

## Family Role Performance: Scale Development and Validation

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We conducted five interlocking studies to develop and validate a family role performance scale that can be used across cultures. In Study 1, we generated scale items based on interviews with individuals representing various family and work structures in the United States and Israel. In Study 2, we surveyed both US and Israeli participants to assess measurement equivalence, dimensionality, and reliability. In Study 3, we refined the items and repeated the exploratory analyses. In Studies 4 and 5, with samples from the United States and Europe, we confirmed the scale dimensionality and established convergent, discriminant, and nomological validity. We contribute to the work-family literature by providing a valid instrument for assessing performance within the family domain.

### INTRODUCTION

During the last few decades, changes in the nature and structure of work and family domains have led to a plethora of research in the areas of the work–

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family interface, including work–family conflict and facilitation and work–life balance (Greenhaus & Allen, 2011; Rothausen, 1999) and family-friendly organisational policies (Cook, 2009; Lambert, 2000). The underlying assumption common across these streams of research is that work and family are not discrete domains. Indeed, the two (along with other dominant life domains) are intertwined in such a way that what happens in one domain is likely to affect what happens in the other (Kanter, 1977). Although the interplay among life domains ultimately has implications for individuals, families, and organisations, most organisational scholars have focused on work-related outcomes, including employee attitudes and behaviors and organisational performance (Cook, 2009; O’Driscoll, Poelmans, Spector, Kalliath, Allen, Cooper, & Sanchez, 2003). Work–life interface researchers have tended to pay less attention to family-related outcomes (Amstad, Meier, Fasel, Elfering, & Semmer, 2011). Given the potential for spillover, an *intra-individual* contagion process that occurs across contexts, and crossover, an *inter-individual* contagion process that occurs within or across contexts but generates similar reactions in another individual (Westman, 2001), we contend that family-related experiences and outcomes are just as important as work-related experiences and outcomes.

Hampering research on family-related outcomes has been the lack of reliable and valid measures. In particular, while the construct of work role performance has been well developed (e.g. Welbourne, Johnson, & Erez, 1998), organisational researchers have not devoted much attention to comparable indicators of performance in the family domain. In contrast, researchers in the areas of sociology and family/marriage have conceptualised family performance in various forms, including the performance of household chores (Anderson & Robson, 2006; Devreux, 2007; Gupta, 2006), parental or childcare activities (Devreux, 2007; Gorman & Kmec, 2007), quality of partner and parent–child interactions (Carlson & McLanahan, 2006; Greenhaus & Powell, 2006), relationship with other family members and the degree to which family members cooperate and share responsibilities (Carlson, Kacmar, Wayne, & Grzywacz, 2006), marital quality and child outcomes (Greenhaus & Powell, 2006), and various aspects of family functioning, such as family cohesion, family flexibility, and family communication (Bandura, Caprara, Barbaranelli, Regalia, & Scabini, 2011; Behnke, MacDermid, Coltrane, Parke, Duffy, & Widaman, 2008; Olson, 1993). In addition, Epstein, Bishop, Ryan, Miller, and Keitner (2003) maintained that a primary function of the family is to provide a setting for the development and maintenance of family members on the social, psychological, and biological levels.

Based on our extensive review of this body of literature (see Appendix A for a summary of the literature), however, we note that there is no consensus about what constitutes family performance. Furthermore, the few measures

used to tap family performance are very general and sometimes quite ambiguous. For example, Carlson and Grzywacz (2007) asked, "On average, how often do you feel you fulfill your family responsibilities?" Similarly, Kossek, Colquitt, and Noe (2001) measured family performance using the following items, "I am viewed by my family as doing an exceptional job at home", and "My family thinks what I do at home is outstanding." However, it is not clear to respondents what these family responsibilities are.

Therefore, the purpose of this study is to attempt to bring some order to these disparate measurement approaches and develop a theoretically based and psychometrically sound measure of family performance. Adopting a mixed qualitative-quantitative approach (Bryman, 2006), we conducted five interlocking studies to develop our measure of family role performance. In Study 1, we held 26 in-depth interviews with Israeli and US respondents to delineate the family role performance criterion space and generate items. In Study 2, with 367 respondents from Israel and the US, we used exploratory factor analysis (EFA) to examine the factor structure of the family role performance items and to reduce and refine the scale. In Study 3, with a sample of 30 clients from a European relocation company, we modified the scale to enhance reliability and content validity. Drawing on a sample of 158 alumni of a European business school, in Study 4 we confirmed the factor structure and assessed criterion-related convergent and discriminant validity. Finally, in Study 5, we established the nomological validity of family role performance using data from a sample of 200 US business travelers.

To develop a measure that can be used across diverse cultural samples, we systematically selected our samples for each phase of the validation process. To generate items for the scale, we interviewed individuals in both the United States and Israel. Although we realise that Americans and Israelis perceive the work and family domains differently (e.g. Israelis tend to be more communal and family-oriented than Americans), we focused on identifying those aspects that are similar across cultures. Also, because the US is culturally heterogeneous and Israel is more homogeneous, we were able to tap into a wider range of perspectives. And, with both countries having a well-educated workforce, we were able to get participants who were able to articulate their family experiences. Subsequent samples that were used to validate the scale included participants from diverse cultural backgrounds, including the US, Israel, and various countries in Europe and Asia.

This series of studies makes several contributions to the literature. First, we respond to the call by work-family researchers by considering dependent variables relevant to family processes and family functioning (Allen, Herst, Bruck, & Sutton, 2000; Glass & Finley, 2002). Thus, we contribute to the performance literature in general by extending the criterion domain to consider forms of performance other than those that are explicitly related to work. Second, the development and validation of a measure of family role

performance will allow organisational researchers to more systematically consider the influence of the work–family interface (both conflict and facilitation) on family-based outcomes. Theoretically, the family role performance measure will also allow researchers to empirically examine spillover effects with respect to work and family role performance. Third, we developed and validated the family role performance scale using data which included respondents from diverse cultural backgrounds. Thus, our study aims at offering a conceptualisation with wider applicability and providing a more comprehensive and culturally balanced perspective on family role performance which also answers a recent call by scholars (e.g. Powell, Francesco, & Ling, 2009) to explore the influence of culture on work-family research.

