Do informal caregivers experience more burnout? A meta-analytic study

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Abstract

Informal caregivers often report exhaustion when providing care, which can be related to forms of burnout. Yet, there is no systematic inventory of studies comparing caregivers and non-caregivers in terms of burnout. For the present meta-analysis, studies comparing burnout in informal caregivers and non-caregivers were screened and included. Two categories of studies were found: those on family care burnout (parental or spousal) and those on professional burnout (mostly in healthcare). For family care burnout studies, informal caregivers reported more emotional exhaustion, and, to a lesser extent, depersonalization and reduced personal accomplishment than non-caregivers. For studies on professional burnout, workers providing informal care also reported more emotional exhaustion than workers not providing such a care. Overall, the results indicate that providing informal care represents a risk for role burnout. In family care burnout studies, these results confirm the assumption that providing informal care adds extra weight on the individuals' shoulders. In professional burnout, these results support the role accumulation theory, pointing that an additional weight in one's role, i.e., providing informal care, has an impact on another role, work. This work emphasizes the consideration of the multifaceted impact that the caregiving role can have on the individual.

Key words - informal caregiving, family caregiver, burnout, parental, burden, double-duty

Do informal caregivers experience more burnout? A meta-analytic study

Informal caregivers are key actors in efficient long-term care settings (Verbakel, Tamlagsrønning, Winstone, Fjær, & Eikemo, 2017). Informal caregiving refers to activities and experiences involved in assisting relatives or friends unable to satisfy their own needs (Pearlin, Mullan, Semple, & Skaff, 1990). It encompasses a wide variety of situations, ranging from shopping for a great aunt's groceries to providing daily care to a child with disability or a spouse with chronic illness. Even if caregiving has rewarding and meaningful dimensions for the caregiver – positive consequences which are increasingly documented (Carbonneau, Caron, & Desrosiers, 2010) –, such positive dimensions may not make up for its deleterious consequences (Lawton, Moss, Kleban, Glicksman, & Rovine, 1991). The investigation of the health consequences of informal caregiving has shown that some caregivers, due to the role they take, are more prone to psychopathology than the general population (Pinquart & Sörensen, 2003; Pottie, Burch, Montross Thomas, & Irwin, 2014; Sallim, Sayampanathan, Cuttilan, & Chun-Man Ho, 2015).

A growing number of qualitative studies indicate that some caregivers feel worn down or mentally and emotionally exhausted because of their caregiving activity (Goodwin, McCormack, & Campbell, 2017; Thompson, Kerr, Glynn, & Linehan, 2014). These qualitative reports relate to the abundant literature on how some caregiving settings might represent a burden on the caregivers' daily life, and thus become a chronic stressful situation (Chiao, Wu, & Hsiao, 2015). This stress, along with reported exhaustion, echoes similar elements found in terms of burnout among

both health professionals and parents (Maslach, Jackson, & Leiter, 1996; Mikolajczak, Raes, Avalosse, & Roskam, 2018).

Burnout is a measure of role strain. Three dimensions of burnout were defined by Maslach, Jackson, and Leiter (1996): emotional exhaustion, depersonalization, and reduced personal accomplishment. Emotional exhaustion is defined as the individuals' feeling of no longer being able to give of themselves at a psychological level, the depletion of the person's psychological resources. Depersonalization describes the detached response to the beneficiaries of one's activity. Reduced personal accomplishment depicts the feeling of incompetence and reduced sense of achievement in one's activity. Burnout has been mostly investigated in occupational contexts, and more recently in parenting settings (Mikolajczak et al., 2018; Roskam, Raes, & Mikolajczak, 2017; Sánchez-Rodríguez, Perier, Callahan, & Séjourné, 2019).

Objective of the Present Review

To date, there exists no systematic investigation of research conducted to examine whether informal caregivers suffer from more burnout than non-caregivers. Beyond the common assumption that caregivers may have a higher risk of burnout when compared to non-caregivers, the presence of chronic stressors and exhaustion among informal caregivers calls for a clear summary of evidence supporting or disregarding this. Therefore, the objective of the present meta-analytic review was to investigate whether informal caregivers do indeed experience more burnout than non-caregivers.

Method

The PRISMA guidelines were followed and checked (Appendix A) (Liberati et al., 2009).

Eligibility Criteria

To be eligible, studies had to allow (1) a comparison between informal caregivers and non-caregivers, regardless of the design, using (2) quantitative measures of forms of burnout, (3) provide enough information to compute effect sizes (ES), and (4) be reported in French or English.

Information Sources

Five databases in health and psychological fields were exploited (i.e., PubMed, MedLine, PsycInfo, PsycArticles, and Scopus) in February 2017 with updates in November 2017 and in April 2019. To investigate the gray literature, two general databases of theses and manuscripts (i.e., OATD and NDLTD) were explored during March 2017 (with an update in April 2019), references of articles were screened, and relevant authors of the field contacted.

