Interpersona
An International Journal on Personal Relationships

PsychOpen GOLD

Research Articles

Check for updates

The Validity and Reliability of the Hungarian Version of the Brief Work-Family Conflict Questionnaire – An Effective Method to Measure Work-To-Family and Family-To-Work Conflict

Veronika Mészáros [1], Zsuzsanna Kövi [1], Angel Blanch [2], Andrea Ferenczi [3], Zsuzsanna Tanyi [3], Virág Karai [1], James Bryant Hittner [4], Barbara Kulig [5], Dóra Kovács [1], Máté Smohai [1], Szilvia Ádám [6]

[1] *Department of General Psychology, Károli Gáspár University of the Reformed Church, Budapest, Hungary.* **[2]** *Faculty of Education, Psychology and Social Work, University of Lleida, Catalonia, Spain.* **[3]** *Department of Personality Psychology, Károli Gáspár University of the Reformed Church, Budapest, Hungary.* **[4]** *Department of Psychology, College of Charleston, Charleston, SC, USA.* **[5]** *Department of Clinical Psychology, Semmelweis University, Budapest, Hungary.* **[6]** *Health Services Management Training Centre, Semmelweis University, Budapest, Hungary.*

Interpersona, 2022, Vol. 16(1), 2–16, https://doi.org/10.5964/ijpr.6309

Received: 2021-03-17 • **Accepted:** 2021-10-27 • **Published (VoR):** 2022-06-28

Corresponding Author: Veronika Mészáros, Bécsi út 324, 1037 Budapest, Hungary. E-mail: veronikameszaros@yahoo.com

Related: This article is part of the Special Issue "Measures in Personal Relationships".

Abstract

The current study aimed to investigate the validity and reliability of the Hungarian version of the brief Work-Family Conflict Questionnaire (Conflicto Trabajo – Familia, CCTF) using both homogeneous (social care workers, N = 206) and heterogeneous (N = 586) occupational samples. In order to examine construct validity, we explored both two-factor and bifactor models. Our findings provided greater support for the two-factor model (homogeneous sample: χ^2 = 14.032, p = .379, df = 13; CFI = 0.999; NNFI = 0.998; RMSEA = 0.020 [0.000–0.051]; heterogeneous sample: χ^2 = 40.213, p < .001 df = 13; CFI = 0.993; NNFI = 0.985; RMSEA = 0.060 [0.023–0.079]). Our results demonstrated good reliability (ω = 0.797–0.911) and predictive validity, which we tested by exploring the relation of the construct with burnout and psychosomatic symptoms. Our results suggest that the Hungarian version of the CCTF is a reliable and valid instrument for measuring both work-to-family and family-to-work conflict.

Keywords

Brief Work-Family Conflict Questionnaire, Conflicto Trabajo–Familia, CCTF, construct and predictive validity, burnout, psychosomatic symptoms

The topic of reconciling work and family lives dates back almost 40 years in the fields of social and behavioral science. As scientific interest in the topic grew, researchers gained an increasingly differentiated picture of the phenomenon. It has become apparent that the failure to balance work and family lives may result in many adverse effects on activities in both the work and family domains as well as on mental health. Given its importance in many domains of life, work-family conflict (WFC) has been extensively studied by several research groups and numerous theories have been developed to describe it (Blanch & Aluja, 2009; Carlson et al., 2000; Netemeyer et al., 1996; Stephens & Sommer, 1996). Such theoretical and empirical work was also accompanied by the development of various measurement tools. In recent years, cross-cultural research on WFC represents a promising research field. The purpose of the present study was to contribute to this growing body of research by exploring the psychometric properties of the Hungarian version of the brief Work-Family Conflict Questionnaire (Conflicto Trabajo–Familia, CCTF; Blanch & Aluja, 2009), which has become widely used in the field of WFC, in a unique society where traditional values are still strictly adhered to.

Literature Review

The conceptual basis for conflict theories, which has emerged in the earlier waves of work-family research, is role theory. The basic assumption of role theory is that individuals have scarce resources and that different areas of life "compete" for resources. Thus, limited amounts of resources are available in a specific work or life domain, which limits an individual's ability to execute tasks according to expectations. This can in turn create conflict between areas of life (Edwards & Rothbard, 2000; Greenhaus & Beutell, 1985).