### STUDY 1: CONSTRUCT DEVELOPMENT AND ITEM GENERATION

The purpose of Study 1 was to conceptualise family role performance and generate items to assess it. Following established methods for developing and validating scales (e.g. Carlson & McLanahan, 2006; Hinkin, 1995), we began with a constitutive definition of family role performance as *the fulfillment of obligations and expectations stemming from the roles associated with participation in the family domain*. This definition is grounded in role identity theory, which posits that an individual's view of self is formed in relation to a specific set of social expectations (Thoits & Virshup, 1997). Individuals have multiple role identities (e.g. spouse, parent, employee, friend) and these identities reflect distinct sets of contexts (e.g. family or work) that are characterised by particular interpersonal relationships (Stryker, 1980). Based on this perspective, we anticipated that family role performance would include responsibilities and behaviors associated with several different roles, including partner, parent, child, household manager, etc. Our definition of family role performance is also consistent with prevailing definitions of employee performance that focus on the fulfillment of job duties rather than associated outcomes such as promotion or salary increases (e.g. Roth, Purvis, & Bobko, 2012). And, similar to work performance, we anticipated that family role performance would comprise both task (i.e. getting things done) and relationship (i.e. facilitating the psycho-social context) forms of performance (e.g. Fay & Sonnentag, 2010; Van Scotter & Motowidlo, 1996).

To generate items to assess family role performance, we conducted in-depth interviews with Israeli ( $n = 15$ ) and US respondents ( $n = 11$ ) who represented a diverse array of family structures (e.g. married/in a committed relationship/single, with/without children, traditional/dual-earner). We intentionally identified two different cultures with distinct family norms at this stage in order to identify a common core of performance indicators that would broadly generalise to diverse cultural samples. Given the exploratory

nature of this stage of the research, the sample size was deemed suitable for gaining preliminary insights into the issues of interest and generating suitable items for the measurement development procedure (Denzin & Lincoln, 1994). Before the interviews, respondents completed a short questionnaire in which we collected demographic data. Among the 26 interviewees, the average age was 40 years old, 17 were men and nine were women, 15 of them were living in Israel and the rest of them were living in the US. The majority (73%) of the interviewees were married and 85 per cent were employed. The interviews, which lasted about 15 to 30 minutes, were conducted in either Hebrew or English. Using a funnel approach (Kvale, 2007), questions were arranged from general to specific and the interviewers (two of the authors) followed an interview guide (see Appendix B), allowing for probing questions when appropriate.

All interviews were transcribed *verbatim*, and the Israelis' transcripts (conducted in Hebrew) were translated into English by an expert bi-lingual transcriptionist. The interview transcripts were then reviewed and content analyzed by four of the authors. Each of these four authors independently read over the interview transcripts and generated a list of descriptions based on single words, phrases, or paragraphs that captured the concept of family role performance (Strauss & Corbin, 1990). Based on this initial list of descriptions, all authors went through several iterations of side-by-side comparison, following recommended procedures (e.g. De Vellis, 2003) by considering both prior research and our chosen theoretical underpinning of family role performance. An item was retained when all authors reached consensus about its relevance to family role performance. Redundant items were discarded and the remaining items were revised to improve item readability (including issues such as length, reading level, and grammar) and content clarity (including content deficiency, content redundancy, and face validity) (Worthington & Whittaker, 2006), yielding an initial pool of 17 items (see Table 1).

Based on the organisational performance literature, we classified the 17 items that we generated from our interviews into two separate categories. The first category is family role task performance, which refers to those aspects of the "job" (being a parent, spouse, child) that are expected. This is similar to in-role performance within organisations. The second category comprises items reflecting social support, including behaviors whereby individuals provide emotional, evaluative, informational, and instrumental support, as well as quality of interactions and communication. This second category, which we label family role relationship performance (e.g. respect family members' time, spend quality time with family members), is conceptually similar to extra-role or contextual work performance. To summarise, the 17 items generated from the interviews represent family role performance items that go beyond prior conceptualisations of family performance by including

TABLE 1  
The Initial Family Role Performance Scale Derived from Interviews

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*Task performance*

1. Do household chores?
2. Maintain things around the home?
3. Handle financial matters in your family?
4. Contribute to your family financially?
5. Participate in childcare (if applicable)?

*Relationship performance*

6. Spend quality time with family members?
  7. Organise family activities?
  8. Communicate with your family members?
  9. Provide emotional support to your family members?
  10. Provide general support to your family members?
  11. Give advice to family members?
  12. Participate in family activities?
  13. Keep family members connected with each other?
  14. Respect your family members' time and space?
  15. Express your affection to other family members?
  16. Make decisions and solve problems together with your family members?
  17. Help care for family members when they are sick?
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task items about household chores (Anderson & Robson, 2006) and relationship items about the quality of family member interactions and communications (Carlson & McLanahan, 2006; Olson, 1993).

## STUDY 2: INITIAL ASSESSMENT OF THE SCALE'S FACTOR STRUCTURE

The goal of Study 2 was to examine the factor structure of the family role performance scale. We used exploratory factor analysis (EFA) to examine the extent to which the 17 items loaded on the same construct category they were expected to represent as outlined in Study 1 and to identify poor performing items as a means of further reducing the item pool. Although making inferences regarding internal reliabilities based on scales derived from a factor analysis is not recommended (De Vellis, 2003), we followed the commonly accepted practice and calculated Cronbach alphas for the task and relationship performance scales as an initial assessment of the internal consistency of the items

### Data Collection and Sample

In this study, we surveyed respondents from the US ( $n = 211$ ) and Israel ( $n = 165$ ). We collected the US sample using Zoomerang, an online data collection

panel that offers participants reward points after they complete the survey. The average age of US respondents was 43.7 years old, 42 per cent were male, 85 per cent were married, 64 per cent with children, and the average length in their current relationship was 18.4 years. For the Israeli sample, two of the authors collected data from MBA students in a major university in Israel using paper and pencil surveys. The average age of Israeli respondents was 28.9 years old, 68 per cent were male, 87 per cent were married, 8 per cent with children, and the average length in their current relationship was 2.3 years.