Search Strategy

A preliminary online search conducted in December 2016 has led to the construction of a list of keywords. Initially, the restrictive use of the terms “family caregiv*” or “informal caregiv*” was preferred but this appeared too restrictive regarding previously found studies (e.g., “psychosis caregiver” or simply “caregiver”). Additionally, the use of the terms father* and mother* was added to the parent* term due to studies focusing only on one parent. The final keywords used for caregiver were caregiv*, parent*, mother*, father*. The keywords used for burnout were “burnout”, “exhaustion”, “burn-out”, “Maslach”, “Shirom”. A second wave was performed using the keywords “carer” and “caring” for the caregiver.

Study Selection

Online references were downloaded. Duplicates were identified through an adapted version of existing methods (Bramer, Giustini, de Jonge, Holland, & Bekhuis, 2016). Remaining studies were screened by title, then by abstract, and then based on the full manuscript, when available.

Data Collection Process

All data were first extracted by one of the authors (x.x.) and then checked independently by the other (x.x.). Coding spreadsheets were used on Excel. Authors were contacted and some provided useful information allowing the inclusion of additional studies.

Data items

Information was extracted from each study regarding: publication type, recruitment procedures, countries where the study took place, care-recipient's issue, sample size, caregivers' gender proportion and mean age, burnout measure used.

Risk of Bias in Individual Studies

Due to a lack of consensus on a suitable tool for assessing observational studies (Sanderson, Tatt, & Higgins, 2007), the Research Triangle Institute (RTI) item bank on risk bias and precision was used (Viswanathan & Berkman, 2012). Four items were used: (1) non-retrospective design, (2) clear inclusion/exclusion criteria, (10) attempt to match participants in control and caregiving group, (20) control at baseline between caregiving and controls.

Summary Measures

The standardized difference between two means (i.e., Cohen's d) was used to compare

the score of the caregiving group with the score of the control group in each study. These effect sizes (ES) were computed using an online effect size calculator (Wilson, 2018). The ES were calculated based on the means, SD, and N of the two groups or by a ratio of no burnout/burnout when the studies reported the occurrence of burnout in each group (Lipsey & Wilson, 2001).

Synthesis of Results

Meta-analyses were conducted to compute effect-size means. A random restricted maximum likelihood effect model was preferred to a fixed one due to the variety of contexts in which the studies took place (Borenstein, Hedges, Higgins, & Rothstein, 2009; Cooper, Hedges, & Valentine, 2009). The computation of the effect-size means was performed with JASP 0.9.2, an open-source R-based software (JASP Team, 2018).

Risk of Bias Across Studies

To assess possible publication biases, funnel plots were used to assess visually the distribution of studies based on their standard errors and computed means. To draw more precise conclusions, three statistical methods were used (Borenstein et al., 2009; Cooper et al., 2009): the rank correlation for plot asymmetry, the regression for funnel plot asymmetry (Egger Test), and the classic fail-safe N.

Additional Analyses

Random meta-regressions using the restricted likelihood method were performed for both categorical and continuous moderators (López-López, Marín-Martínez, Sánchez-Meca, Noortgate, & Viechtbauer, 2014). The impact of the type of burnout scale used (i.e., if the burnout scale was specific to one role or was a general measure of burnout), the quality score, the relationship between the caregiver and the recipient, the mean

caregiver's age and gender proportion, and publication year and the scientific journal ranking from SCImago were analyzed. The sampling of the control group was also investigated: studies where the control group was randomly selected or where informal caregivers were identified within a wider sample were considered as using a random control group. The studies where the control group was not clearly identified as random were considered as having a potentially oriented sampling.

Results

Study Selection

The study selection process is presented with a flowchart on Fig. 1. At the end of the process, 93 studies remained as well as four studies from authors' recommendations and personal communications. The 97 studies used a burnout measure on informal caregivers. Among these, 18 studies compared caregivers and non-caregivers. Two distinct sets of studies were identified: eleven studies using family care burnout measures (i.e., burnout measure adapted to non-working roles such as parenting or being a spouse) and seven studies on professional burnout (i.e., studies investigating the impact of being an informal caregiver on professional burnout).