In recent decades conflict between the work and home domains has been approached from many different angles. Some researchers have focused strictly on the relationship between workplace and family (Grzywacz & Marks, 2000), while others have operationalized the topic more broadly around reconciling work and family lives (Blanch & Aluja, 2009). In early WFC research, professionals dealt mainly with work-to-family conflict (Greenhaus & Beutell, 1985). However, today, two types of conflict are distinguished: work-to-family (WIF) and family-to-work (FIW) interference (Netemeyer et al., 1996; Blanch & Aluja, 2009). Increasingly, WFC research also explores the nature of conflict, thus distinguishing between time-, behavioral-, and stress-based conflict (Greenhaus & Beutell, 1985). Stephens and Sommer (1996) argued for the primacy of the work-to-family direction only, whereas Carlson et al. (2000) believe that both work-to-family and family-to-work conflict should be distinguished along the three qualities mentioned above.

To substantiate the theories of work-family conflict that unfolded over time, research teams developed measurement tools and established their psychometric properties. The most popular measure in the field of WFC research is Carlson et al.'s (2000) Multidimensional Work-Family Conflict Questionnaire, whose six-factor structure has been confirmed by several studies in Hungarian and other samples (Ádám & Konkolÿ Thege, 2017). Nevertheless, the validity of the WIF and FIW scales has not been confirmed (Ádám & Konkolÿ Thege, 2017; Kengatharan & Edwards, 2021; Loscalzo et al., 2019).

Although researchers have focused primarily on WIF, with women entering the labor market it has become increasingly clear that FIW is also of paramount importance (Ádám et al., 2008). The significance of FIW was further enhanced by the fact that WFC research was increasingly being conducted in Asian collectivistic societies. In addition, the undisputed role of the family in people's lives made the more detailed analysis of FIW essential (Kengatharan & Edwards, 2021). As a result of these developments, researchers have called for appropriate measurement tools that accurately measure WFC in both directions.

Blanch and Aluja (2009) aimed to create a measurement tool, which adequately measures both the WIF and FIW directions. They developed the CCTF, which is a short scale and its items are simple to interpret. Thus, it has become easily adapted to different languages and cultures. In their study, they successfully tested the two-factor model of the questionnaire and also analyzed its bifactor model (using a total score). The bifactor model was examined because some WFC studies suggested that the WIF and FIW directions are not independent of each other (Frone et al., 1992; Mesmer-Magnus & Viswesvaran, 2005). Furthermore, Blanch and Aluja (2009) also examined the predictive validity of the questionnaire, which was tested by exploring its associations with burnout and psychosomatic symptoms. These associations were examined because work-family conflict may have a significant negative impact on mental health (Allen et al., 2000).

In the present study, we set out to validate the original Spanish-language CCTF questionnaire in Hungarian samples and to:

1. examine the construct validity of the CCTF, by comparing the two-factor and bifactor models, and to
2. test its predictive validity, by investigating its relationship with psychosomatic symptoms and burnout.

In order to test the utility of the validated measure, we conducted additional analyses in homogeneous (social care workers) and heterogeneous occupational groups, respectively, and assessed the measure for its generalizability.

Method

Participants

To test the applicability and generalizability of the Hungarian version of the CCTF questionnaire, we recruited two occupationally different samples for our research: a homogeneous and a heterogeneous one.

The occupationally homogeneous sample (N = 206) consisted of individuals who have different jobs in the social services sector (e.g., in elderly care, nurseries and special education institutions). The participants were mostly social services managers (N = 98, 47.57%) and special education teachers (N = 37, 17.96%). The mean age was 45.88 years (SD = 9.21). Participants were mainly women (N = 180, 87.38%), married (N = 152, 73.79%) and had two children (N = 82, 39.81%). In terms of their job seniority, most were middle managers (N = 84, 40.77%) who lived in a dual-earner household with a partner who worked part or full time (N = 184, 89.32%). We summarized the sample characteristics in Tables 1 and 2.