## Measures

In this study, we used the 17 items generated in Study 1 to measure family role performance. Participants were asked to rate the extent to which they fulfill what is expected of them in terms of different aspects of their current family life using a 5-point Likert-type scale from 1 (Do not fulfill expectations at all) to 5 (Fulfill expectations completely). For the Israeli sample, a bi-lingual expert translated the questionnaires from English to Hebrew, and then another bi-lingual translator translated them back to English to verify the accuracy of the translation. All inconsistent items were discussed and resolved with the Israeli researchers.

## Analysis and Results

Before carrying out the EFA, we assessed the equivalence of the family role performance items using LISREL VIII (Jöreskog & Sörbom, 1993). Because the surveys were administered in the native language of the targeted populations (i.e. English and Hebrew), we needed to establish measurement equivalence across the locations (Riordan & Vandenberg, 1994). This procedure is necessary because items not loading across countries may have inappropriate translations or a unique meaning in comparison countries (Janssens, Brett, & Smith, 1995). We used the covariance structure approach to account for measurement error of the latent constructs (Bollen, 1989). Following procedures described by Riordan and Vandenberg (1994), we tested whether the form of the factor models for family role performance was the same across the US and Israeli samples (the one-factor model) and for equality in scaling across samples (the equal factor model). As shown in Table 2, the results of the equivalence tests meet guidelines for acceptability. In the one-factor model, the standardised root-mean-square residual (SRMR) was .05, the non-normed fit index (NNFI) was .94, the comparative fit index (CFI) was .91, and the root-mean-square error of approximation (RMSEA) was .07. In the model specifying equal factor loadings, SRMR dropped to .25, NNFI dropped to .75, CFI dropped to .76, and RMSEA dropped to .16. Although the chi-square

TABLE 2  
Equivalence of Measures Tests for Family Role Performance Variables (Study 2)

<i>US—Israel</i>									
Variables	<i>One factor</i>				<i>Equal factor</i>				$\Delta\chi^2$
	SRMR	NNFI	CFI	RMSEA	SRMR	NNFI	CFI	RMSEA	
Family Role Performance	0.05	0.94	0.91	.07	0.25	0.75	0.76	.16	144

differences were significant, all the fit indexes were generally satisfactory in themselves, given the sensitivity of LISREL VIII to departures from normality in the data. Following the recommended guidelines of Peterson et al. (1995) and Dorfman, Howell, Hibino, Lee, Tate, and Bautista (1997), we concluded that the SRMR, NNFI, CFI, and RMSEA results were consistent with general norms of good fit.

We entered all 17 items into an EFA with oblique rotation. After a couple of iterations, we dropped items based on low item loadings, and cross loadings (Worthington & Whittaker, 2006). Table 3 displays the factor loadings of the EFA results based on our original 17 items. Items 1, 2, 3, and 4 loaded on one factor (factor 1) and items 6, 9, 10, 11, 13, 14, and 17 loaded on another factor (factor 2); all these items had loadings of at least .53 on their primary factor (Worthington & Whittaker, 2006). As anticipated, and similar to previous researchers who categorise work role performance into task and contextual performance domains, results from our EFA analyses also presented the same dichotomous dimensionality. Factor 1 represents *family role task performance* and factor 2 represents *family role relationship performance*. The two factors accounted for 58.0 per cent of the total variance in the items, and Cronbach alphas were .70 and .91 for family role task and relationship performance, respectively.

Given the age, gender, and cultural differences between the US and Israeli samples in this study, we conducted two separate post-hoc EFAs to investigate whether the factor loadings are invariant between the two samples. The factor loadings of both samples (as shown in Table 4) are generally invariant (except item 12, which represents a significant factor loading for the relationship performance dimension in the Israeli sample), which suggests that sample characteristics do not have a significant influence on participants' responses.

### STUDY 3: MODIFICATION OF THE SCALE'S ITEMS

In a traditional scale development project, we would have finalised the item specification process with the retention of the 11 items that cleanly loaded on



TABLE 3  
Results of EFA for Family Role Performance in Study 2

<i>Item</i>	<i>Factor 1</i>	<i>Factor 2</i>
1. Do household chores	0.531	0.267
2. Maintain things around the home	0.596	0.205
3. Handle financial matters in your family	0.729	-0.091
4. Contribute to your family financially	0.792	-0.101
5. Participate in childcare (if applicable)	0.235	0.286
6. Spend quality time with family members	-0.039	0.814
7. Organise family activities	0.313	0.195
8. Communicate with family members	0.188	0.277
9. Provide emotional support to your family members	0.028	0.847
10. Provide general support to your family members	0.121	0.821
11. Give advice to family members	-0.078	0.842
12. Participate in family activities	0.246	0.219
13. Keep family members connected to each other	-0.130	0.869
14. Respect your family members' time and space	0.163	0.722
15. Express your affection to other family members	0.266	0.385
16. Make decisions and solve problems together with your family members	0.247	0.211
17. Help care for family members when they are sick	0.086	0.710

two identifiable factors. However, because internal reliability estimates of constructs derived from exploratory factor analyses tend to be inflated (De Vellis, 2003), we were concerned about the relatively low internal consistency estimate for the family role task performance dimension. Therefore, we added three items that we had originally identified from Study 1 but omitted because of similarity with existing items (i.e. complete household responsibilities, do tasks around the house, and fulfill my family duties). In addition, we reflected on the relatively lower response to the item about childcare. Although this item did not load on either factor, we realised that it did not necessarily pertain to all family members. In addition, as the goal of our scale is to provide a universal measure that can be used across a wide range of family role identities, we decided that the two finance-related items (handle financial matters in your family, contribute to your family financially) should also be removed.

