, lower conflict, or common-method influences. The distinction among support sources nevertheless offers a useful hypothesis for future studies: supervisors may shape scheduling, leave, and norms of availability, while partners may shape the division and management of household responsibilities.

Strengths and limitations

The study separates W→F and F→W, measures several potentially modifiable work-family mechanisms, and focuses on an under described UAE-based professional

setting. Its limitations are substantial. The non-probability sample was small, heavily male and married, and cannot estimate UAE-sector prevalence. Cross-sectional self-report data leave temporal ordering and common-method bias unresolved. Composite reliability is not evidence of construct validity or cross-cultural measurement equivalence. The questionnaire was adapted and contained export artefacts requiring transparent data management. Finally, the reported estimates were selected from small parsimonious models; they should be replicated rather than used to rank determinants or make causal policy claims.

Implications and future research

The most defensible practical implication is to investigate—rather than assume the effect of—organizational practices that protect non-work time: clear escalation pathways for urgent after-hours contact, realistic workload planning, task coverage, and supervisor training on family-responsive flexibility. The next study should use a preregistered, multi-company sampling strategy; a larger and more diverse sample; validated direction-specific measures; objective or multi-source work indicators; and repeated measurements. Such a design could assess whether boundary conditions precede $W \rightarrow F$ and whether changes in household strain or support predict subsequent $F \rightarrow W$.

5. Conclusion

Among 47 participating UAE construction professionals, role blurring showed the clearest adjusted association with $W \rightarrow F$, whereas household and family-time strain were associated with $F \rightarrow W$. The study's value lies in posing an empirically testable, direction-specific model for an underdescribed work setting. Its findings should be treated as exploratory evidence requiring independent replication.

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