Table 1

Occupational Characteristics in the Homogeneous and Heterogeneous Samples

Homogeneous occupational sample (N = 206)			**Heterogeneous occupational sample (N = 586)**		
Characteristic	***n***	**%**	**Characteristic**	***n***	**%**
Job Seniority			**Profession**		
Employee	64	31.07	Managers (in various occupations)	11	1.88
Middle manager	84	40.77	Professionals (in various occupations)	197	33.62
Senior manager	58	28.16	Technicians and associate professionals	85	14.51
Profession			Office and management (customer services) occupations	63	10.75
Social care worker	2	0.97			
Social pedagogue	9	4.37	Commercial and services occupations	55	9.39
Social policy expert	7	3.40	Agricultural and forestry occupations	6	1.02
Social services coordinator	15	7.28	Industry and construction industry occupations	9	1.54
Social services manager	98	47.57	Machine operators, assembly workers, drivers of vehicles	4	0.68
Teacher	37	17.96	(Elementary) occupations not requiring qualifications	13	2.21
Theologian	18	8.74	Not working	84	14.33
Other	20	9.71	Other	59	10.07

Table 2

Demographic Characteristics of the Occupationally Homogeneous and Heterogenous Samples

	Homogeneous occupational sample		Heterogeneous occupational sample		Comparison of the two samples
Category	***N***	**%**	***N***	**%**	
Sex					$\chi^2 = 9.086$, $p = .003$, $df = 1$
Women	180	87.38	455	77.65	
Men	26	12.62	131	22.35	
Relationship status					$\chi^2 = 48.168$, $p < .001$, $df = 2$
Single, divorced, widow	35	16.99	204	34.8	
In relationship, but not cohabiting	19	9.22	7	1.2	
Married, in relationship, cohabiting	152	73.79	375	64.0	
Number of children					$\chi^2 = 49.072$, $p < .001$, $df = 4$
0	43	20.87	154	26.3	
1	39	18.93	86	14.7	
2	82	39.81	118	20.1	
3	33	16.02	119	20.3	
≥ 4	9	4.37	109	18.6	
Educational attainment					$\chi^2 = 89.331$, $p < .001$, $df = 8$
Lower than high school education	0	0	42	7.17	
Vocational high school or high school degree	11	5.34	149	25.43	
Advanced vocational diploma	22	10.68	45	7.67	
College degree and specialized training	118	57.28	155	26.45	
University degree and specialized training	55	26.70	195	33.28	

The occupationally heterogeneous sample ($N = 586$) consisted of participants from more than 10 occupations categorized according to the Hungarian Standard Classification of Occupation (HCSO-08). The majority of the participants were professionals working mainly in the education, healthcare and information technology sectors ($N = 197$, 33.62%) followed by those working in an office or dealing with customer relationship management ($N = 63$, 10.75%). This sample consisted of predominantly women ($N = 455$, 77.65%). In addition, the respondents typically had a university degree ($N = 195$, 33.28%); were married or in a relationship ($N = 375$, 64.0%); and had two or three children, respectively ($N = 118$, 20.1% and $N = 119$, 20.3%; Tables 1 and 2).

To compare the two occupational samples in terms of sociodemographic characteristics, we conducted *t*-tests and chi-squared tests. We found that compared with the heterogeneous occupational sample, the homogenous sample consisted of participants with a lower mean age (M = 41.87 vs. M = 45.88 years, t = 4.725, p < .001, df = 524.03; data not shown in Table 2), more women than men (87.38% vs. 77.65%, χ^2= 9.086, p = 0.003, df = 1), and participants with a college degree (57.28% vs. 26.45%, χ^2= 89.331, p < .001, df = 8). In addition, no participants had reported educational attainment lower than high school in the homogeneous occupational sample vs. 42 in the heterogeneous sample (χ^2 = 89.331, p < .001, df = 8; see Table 2). It is important to note that while the two samples differ in terms of professions, both samples are quite comparable in terms of sex and marital status, as both samples consisted of more married women.

Measurement Instruments

We measured WFC with the Hungarian version of the CCTF (Conflicto Trabajo – Familia, Work-Family Conflict Questionnaire) developed by Blanch & Aluja (2009). The questionnaire consists of 8 items. Four items assess interference of work with family (WIF) and the other four evaluate family interfering with work (FIW). Responses are scored on a 7-point Likert scale ranging from 1 ("totally disagree") to 7 ("totally agree"), with higher scores indicating increased severity of conflicts in the given dimension. The scale was translated into Hungarian by bilingual colleagues according to guidelines for professional translations (ITC, http://www.intestcom.org/upload/sitefiles/40.pdf). Then, the items were back translated and the questionnaires were assessed for accuracy and intended meaning of the constructs by native speakers.