Recognising that the addition and removal of these items might affect the factor structure of our newly established scale, we collected additional data from an independent sample of 30 clients of a European relocation service company. The average age of respondents was 38.9 years old, 68 per cent were male, 74 per cent were married, 55 per cent with children, and they came from 13 different countries.

We conducted an EFA on 12 items, including the nine items retained from Study 2 and the three additional task performance items. Table 5 displays the

TABLE 4  
Results of EFAs for Family Role Performance (US and Israeli Samples in Study 2)

<i>Item</i>	<i>Factor 1 (US)</i>	<i>Factor 2 (US)</i>	<i>Factor 1 (Israel)</i>	<i>Factor 2 (Israel)</i>
1. Do household chores	.654	.319	.625	.099
2. Maintain things around the home	.703	.262	.773	.011
3. Handle financial matters in your family	.652	.080	.758	.090
4. Contribute to your family financially	.682	.081	.676	-.001
5. Participate in childcare (if applicable)	.315	.210	.046	-.055
6. Spend quality time with family members	.202	.784	.273	.422
7. Organise family activities	.355	.325	.225	.378
8. Communicate with family members	.171	.862	.041	.759
9. Provide emotional support to your family members	.271	.802	.105	.704
10. Provide general support to your family members	.360	.780	.155	.565
11. Give advice to family members	.164	.772	.111	.689
12. Participate in family activities	.362	.359	-.029	.687
13. Keep family members connected to each other	.111	.826	.026	.747
14. Respect your family members' time and space	.319	.690	-.053	.490
15. Express your affection to other family members	.264	.355	-.065	.300
16. Make decisions and solve problems together with your family members	.217	.368	.041	.314
17. Help care for family members when they are sick	.312	.648	.006	.549

TABLE 5  
Results of EFA for Family Role Performance in Study 3

	<i>Factor 1</i>	<i>Factor 2</i>
1. Do household chores	<b>.932</b>	-.001
2. Maintain things around the home	<b>.929</b>	.099
3. Complete household responsibilities	<b>.964</b>	.064
4. Do tasks around the house	<b>.927</b>	.196
5. Fulfill my family duties	.379	.485
6. Spend quality time with family members	.170	<b>.845</b>
7. Provide emotional support to your family members	.021	<b>.961</b>
8. Provide general support to your family members	.069	<b>.927</b>
9. Give advice to family members	-.259	<b>.893</b>
10. Keep family members connected with each other	-.011	<b>.878</b>
11. Respect your family members' time and space	.221	.784
12. Help care for family members when they are sick	.270	.765

factor loadings. Items 1, 2, 3, and 4 loaded on one factor (task performance) and items 6, 7, 8, 9, 10, 11, and 12 loaded on another factor (relationship performance). To develop a parsimonious scale and to maintain balance between the two factors, we decided to keep the four task performance items (items 1, 2, 3, 4) and the four relationship performance items with the highest loadings (items 7, 8, 9, 10). The reduced set of eight items (as shown in Table 5 in bold font) was used in Studies 4 and 5 for construct validation.

#### STUDY 4: CONVERGENT AND DISCRIMINANT VALIDATION

The purpose of Study 4 is to validate the family role performance scale by establishing convergent and discriminant validity. Convergent validity refers to strong correlations between new scales and existing ones that supposedly assess the same or similar constructs (Bryant, 2000). To demonstrate convergent validity of the family role performance scale, we compared the correlation estimates between the two types of family role performance and theoretically related constructs such as family role adjustment, family role engagement, and family resources based on Lazarova, Westman, and Shaffer's (2010) model of the work–family interface on international assignments. Family role adjustment represents the degree of comfort with various aspects of one's family role (Lazarova et al., 2010). We expect that individuals who feel comfortable about their family roles should be more effective family members. Researchers (e.g. Rothbard, 2001) have argued that there are two dimensions of role engagement: attention and absorption. The atten-

tion component represents the cognitive availability and the amount of time one spends thinking about a role, while the absorption component refers to a sense of intensity of concentration and being engrossed in work. We would expect that individuals who engage with their family roles should invest more physical, emotional, and cognitive energies into their family roles (Kahn, 1990), thus having a higher level of family role performance. Lastly, as family resources (e.g. support from family members) can stimulate individuals' motivation to participate fully in their role (Llorens, Bakker, Schaufeli, & Salanova, 2006), we also expect that family resources will be positively related to family role performance. To conclude, we expect the relationship between family role performance and existing theoretically related ones to be strong. Thus, we hypothesise:

*Hypothesis 1:* Family role performance (task and relationship) will be significantly and positively correlated with family role adjustment, family role engagement, and family resources.

Discriminant validity demonstrates that a construct is conceptually distinct from and less correlated with conceptually dissimilar constructs (Campbell & Fiske, 1959). In general, an individual's family role performance should not be simply reflected by his/her work role adjustment or work role engagement (both attention and absorption dimensions). It is possible that individuals' perceived comfort at work and their physical, emotional, and cognitive investment in their work role can spill over to their family life. But this does not necessarily imply that individuals' work role adjustment and work role engagement will definitely spill over (either positively or negatively) to their family role performance as long as they can strike a balance between their work and family roles. In addition, given that individuals should be responsible for certain family role expectations across their lifespan and their gender, we also anticipate that a valid measure of family role performance would be unrelated to an individual's age and gender. Thus, we predict:

*Hypothesis 2:* Family role performance (task and relationship) will be distinct from work role adjustment, work role engagement, age, and gender.