[Insert Fig. 1]

Study Characteristics

Table 1 shows the characteristics of the eighteen works included. Among the family care burnout studies, one study focused on caregiving to a spouse with PTSD (Klarić et al., 2010), while the other 10 focused on parenting a child with special needs (Basaran, Karadavut, Uneri, Balbaloglu, & Atasoy, 2013; Duygun & Sezgin, 2003; Gérain & Zech, 2018; Lindahl Norberg, 2007; Lindahl Norberg, Mellgren, Winiarski, & Forinder,

2014; Lindström, Åman, & Norberg, 2010; Mikolajczak et al., 2018; Séjourné, Sanchez-Rodriguez, Leboullenger, & Callahan, 2018; Weiss, 2002). Among the studies on professional burnout, six studies focused on double-duty caregivers (i.e., healthcare professionals who are at the same time informal caregivers) (Boumans & Dorant, 2014; DePasquale, Mogle, et al., 2018; DePasquale, Polenick, Davis, Berkman, & Cabot, 2018; DePasquale, Zarit, et al., 2018; Häusler, Bopp, & Hämmig, 2017; Yank et al., 2019), and one focused on white-collar workers who also provide informal care (Dorant & Boumans, 2016). This latter study presented two subsamples but one was already presented in another included study on double-duty (Boumans & Dorant, 2014).

[Insert Table 1]

Risk of Bias Within Studies

All studies used cross-sectional design and none matched participants between caregiving and control groups. Variability lied in clear inclusion criteria and control at baseline. Eight studies had a score of 2/4 and ten had 3/4.

Synthesis of Results

Emotional Exhaustion in Family Care Burnout

Because only one study was not focusing on parental burnout, the analyses for emotional exhaustion were first performed on parental burnout studies only, and then including the additional adult study.

Summary Effect Size. Fig. 2a presents the results of the meta-analysis for emotional exhaustion. One study (Weiss, 2002) was considered an outlier because its ES was more than ten SE larger than the average ES. This study was thus excluded from all analyses. The remaining ten studies were included with ES ranging from small (d = 0.11) to very

large (d = 1.20) (Cohen, 1992; Sawilowsky, 2009).

For parent-studies only, the summary effect size was medium (d = 0.43, 95% CI = [0.26; 0.59], k = 9, Z = 5.14, p < .001). Indicators highlighted heterogeneity between the studies (Q (8) = 34.24, p < .001, I^2 = 77.69). When including the adult study, the summary effect size was slightly higher (d = 0.51, 95% CI = [0.30; 0.72], k = 10, Z = 4.82, p < .001, see Fig. 2b) and indicators highlighted more heterogeneity between the studies (Q (9) = 64.17, p < .001, I^2 = 87.39). The inclusion of the adult study thus led to a higher mean ES, but higher heterogeneity.

[Insert Fig. 3. Funnel Plot of standard error by standard difference in means about here]

Risk of Bias. Figure 3a shows a potential asymmetry, which was disconfirmed by the rank correlation test (Kendall Tau = 0.39, p = .180) and confirmed by the regression for funnel plot asymmetry (Z = 2.57, p = .010). Fail-safe was of 342 to null ES. When including the adult study, results were comparable (Kendall Tau = 0.47, p = .073, Z = 2.29, p = .022, Fail-safe = 546, see Fig. 3b).

Moderator Analyses. Moderators analyses are presented in table 2. The scale had no impact on ES, but the relation with the care-recipient was significant and indicated that caring for an adult leads to higher ES than for a child. Finally, the potential purposive sampling also led to higher effect-sizes.

[Insert Table 2 about here]

Depersonalization

Summary Effect Size. Fig. 2c presents the results of the meta-analysis for depersonalization. Three studies were included with ES ranging from small (d = 0.26) to mid-small (d = 0.32). The summary effect size was mid-small (d = 0.27, 95% CI = [0.17 ; 0.38], k = 3, Z = 5.13, p < .001). Indicators highlighted an absence of

heterogeneity between the studies (Q (2) = 0.14, p = .933, I^2 = 0), but it is most likely related to the small number of studies.

Risk of bias. Fig 3c shows an absence of asymmetry, which seems confirmed by the rank correlation test (Kendall Tau = 1.00, p = .333) and regression for funnel plot asymmetry (Z = 0.35, p = .730). Fail-safe was of 26 to null ES.

Moderator analyses. Moderators analyses could not be performed due to the small number of included studies (k = 3).

Reduced personal accomplishment

Summary effect size. Fig. 2d presents the results of the meta-analysis for reduced personal accomplishment. Four studies were included with ES ranging from small (d = 0.18) to large (d = 0.79) (Cohen, 1992; Sawilowsky, 2009). The summary effect size was medium (d = 0.32, 95% CI = [0.05 ; 0.58], k = 4, Z = 2.36, p = .018). Indicators highlighted heterogeneity between the studies (Q (3) = 12.83, p = .005, I^2 = 84.71).

Risk of bias. Fig. 3d shows a possible asymmetry, which tends to be confirmed by the rank correlation test (Kendall Tau = 1.00, p = .083) and regression for funnel plot asymmetry (Z = 1.85, p = .065). Fail-safe was of 43 to null ES.