Predictive validity of the questionnaire was assessed using the Mini Oldenburg Burnout Inventory (MOLBI; Thun et al., 2018; Ádám et al, 2020; Mészáros et al., 2020) and the Psychosomatic Health Questionnaire -15 (PHQ-15 ; Kroenke et al., 2002).

The Mini Oldenburg Burnout Inventory (MOLBI; Ádám et al., 2020; Mészáros et al., 2020) is based on the job demands-resources model of burnout. It consists of two subscales and one total score to measure the intensity of burnout. The Exhaustion subscale assesses fatigue, and emotional and physical overload at work. The Disengagement subscale focuses on loss of interest, depersonalization within the profession and cynical behaviors. Respondents rate statements on a 4-point Likert scale ranging from 1 ("totally agree") to 4 ("totally disagree"), with lower scores indicating higher levels of burnout.

The Psychosomatic Health Questionnaire-15 (PHQ-15; Kroenke et al., 2002) explores the frequency with which participants self-report somatic symptoms. Items are rated on a 4-point Likert scale from 1 ("not bothered at all") to 4 ("bothered a lot"), with a higher total score supporting more symptoms. Psychometric characteristics of the scales are presented in Table 3.

Table 3

Psychometric Characteristics of the Utilized Measurement Instruments

Scale	*M* (min-max)	*SD*	Normality (Kolmogorov-Smirnov test, Z score)	Reliability (Cronbach- α)
WIF	14.111 (4-28)	6.046	0.072***	0.881
FIW	7.237 (4-22)	3.732	0.193***	0.758
WFC	21.350 (8-46)	8.345	0.067**	0.841
MOLBI exhaustion	13.145 (5-20)	2.828	0.104***	0.757
MOLBI disengagement	14.742 (5-20)	2.426	0.125***	0.669
MOLBI total score	27.888 (12-37)	4.585	0.088***	0.786
PHQ-15	27.830 (15-55)	8.655	0.144***	0.854

Note. WFC = work-family conflict; WIF = work interfering with family; FIW = family interfering with work; MOLBI = Mini Oldenburg Burnout Inventory; PHQ = Psychosomatic Health Questionnaire – 15.
**$p < .01$. ***$p < .001$.

Procedure

The occupationally homogenous sample consisted of professionals who work in social services. They were recruited during social services management training at the Health Services Management Training Centre of the Semmelweis University and by systematic outreach by the social media group of Alumni. The data collection took place between February and December 2020.

Participants in the heterogeneous occupational sample were recruited between October and December 2018. We published the call for participation in the study on social media.

Participants in both occupational samples filled in the questionnaires using the Google Forms interface. Only individuals over the age of 18 who considered themselves to be healthy could participate in the study. All participants were informed about all aspects of this research and they provided their consent to participate on a voluntary and anonymous basis. The samples were independent and duplication of data was eliminated. The research and all procedures were approved by the Ethics Committee of Károli Gáspár University of the Reformed Church in Hungary (352/2018/P/ET and 105/2019/P/ET).

Statistical Analyses

We first conducted a factor analysis separately on both the homogeneous and heterogeneous occupational samples by using the FACTOR computer program (Lorenzo-Seva, 1999). Due to the relatively low sample sizes and the non-normal item distributions - only Item 1 had normal distribution, the skewness and kurtosis was less than 1 in absolute value (Lloret et al., 2017, see Table 4), we performed the factor analysis with

parallel analysis using polychoric correlations and promin rotation. Then, we conducted bifactor analyses using the Mplus software (Muthén & Muthén, 2007). Both the heterogeneous and homogenous occupational samples were examined using the MLR method and promin rotation. We tested predictive validity using Kendall's tau-b as implemented in SPSS 27. We calculated various fit indices, i.e., the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the non-normed fit index (NNFI). We considered values above 0.9 as being indicative of a strong fit. For the standardized root mean square residual (SRMR), we considered values under 0.08 to be indicative of a good fit. We interpreted the root mean square error of approximation (RMSEA) value as follows: perfect (RMSEA < 0.05), well-fitting (RMSEA < 0.08), and insufficient (RMSEA > 0.08). Non-significant χ^2-tests were considered to be indicative of good fitting models. However, with large samples the χ^2-test is overly powerful and hence less useful as a model fit diagnostic (Bentler, 1990). We set the different levels of significance as follows: $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$, $\dagger p < .10$ or with an exact value if it was more informative.