## Data Collection and Sample

To assess convergent and discriminant validity, we collected data from EMBA alumni ( $n = 158$ ) of a European business school. The average age of these respondents was 37.7 years old, 79 per cent were male, 79 per cent were married, 68 per cent with children, and they originally came from 20 different countries in Europe and Asia.

## Measures

To assess *work role adjustment*, we used a modified 10-item scale originally developed by Black and Stephens (1989). While the idea of multidimensionality of the adjustment construct (i.e. work, interaction, and general adjustment) has been widely embraced and used by researchers, some researchers (e.g. Lazarova et al., 2010; Thomas & Lazarova, 2006) have raised concerns about the ambiguity of the interaction adjustment items because they refer to interactions with people both within the work domain and the general environment. Thus, we incorporated interaction adjustment items specific to the work domain into our work role adjustment scale. Respondents were asked to indicate the extent to which they are comfortable with different aspects of their work; sample items for work role adjustment were “My specific job responsibilities” and “Communications among my colleagues (e.g. co-workers, direct reports)”. Respondents rated each item on a 7-point Likert-type scale from 1 (not at all comfortable) to 7 (extremely comfortable).

For *work role engagement*, we used a nine-item scale developed by Rothbard (2001). Participants were asked to provide responses using a 7-point Likert-type scale with anchors from 1 (strongly disagree) to 7 (strongly agree). Rothbard’s (2001) work role engagement scale includes two dimensions: attention and absorption. A sample item for work role engagement—attention was “I focus a great deal of attention on my work.” A sample item for work role engagement—absorption was “I often get carried away by what I am working on.”

*Family role adjustment* was measured using a 10-item scale we specifically developed for this study. Participants were asked to rate the extent to which they feel comfortable with the aspects of their family life by using a 7-point Likert-type scale ranging from 1 (not at all comfortable) to 7 (extremely comfortable). Sample items for family role adjustment were “The amount of time I spend with family members” and “My participation in family activities and tasks”.

To assess *family role engagement*, we modified a nine-item scale originally developed by Rothbard (2001) to measure work role engagement by revising all items to reflect the family domain. Participants were asked to provide responses using a 7-point Likert-type scale with responses ranging from 1 (strongly disagree) to 7 (strongly agree). In line with Rothbard’s (2001) original scale, our modified family role engagement scale also includes two dimensions: family role attention and family role absorption. A sample item for family role attention was “I spend a lot of time thinking about my family.” A sample item for family role absorption was “When I am focusing on family, I am completely engrossed.”

To measure *family resources*, we used a modified 12-item scale, with sub-dimensions of *emotional* and *instrumental support*, originally developed by

King, Mattimore, King, and Adams (1995) for assessing work resources. A sample item for family emotional support was “When something is bothering me, I can share it with my family members.” A sample item for family instrumental support was “Members of my family cooperate with me to get things done.” Participants were asked to rate their relationship with their family members by using a 5-point Likert-type scale from 1 (never) to 5 (always).

*Family role performance* was measured using the eight-item scale we developed in the previous studies and which included two dimensions: family role task performance and family role relationship performance. Participants were asked to rate the extent to which they fulfill what is expected of them in terms of different aspects of their current family life using a 5-point Likert-type scale from 1 (do not fulfill expectations at all) to 5 (fulfill expectations completely).

## Analyses and Results

With data from 158 alumni of a European business school, we first conducted a more stringent assessment of the factor structure via confirmatory factor analysis (CFA) using AMOS 20.0 (Arbuckle, 2011). The eight family role performance items obtained in Study 3 were used for the CFA and the hypothesised two-factor model was compared with the alternative one-factor model in which all the family role performance items were combined to load on a single factor. CFA results showed that the two-factor model has a better fit (chi-square = 27.3, RMSEA = .05, CFI = .99, NNFI = .98, SRMR = .04) than the one-factor model (chi-square = 309.9, RMSEA = .29, CFI = .63, NNFI = .73, SRMR = .19). The comparison between the two-factor and the one-factor models also showed a significant chi-square difference ( $\Delta\chi^2 = 282.6, p < .001$ ). In sum, the CFA analyses suggested that the hypothesised two-factor model more accurately represents the data than does the one-factor model. Thus, our final scale of family role performance (see Table 6) comprises eight items and consists of two subscales: family role task performance (four items) and family role relationship performance (four items).<sup>1</sup>

To demonstrate convergent validity of the family role performance scale, we compared the correlation estimates (see Table 7) between the two types of family role performance and theoretically related constructs such as

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<sup>1</sup> The psychometric properties for the four-item family role task performance and seven-item family role relationship performance scale are available upon request. The inter-item correlation matrix of the family role performance scale developed in this study is also available upon request.

TABLE 6  
Family Role Performance Scale

- 
1. Do household chores (task)
  2. Maintain things around the home (task)
  3. Complete household responsibilities (task)
  4. Do tasks around the house (task)
  5. Provide emotional support to your family members (relationship)
  6. Provide general support to your family members (relationship)
  7. Give advice to family members (relationship)
  8. Keep family members connected with each other (relationship)
- 

Question: To what extent do you think you fulfill what is expected of you in relation to the following aspects of your current family life?

Scale: 1 = Do not fulfill expectation at all to 5 = Fulfill expectation completely.

family role adjustment (family role task performance:  $r = .34, p < .01$ ; family role relationship performance:  $r = .68, p < .01$ ), family role engagement—attention (family role task performance:  $r = .13, ns$ ; family role relationship performance:  $r = .35, p < .01$ ), family role engagement—absorption (family role task performance:  $r = .33, p < .01$ ; family role relationship performance:  $r = .29, p < .05$ ), family emotional support (family role task performance:  $r = -.02, ns$ ; family role relationship performance:  $r = .37, p < .01$ ), and family institutional support (family role task performance:  $r = .08, ns$ ; family role relationship performance:  $r = .36, p < .01$ ). In general, our two subscales of family role performance were moderately to highly correlated with all these constructs, demonstrating convergent validity and supporting Hypothesis 1.

The two types of family role performance also showed discriminant validity as their correlation estimates (see Table 7) with theoretically dissimilar constructs such as work role adjustment (family role task performance:  $r = .05, ns$ ; family role relationship performance:  $r = .18, p < .05$ ), work role engagement—attention (family role task performance:  $r = .10, ns$ ; family role relationship performance:  $r = -.05, ns$ ), work role engagement—absorption (family role task performance:  $r = .02, ns$ ; family role relationship performance:  $r = .01, ns$ ), and demographic variables such as age (family role task performance:  $r = .09, ns$ ; family role relationship performance:  $r = -.02, ns$ ) and gender (family role task performance:  $r = .03, ns$ ; family role relationship performance:  $r = .04, ns$ ) were small to medium in magnitude (Cohen, 1988), ranging from .01 to .18 (absolute value). These results supported Hypothesis 2.

## STUDY 5: NOMOLOGICAL VALIDITY

An important step in developing a valid instrument is to propose and examine a nomological network of variables related to the construct of

TABLE 7<sup>a</sup>  
Means, Standard Deviations, Reliabilities, and Intercorrelations for European Business School Alumni Sample (N = 158)

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1 Work role adjustment	5.32	0.88	(.89)											
2 Work role engagement (attention)	5.81	1.14	.20*	(.92)										
3 Work role engagement (absorption)	4.56	1.28	.21*	.46**	(.94)									
4 Family role adjustment	3.49	0.77	.04	-.22*	-.15	(.93)								
5 Family role engagement (attention)	5.41	1.05	.08	-.10	-.06	.43**	(.91)							
6 Family role engagement (absorption)	4.86	1.28	.22*	-.15	.23*	.09	.38**	(.92)						
7 Family resources (emotional support)	3.77	1.02	.10	-.07	-.07	.41**	.25**	.16	(.94)					
8 Family resources (institutional support)	3.71	1.09	.09	-.10	.01	.54**	.11	.04	.79**	(.91)				
9 Family role task performance	3.50	0.84	.05	.10	.02	.34**	.13	-.10	-.02	.08	(.91)			
10 Family role relationship performance	3.69	0.73	.28*	-.05	.01	.68**	.35**	.03	.37**	.36**	.38**	(.94)		
11 Age	37.74	5.68	-.25	.21	.11	.06	-.05	-.30*	-.18	-.22	.09	-.02	-	
12 Gender (male = 0, female = 1)	1.21	0.41	.10	-.06	.15	-.25*	.04	.31**	.01	-.20	.03	.04	-.19	-

<sup>a</sup> Reliabilities (Cronbach's alpha), when available, are indicated in parentheses along the diagonal.  
†  $p < .1$ ; \*  $p < .05$ ; \*\*  $p < .01$ .



interest (Cronbach & Meehl, 1955). Nomological validity involves the extent to which the constructs fit into a theoretically based network of relationships (Netemeyer, Bearden, & Sharma, 2003). In effect, nomological validation and model testing can be simultaneously achieved. To serve this dual purpose, we draw upon the Job Demands-Resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) as an overarching framework in developing our nomological network.

According to the JD-R model, resources can stimulate an individual's motivation to participate fully in their various roles and dedicate their efforts and abilities to a particular task (Llorens et al., 2006). Indeed, several scholars (e.g. Christian, Garza, & Slaughter, 2011; Lazarova et al., 2010) have consistently proposed a positive relationship between resources and engagement. We draw upon Rothbard's (2001) conceptual framework and view an individual's role engagement as their willingness to employ and express themselves in a particular role; it involves the investment of the individual's physical, emotional, and cognitive energies in role performance. In the work domain, numerous studies based on the JD-R model have demonstrated that work resources, such as feedback and supervisory support, predicted work role engagement (Demerouti et al., 2001; Mauno, Kinnunen, & Ruokolainen, 2007). Similarly, we expect that comparable family resources such as emotional support (e.g. family members can cheer me up) and instrumental support (family members can help me to get things done) from family members can induce individuals to become more engaged in their family role. Thus, we predict:

*Hypothesis 3:* Family resources (emotional support and instrumental support) are positively related to family role engagement.

Based on the JD-R model, engagement has been argued to be a proximal antecedent of performance (Bakker & Demerouti, 2007). Indeed, recent studies have linked work engagement with a spectrum of performance-related outcomes such as task performance (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007), performance rated by supervisors (Rich, Lepine, & Crawford, 2010), commitment (Hakanen, Schaufeli, & Ahola, 2008), and contextual-based forms of performance such as organisational citizenship behavior (Rich et al., 2010). As discussed in previous sections, evidence exists to suggest that, in the work domain, resources are positively related to engagement and engagement is positively related to performance. In short, the logic mentioned above suggests that the relationship between resources and performance is mediated by engagement. Applying this logic to the family domain, individuals who receive family resources are able to invest more time and energy (i.e. to engage in their family roles). The allocation of

effort and energy to these roles contributes to effective performance in the family domain. Thus, we hypothesise:

*Hypothesis 4:* Family role engagement is positively related to family role performance (task and relationship).

*Hypothesis 5:* Family role engagement mediates the relationship between family resources and family role performance (task and relationship).

## Data Collection and Sample

For nomological network validity analysis, we collected data from a Zoomerang sample (an online data collection panel) of US business travelers ( $n = 200$ ). Participants receive reward points after they complete the survey. The average age of these respondents was 46.5 years old, 55 per cent were male, 92 per cent were married, the average length in their current relationship was 2.3 years, 87 per cent had at least a college degree, and 90 per cent took at least one business trip every year.