Results

We assessed the factor structure of the questionnaire on both the homogeneous and heterogeneous occupational samples. Since the items did not follow the normal distribution, robust factor analysis was chosen (Table 4).

Table 4

Distribution of Items

Homogenous occupational sample				Heterogeneous occupational sample			
Item	***M***	**Skewness**	**Kurtosis**	**Item**	***M***	**Skewness**	**Kurtosis**
1	3.694	-0.223	-0.982	1	4.230	-0.304	-0.927
2	3.869	-0.178	-1.071	2	4.208	-0.230	-1.143
3	3.437	0.092	-1.253	3	3.910	-0.031	-1.185
4	3.087	0.361	-1.027	4	3.568	0.203	-1.186
5	1.951	1.353	0.820	5	2.415	1.052	0.299
6	1.757	1.659	1.985	6	1.904	0.602	2.034
7	1.544	2.109	4.005	7	2.000	1.459	1.616
8	1.985	1.467	1.667	8	2.718	0.779	-0.424

The results of Bartlett's test of sphericity (homogeneous: 1116.0(28), $p < .001$; heterogeneous: 2999.5(28), $p < .001$), and the Kaiser-Meyer-Olkin statistic (homogeneous: 0.83066; heterogeneous: 0.82291) suggested that the data were suitable for factor analysis. Goodness-of-fit indices suggested acceptable fits for both the homogeneous ($\chi^2 = 14.032$;

p = .379; df = 13; CFI = 0.999; NNFI = 0.998; RMSEA = 0.020 [0.000-0.051]) and heterogeneous occupational samples (χ^2 = 40.213; p < .001; df = 13; CFI = 0.993; NNFI = 0.985; RMSEA = 0.060 [0.023-0.079]).

Factor loadings of the WIF and FIW items are presented in Table 5. Our results using the item factor loading weights suggest that WIF is represented by Items 2 ("I cannot spend enough time with my family because of work overload."/"Debido al exceso de trabajo, no puedo dedicarme a mi familia todo lo que desearía.") and 3 ("Work takes away time that I would like to spend with my friends and family." / "Mi trabajo me quita tiempo que me gustaría pasar con mis familiares y amigos."). Similarly, Item 7 ("Family life takes away time that I would spend with working." / "Mi vida familiar me quita tiempo que me gustaría pasar en el trabajo.") has the highest loading on FIW. These results suggest that workload and time constraints appear to be the most important characteristics in determining FWC. The correlation between the WIF and FIW factors was medium for both the homogeneous (r = 0.478) and heterogeneous samples (r = 0.411).

Table 5

Factor Loadings

Homogeneous occupational sample			Heterogeneous occupational sample		
Item	**WIF**	**FIW**	**Item**	**WIF**	**FIW**
1	0.761***		1	0.617***	
2	0.999***		2	0.940***	
3	0.917***		3	0.961***	
4	0.744***		4	0.794***	
5		0.696***	5		0.738***
6		0.653***	6		0.529***
7		1.032***	7		1.024***
8		0.650***	8		0.614***

***p < .001.

Although the first two factors explained a relatively large proportion of variance for both the homogeneous (59.11% and 23.10%) and heterogeneous (55.23% and 21.26%) occupational samples, a single factor solution was suggested by the FACTOR program. As a next step, we tested the one-factor model and the bifactor model proposed by Blanch and Aluja (2009). In the case of the bifactor model, one global and two domain-specific factors were tested and the items could be loaded on both the global and domain-specific factors. These findings allow us to establish whether the global and domain-specific factors can be used separately. In this model, the proportions of explained variance due to the factors can also be estimated. Furthermore, the bifactor model shows the incremental added value of the subscales to understanding the general phenomenon (Brunner et al.,

2012; Reise et al., 2007). As can be seen in Table 6, both the bifactor and the two-factor models have excellent fit indices. In the case of the homogeneous occupational sample, even the chi-square test is non-significant, which suggests that, without exception, all indicators are in the optimal range.