## Measures

For this study, we used the same variables as in Study 4. We also controlled for respondents' age and gender, with age measured in terms of number of years old and gender coded as 0 = male and 1 = female. Descriptive statistics and correlations are presented in Table 8. In general, all the measures we used demonstrated acceptable internal reliabilities.

## Analysis and Results

The descriptive statistics and correlations for this sample are presented in Table 8. To test nomological validity, we used structural equation modeling (SEM). First, confirmatory analysis was undertaken to evaluate the model fit for both the measurement and structural models including six latent variables (family resources: emotional and instrumental; family role engagement: attention and absorption; family role performance: task and relationship). This six-factor measurement model provided a good fit (chi-square = 551.7, RMSEA = .06, CFI = .95, NNFI = .93, SRMR = .06). The structural model based on our proposed nomological network also showed a good fit (chi-square = 591.9, RMSEA = .05, CFI = .94, NNFI = .94, SRMR = .05).

Path coefficients showed that family emotional support predicted both forms of family role engagement (attention:  $\beta = .33$ ,  $p < .01$ ; absorption:  $\beta = .25$ ,  $p < .01$ ) but not family instrumental support (attention:  $\beta = .04$ ,  $p > .10$ ; absorption:  $\beta = .13$ ,  $p > .05$ ), which partially supported Hypothesis

TABLE 8<sup>a</sup>  
Means, Standard Deviations, Reliabilities, and Intercorrelations for US Business Travelers Sample (N = 200)

<i>Variables</i>	M	SD	1	2	3	4	5	6	7	8
1 Family resources (emotional support)	3.57	.92	(.91)							
2 Family resources (institutional support)	3.31	1.00	.56**	(.91)						
3 Family role engagement (attention)	5.58	1.06	.36**	.13	(.94)					
4 Family role engagement (absorption)	4.88	1.34	.34**	.30*	.64**	(.93)				
5 Family role task performance	3.92	0.74	.15*	.03	.33**	.22**	(.89)			
6 Family role relationship performance	4.01	0.74	.34**	.30**	.59**	.38**	.46**	(.88)		
7 Age	46.50	13.28	-.06	-.13	.05	-.19**	.14*	.21**	-	
8 Gender (male = 0, female = 1)	0.44	0.50	.10	.05	.12	.14*	-.03	.05	-.08	-

<sup>a</sup> Reliabilities (Cronbach's alpha), when available, are indicated in parentheses along the diagonal.

†  $p < .1$ ; \*  $p < .05$ ; \*\*  $p < .01$ .

3. Family role engagement—attention was positively related to both forms of family role performance (task performance:  $\beta = .29, p < .01$ ; relationship performance:  $\beta = .51, p < .01$ ) but not family role engagement—absorption (task performance:  $\beta = .06, p > .10$ ; relationship performance:  $\beta = .12, p > .10$ ), which partially supported Hypothesis 4. The final test of nomological validity involved the mediating role of family role engagement between family resources and family role performance. Mediation analyses were conducted using a bootstrapping procedure with 1,000 bootstrap samples (Preacher & Hayes, 2004). We found a significant indirect effect between family emotional support and family role task performance through family role engagement—attention ( $\beta = .10, 95\% \text{ CI: } .047-.235; 99\% \text{ CI: } .023-.388, p < .01$ ). We also found a significant indirect effect between family emotional support and family role relationship performance through family role engagement—attention ( $\beta = .17, 95\% \text{ CI: } .068-.306; 99\% \text{ CI: } .043-.446, p < .01$ ). Hence, these results partially supported Hypothesis 5. To summarise, the nomological validity of the family role performance scale was generally established.

## DISCUSSION

As hours worked and women's workforce participation increase globally, employees around the world are faced with the challenge of combining work and family roles. The growth in dual-career professional couples working for multinational companies has also led to work–family conflict in many parts of the world (Hill, Yamg, Hawkins, & Ferris, 2004). Despite the global importance of work–family issues and calls to study this topic in different cultural contexts (Poelmans, 2005), work–family research has mainly focused on how work–family interfaces may influence employees' work role performance and less attention has been paid to family role performance, an important yet neglected outcome. To address this issue, we conducted five interlocking studies with samples from diverse cultural backgrounds. Through these studies, we conceptualised, operationalised, and validated family role performance from a cross-cultural perspective.

Two general conclusions can be reached from this research. First of all, family role performance represents a multi-dimensional construct that is conceptually similar to work role performance (Welbourne et al., 1998). The concept that roles are important for understanding employee performance has existed for years; however, its specific theoretical implication for performance measurement in the family domain remains less clear. In the series of studies we conducted, two distinct types of family role performance were confirmed: family role task performance and family role relationship performance. On the basis of the results of the CFA and the conceptual differences between these two types of family role performance, we recommend

that these two constructs be used separately rather than combined into one overall measure for several reasons. First of all, unlike previous measurement that intended to capture family performance, our family role performance scale has a theoretical background. Second, our family role performance measure is multidimensional rather than unidimensional, accounting for different roles (i.e. bread-winner role, caring role) individuals may take on in their families. Third, by using samples from Israel, the United States, and other countries to validate our scale, we answer the call by recent scholars (i.e. Powell et al., 2009) to incorporate culture when conceptualising and developing measures. Last but not least, our family role performance scale integrates previous attempts to capture family role performance which offers a broader, more generalisable application than previous measures.

A second important finding from our empirical results is that engagement in one's family role was significantly related to both dimensions of one's family role performance. In addition, engagement in one's family role also played a pivotal role between different types of family support and family role performance. A feature of our nomological network analysis is the mapping of the criterion space. Consistent with Lazarova et al.'s (2010) model of work–family interface on international assignments, the general support of our nomological network analysis provides important insights to understand the cognitive processes between family resources and family role performance.

## Implications for Research and Practice

The results of this study open numerous new avenues for future research. First, we encourage researchers to continue validation of these two dimensions of family role performance. In particular, it would be helpful to assess associations of our scale that span the work–family domains. Some constructs of interest include various individual difference constructs such as core self and other evaluations, trait affectivity, and locus of control as well as outcomes such as life satisfaction and thriving. Second, although a great deal of research has paid attention to work–family interface and work-related outcomes, researchers have yet to devote comparable effort to family-related outcomes. While it is understandable that the focus of I/O psychology and management disciplines is on work-related outcomes, it is still a theoretical deficiency as family role performance could be an important indicator predicting whether an employee can strike a balance between the work domain and the family domain. Indeed, Greenhaus and Powell (2006) have indicated that experiences in one role may improve the quality of life in another role. Thus, it is possible that an individual who has better family role performance may also perform better in his/her work role.

Insofar as this scale is in the initial stages of validation, we are hesitant to recommend that organisations apply it. However, as future research continues to validate this as an important means of assessing family role performance, we believe that use of this scale may enable organisations to make more appropriate decisions as they help their employees maintain both work role performance and family role performance. This will be especially true if anticipated spillover effects from the work and family domains are substantiated. Managing both family and work role performance is especially important given the growth of dual-career couples and the increasingly demanding nature of work, which results in less time available for meeting family obligations.

## Limitations

Like all studies, this study has some limitations. First, a potential limitation of this research is the use of self-report data to capture family role performance, which may be vulnerable to response biases. However, scholars have argued that response biases rarely invalidate self-report questionnaires with measures of subjective statements sharing minimal variance with social desirability and impression management (e.g. Spector, 2006). When we collected data in all five studies, we assured respondents about the confidentiality of their responses, which should decrease the incidence of response bias. In addition, the use of cross-sectional data does not allow us to make cause-and-effect inferences in our nomological network validation. Additional longitudinal analyses based on our proposed nomological network would provide further validation evidence for our family role performance measure. Another potential concern is derived from the use of an online survey panel to collect data in Study 3 and Study 5. Though using an online survey panel is very time efficient, it is also vulnerable to panel integrity issues in that some respondents could just do the survey in exchange for rewards and not provide valid responses. In order to avoid this potential problem, we used both screening questions and reverse-coded items to detect invalid data. The next limitation is that we used modified scales to examine convergent, discriminant, and nomological network validity in our study which might have impacted the soundness of the analyses. Even though the modifications we made to existing scales were very minor, future researchers should use scales that have been validated in the same format. Lastly, we used the same set of variables to examine convergent validity and nomological network validity. Even though we used two separate samples to examine convergent validity and nomological network validity, future studies should examine both types of validity with different theoretically derived relationships and variables from different and independent datasets.

## CONCLUSION

In conclusion, the development and validation of a measure of family role performance will allow organisational researchers to more systematically consider the influence of the work–family interface (conflict and facilitation) on family-based outcomes. A major conclusion that can be reached is that family role performance represents a multidimensional construct that is parallel to work role performance. Theoretically, this measure will also allow researchers to empirically examine spillover effects with respect to work and family performance cross-culturally.

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## APPENDIX A

## Summary of the Family Performance Literature

<i>Source</i>	<i>Family performance represented by</i>
Anderson & Robson (2006)	Household chores performance (e.g. clean the dishes, do the laundry, throw out the garbage, sweep the floor, mow the lawn, walk the dog . . . etc.)
Devreux (2007)	
Gupta (2006)	Parental or childcare activities; Quality of parent-child interactions (frequency and quality)
Behnke, MacDermid, Coltrane, Parke, Duffy, & Widaman (2008)	
Carlson & McLanahan (2006)	Family member relationship and family member interaction
Devreux (2007)	
Greenhaus & Powell (2006)	Partner relationship and marital quality
Gorman & Kmec (2007)	
Carlson, Kacmar, Wayne, & Grzywacz (2006)	Various aspects of family functioning including:
Greenhaus & Powell (2006)	
Bandura, Caprara, Barbaranelli, Regalia, & Scabini (2011)	1. <i>family cohesion</i> : Emotional bonding that family members have toward another
Behnke, MacDermid, Coltrane, Parke, Duffy, & Widaman (2008)	2. <i>family flexibility</i> : Family members' ability to cope with change
Buswell, Zabriskie, Lundberg, & Hawkins (2012)	3. <i>family communication</i> : Making information, ideas, thoughts, and feelings known among members of a family unit
Carlson, Grzywacz, & Kacmar (2010)	4. <i>family commitment</i> : Individual's attention to investing time and energy in achieving success in marital role and parenting role
Carlson, Grzywacz, & Zivnuska (2009)	
Frone, Yardley, & Markel (1997)	
Graves, Ohlott, & Ruderman (2007)	
Hornberger, Zabriskie, & Freeman (2010)	
Ledbetter (2009)	
Oliver, Gottfried, Guerin, Gottfried, Reichard, & Riggio (2011)	
Olson (1993)	
Olson, Gorall, and Tiesel (2004)	
Rivera, Guarnaccia, Mulvaney-Day, Lin, Torres, & Allegria (2008)	
Smith, Freeman, & Zabriskie (2009)	
Voydanoff (2007)	

## APPENDIX B

## Interview Questions

1. What are the major roles you have within your family context? (Note to interviewer: for each role [examples: daughter, spouse, mother, etc.] ask the following questions):
  - a. What are your main responsibilities?
  - b. How much time do you (on average) spend on these activities each week?
  - c. What do others expect of you?
  - d. How do you know if you're doing a good job in each role?

- e. If you wanted to improve what you do in this role, what would you do?
2. For each member of your family, what are their major responsibilities at home?
  - a. How much time do individuals (on average) spend on these activities each week?
  - b. What can they do to improve how they do these activities?
3. Think about the last time your family had fun together. Please describe who was involved and what happened.
4. Think about the last time your family experienced conflict or had a disagreement. Please describe who was involved and what happened.
5. Think about the last time someone in your family asked you for advice or you asked someone for advice. Please describe who was involved and what happened.