Table 6

Fit Indices of the Factor-Analyses

Fit indices of the tested models	χ^2	*df*	CMIN/ *df*	CFI	TLI	NNFI	SRMR	RMSEA [95% CI]
One-factor								
Homogeneous sample	120.917***	20	6.05	0.791	0.707	—	0.128	0.166 [0.138, 0.195]
Heterogeneous sample	460.139***	20	4.87	0.725	0.615	—	0.136	0.194 [0.179, 0.209]
Two-factor								
Homogeneous sample	14.032	13	1.08	0.999	—	0.998	—	0.020 [0.005, 0.051]
Heterogeneous sample	40.213***	13	3.09	0.993	—	0.985	—	0.060 [0.023, 0.079]
Bifactor								
Homogeneous sample	21.900+	13	1.68	0.983	0.963	—	0.068	0.058 [0.000, 0.098]
Heterogeneous sample	31.715***	13	2.44	0.988	0.975	—	0.036	0.050 [0.028, 0.074]

Note. Missing values have been indicated with a dash, because the Mplus program does not present NNFI, and the FACTOR program does not present TLI and SRMR indicators.
$^{+}p < .10$. $^{***}p < .001$.

According to the factor loading patterns presented in Table 7, the majority of FIW items and 50% of the WIF items have higher loadings on their domain-specific factors. Furthermore, the model-based reliability indices for FIW show relatively higher proportions of explained unique variance (Omega hierarchical for the homogeneous and heterogeneous samples are 0.611 and 0.596, respectively). The explained variance due to the global WFC factors was under the 0.8 criterion value for both the homogeneous and heterogeneous samples (Reise et al., 2013; Table 8). Based on these values and the comparison of the two-factor and bifactor models, our results support using the FIW and WIF scales of the CCTF questionnaire separately.

Table 7

Factor Loadings for the Bifactor Model

Homogeneous occupational sample				Heterogeneous occupational sample			
Item	**WFC**	**WIF**	**FIW**	**Item**	**WFC**	**WIF**	**FIW**
1	0.404***	0.587***		1	0.387***	0.532***	
2	0.683***	0.624***		2	0.602***	0.685***	
3	0.793***	0.419***		3	0.700***	0.582***	
4	0.821***	0.197***		4	0.890***	0.242***	
5	0.364***		0.682***	5	0.331***		0.636***
6	0.274***		0.512***	6	0.287***		0.421***
7	0.276***		0.828***	7	0.185***		0.846***
8	0.549***		0.464***	8	0.578***		0.473***

***$p < .001$.

Table 8

Model-Based Reliability Indices for the Bifactor Model

Variable	**WFC**	**WIF**	**FIW**
Homogeneous occupational sample			
Omega	0.902	0.905	0.823
Omega Hierarchical	0.583	0.284	0.611
Heterogeneous occupational sample			
Omega	0.896	0.911	0.797
Omega hierarchical	0.551	0.351	0.596

In line with our second objective, we also assessed the predictive validity of the CCTF. Correlation analyses showed that with the exception of disengagement, WIF is more strongly associated than FIW with both burnout and psychosomatic symptoms, which highlights the predictive significance of work-related pressure on mental health (Table 9).

Table 9

Correlations Between WIF, FIW, Burnout and Psychosomatic Symptoms (Kendall's Tau-B)

Variables	WIF	FIW
MOLBI exhaustion	-0.402***	-0.146**
MOLBI disengagement	-0.158**	-0.159***
MOLBI total score	-0.346***	-0.182**
PHQ-15	0.326***	0.175***

Note. WIF = work-to-family; FIW = family-to-work; MOLBI = Mini Oldenburg Burnout Inventory; PHQ = Psychosomatic Health Questionnaire – 15.
**$p < .01$. ***$p < .001$.

Discussion

The aim of our study was to examine the structural and predictive validity of the Hungarian version of the CCTF scale. In addition, we investigated the utility and generalizability of the scale in occupationally heterogeneous and homogeneous samples. In line with the results of Blanch and Aluja (2009), we have confirmed the two-factor structure of the Hungarian version of the CCTF. Furthermore, our results provide empirical evidence for the application of the WIF and FIW scales independently of each other. Due to the relatively large variance explained by the FIW scale and the negligible variance explained by the global scale, the global factor appears to be questionable. The large individual variance explained by the FIW scale is consistent with Carlson et al.'s (2000) suggestion that FIW and WIF can be considered as independent (though not completely separate) directions in the analysis of work-family conflict. Our findings are also commensurate with the assumptions of Kengatharan (2020) and Kengatharan and Edwards (2021) that in societies with a traditional or collectivistic mindset, family and family-to-work conflict can be at least as important as work-to-family conflict.

We also confirmed that the factorial structure of the Hungarian version of the questionnaire is comparable to that obtained using the original Spanish version. Our results on the driving concepts/items for WIF and FIW in both occupational samples (i.e., workload and time constraints, respectively) suggest further research hypotheses for cross-cultural comparative studies. Indeed, these data raise the possibility that the questionnaire is interculturally stable, hence it might be a proper tool for further cross-cultural studies.

It is also important to note that items that characterize conflict due to lack of time are particularly emphasized in the questionnaire. Therefore, the questionnaire cannot be recommended for the assessment of certain types of WFC, such as time-, stress- and behavior-based conflict, as described by Carlson and coworkers (2000). Instead, we propose that the CCTF scale could be a valid and reliable measurement tool for WFC

research in which the direction of conflict (WIF and FIW) is investigated. To explore time-, behavior-, or stress-based types of WFC, we recommend the Multidimensional Work-Family Conflict Questionnaire developed by Carlson et al. (2000).

Finally, our results provide support for the predictive validity of the questionnaire as our data demonstrate that WIF is more closely related to burnout (especially its emotional dimension) than is FIW. WIF and burnout are both anchored in work as opposed to FIW, which primarily focuses on the demands of the family. Interestingly, our results show that WIF is moderately correlated with psychosomatic symptoms, which underscores the importance of attenuating work-related stressors in order to prevent the development of psychosomatic symptoms.

In summary, our study results support the validity and reliability of FIW and WIF scales of the CCTF for assessing the directions of WFC. The psychometric properties of the measurement tool are good in both the homogeneous and heterogeneous occupational samples, which suggests that it can be used to measure WFC in a wide range of occupations. Furthermore, distinguishing between the two directions of WFC makes family and work-based overload measurable, which allows for the development of problem-centered preventive and interventional programs.

However, our study has limitations, as well. Sampling for both the homogeneous and heterogeneous occupational groups was convenience sampling, so we cannot necessarily generalize our findings to the entire Hungarian population. Furthermore, we obtained data using online questionnaires, which also affected the composition of the samples. The only people who could access our research were those with internet connections. In conclusion, we found that the psychometric characteristics of the questionnaire are excellent and that the measurement tool is easily interpretable, which promotes wide application in the future for both cross-cultural and applied research.

Funding: The preparation of the present study was supported by a research grant obtained from the Faculty of Humanities, Károli Gáspár University of the Reformed Church (Person- and Family-oriented Health Science Research Group, Grant No. 20643B800).

Acknowledgments: The authors have no additional (i.e., non-financial) support to report.

Competing Interests: The authors have declared that no competing interests exist.

Ethics Approval: The research and all procedures were approved by the Ethics Committee of Károli Gáspár University of the Reformed Church in Hungary (352/2018/P/ET and 105/2019/P/ET).

References

Ádám, S., Dombrádi, V., Mészáros, V., Bányai, G., Nistor, A., & Bíró, K. (2020). Az Oldenburg Kiégés Kérdőív és rövidített változatának összehasonlító elemzése. *Ideggyogyaszati Szemle, 73*(7–8), 231–240. https://doi.org/10.18071/ISZ.73.0231

Ádám, S., Györffy, Z., & Susánszky, É. (2008). Physician burnout in Hungary: A potential role for work-family conflict. *Journal of Health Psychology, 13*(7), 847–856. https://doi.org/10.1177/1359105308095055

Ádám, S., & Konkolÿ Thege, B. (2017). Validation of the Hungarian version of Carlson's work-family conflict scale. *Ideggyogyaszati Szemle, 70*(11–12), 395–406. https://doi.org/10.18071/isz.70.0395

Allen, T. D., Herst, D. E., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*(2), 278–308. https://doi.org/10.1037/1076-8998.5.2.278

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238–246. https://doi.org/10.1037/0033-2909.107.2.238

Blanch, A., & Aluja, A. (2009). Validation study of the Spanish version of the Work-Family Conflict Questionnaire (CCTF). *The Spanish Journal of Psychology, 12*(2), 746–755. https://doi.org/10.1017/S1138741600002110

Brunner, M., Nagy, G., & Wilhelm, O. (2012). A tutorial on hierarchically structured constructs. *Journal of Personality, 80*(4), 796–846. https://doi.org/10.1111/j.1467-6494.2011.00749.x

Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and Initial Validation of a Multidimensional Measure of Work-Family Conflict. *Journal of Vocational Behavior, 56*(2), 249–276. https://doi.org/10.1006/jvbe.1999.1713

Edwards, J. R., & Rothbard, N. P. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. *Academy of Management Review, 25*(1), 178–199. https://doi.org/10.2307/259269

Frone, M. R., Russell, M., & Cooper, M. L. (1992). Prevalence of work-family conflict: Are work and family boundaries asymmetrically permeable? *Journal of Organizational Behavior, 13*(7), 723–729. https://doi.org/10.1002/job.4030130708

Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review, 10*(1), 76–88. https://doi.org/10.2307/258214

Grzywacz, J. G., & Marks, N. F. (2000). Reconceptualizing the work–family interface: An ecological perspective on the correlates of positive and negative spillover between work and family. *Journal of Occupational Health Psychology, 5*(1), 111–126. https://doi.org/10.1037/1076-8998.5.1.111

Kengatharan, N. (2020). Shouldering a double burden: The cultural stigma of the dogma of gender role ideology and its impact on work–family conflict. *Journal of Advances in Management Research, 17*(5), 651–667. https://doi.org/10.1108/JAMR-03-2020-0033

Kengatharan, N., & Edwards, C. (2021). The development and application of a scale to measure the extent and forms of work-family conflict in collectivist cultures. *International Journal of Manpower, 42*(4), 581–603. https://doi.org/10.1108/IJM-04-2019-0199

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2002). The PHQ-15: Validity of a new measure for evaluating the severity of somatic symptoms. *Psychosomatic Medicine, 64*(2), 258–266. https://doi.org/10.1097/00006842-200203000-00008

Lloret, S., Ferreres, A., Hernández, A., & Tomás, I. (2017). The exploratory factor analysis of items: Guided analysis based on empirical data and software. *Anales de Psicología, 33*(2), 417–432. https://doi.org/10.6018/analesps.33.2.270211

Lorenzo-Seva, U. (1999). Promin: A method for oblique factor rotation. *Multivariate Behavioral Research, 34*(3), 347–365. https://doi.org/10.3758/BF03192753

Loscalzo, Y., Raffagnino, R., Gonnelli, C., & Giannini, M. (2019). Work–Family Conflict Scale: Psychometric properties of the Italian version. *SAGE Open,* Advance Online Publication. https://doi.org/10.1177/2158244019861495

Mesmer-Magnus, J. R., & Viswesvaran, C. (2005). Convergence between measures of work-to-family and family-to-work conflict: A meta-analytic examination. *Journal of Vocational Behavior, 67*(2), 215–232. https://doi.org/10.1016/j.jvb.2004.05.004

Mészáros, V., Takács, S., Kövi, Z., Smohai, M., Csigás, Z. G., Tanyi, Z., Jakubovits, E., Kovács, D., Szili, I., Ferenczi, A., & Ádám, S. (2020). Dimensionality of burnout—Is the Mini Oldenburg Burnout Inventory suitable for measuring separate burnout dimensions? *Mentálhigiéné és Pszichoszomatika, 21*(3), 323–338. https://doi.org/10.1556/0406.21.2020.015

Muthén, L., & Muthén, B. (2007). *Mplus user's guide* (version 7). Muthén & Muthén.

Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *The Journal of Applied Psychology, 81*(4), 400–410. https://doi.org/10.1037/0021-9010.81.4.400

Reise, S. P., Bonifay, W. E., & Haviland, M. G. (2013). Scoring and modeling psychological measures in the presence of multidimensionality. *Journal of Personality Assessment, 95*(2), 129–140. https://doi.org/10.1080/00223891.2012.725437

Reise, S. P., Morizot, J., & Hays, R. D. (2007). The role of the bifactor model in resolving dimensionality issues in health outcomes measures. *Quality of Life Research, 16*, 19–31. https://doi.org/10.1007/s11136-007-9183-7

Stephens, G. K., & Sommer, S. M. (1996). The measurement of work to family conflict. *Educational and Psychological Measurement, 56*(3), 475–486. https://doi.org/10.1177/0013164496056003009

Thun, S., Halsteinli, V., & Løvseth, L. (2018). A study of unreasonable illegitimate tasks, administrative tasks, and sickness presenteeism amongst Norwegian physicians: An everyday struggle? *BMC Health Services Research, 18*(1), Article 407. https://doi.org/10.1186/s12913-018-3229-0