Moderator Analyses. Moderators analyses are presented in table 2. Only the proportion of women appears to have an impact on ES, the more caregiving women in the sample, the smaller was the Reduced Personal Accomplishment when caregiving. The age and the sampling did not have a significant impact.

Professional Emotional Exhaustion

Most of the included studies on professional burnout focused on comparing double-duty

caregivers (i.e., healthcare professionals also providing informal care) with healthcare professionals not providing informal care. Because of that, the analyses for professional exhaustion were first performed on double-duty studies only, and then including the additional white-collar study (where white-collar workers providing informal care were compared to those not providing such care). Among the seven double-duty studies, four considered that individuals were double-duty caregivers if they had a child, regardless of the presence of an illness, disability, or any trouble requiring special care (DePasquale, Mogle, et al., 2018; DePasquale, Polenick, et al., 2018; DePasquale, Zarit, et al., 2018; Häusler et al., 2017). In those cases, individuals having a child without illness, disability, or any trouble were considered as part of the control group and not as double-duty caregivers. One study presented adjusted rather than raw means (Boumans & Dorant, 2014). Standard errors were thus converted to standard deviations in order to compute the effect size in a more conservative way (Altman & Bland, 2005).

Summary Effect Size. Fig. 2e presents the summary effect size for professional emotional exhaustion. In the six studies on double-duty caregivers, effect-sizes ranged from null (d = 0.01) to small (d = 0.26). The summary effect-size was small but highly significant (d = 0.18, 95% CI = [0.12; 0.24], k = 6, Z = 6.11, p < .001). Indicators did not highlight heterogeneity between the studies (Q (5) = 5.54, p = .353, I^2 = 0). The inclusion of the white-collar study led to comparable results (d = 0.18, 95% CI = [0.13; 0.24], k = 7, Z = 6.32, p < .001, Q (6) = 5.62, p = .467, I^2 = 0, see Fig. 2f).

Risk of Bias. For double duty caregiving studies, Fig. 3e did not seem to present asymmetry, which seems confirmed by the rank correlation test (Kendall Tau = -0.33, p = .469) and by the regression for funnel plot asymmetry (Z = -0.89, p = .372). The Fail-safe was of 50. The inclusion of the white-collar study led to comparable results

(Kendall Tau = -0.24, p = .562, Z = -0.72, p = .472, Fail-safe = 64, see Fig. 3f).

Moderator Analyses. As shown in Table 2, moderator analyses for double-duty caregivers did not highlight any significant moderator. Comparable results were highlighted when including the white-collar study.

Discussion

The present study aimed at investigating if informal caregivers experience more burnout than non-caregivers. To do so, a literature review highlighted eighteen studies, eleven on family burnout (i.e., spouses and parents) and seven on professional burnout (i.e., double-duty caregivers and white-collar workers). For family burnout, meta-analyses showed a significant increase of emotional exhaustion, depersonalization, and personal accomplishment when providing care for a relative. For professional burnout, meta-analyses have highlighted a significant increase in professional burnout when providing informal care. In regard to the role accumulation theory, such findings suggest that the addition of the caregiving role does put an additional weight on the individuals (Bastawrous, 2013).

Most of the family burnout studies were investigating parental burnout. The analyses support that caring for a child with special needs represent a risk of parental burnout. This area of research is growingly investigated (Sánchez-Rodríguez et al., 2019). This impact is small to moderate, which could explain why some studies did not identify a significant role of caregiving in their initial studies (Lindahl Norberg et al., 2014; Mikolajczak et al., 2018). An important amount of heterogeneity remains to be considered to refine the understanding of their experiences.

On the opposite, few studies investigated spousal burnout. The concept of spousal burnout does not represent a widespread field of research in itself, despite some

299 research on couples (Pines & Nunes, 2003) or marital burnout (Leaman, 1983). Most
300 research has focused on the "crossover of burnout", the impact of professional burnout
301 on the worker's spouse health (Bakker, 2009) or the spouse as a social resource when
302 facing burnout (Appel & Kim-Appel, 2008).

303 Most of the studies in professional burnout included in the present review
304 focused on double or triple-duty caregivers (i.e., healthcare professionals also providing
305 informal care). The present results highlight the permeability of an individual among its
306 different roles (Bianchi, Truchot, Laurent, Brisson, & Schonfeld, 2014). Although the
307 effect sizes remain quite small, these results highlight the necessity to consider that
308 professional burnout is not solely job related (Schaufeli & Taris, 2014), and that caring
309 professionals might be prone to be impacted by informal caregiving. Future studies
310 should investigate more in depth how double-duty caregivers might experience this
311 double-caring overload and what could make them particularly at risk (Ward-Griffin,
312 St-Amant, & Brown, 2011).

313 It appears that little research has been performed on the impact of informal
314 caregiving on professional burnout, apart from double-duty caregivers. In addition to
315 the included study (Dorant & Boumans, 2016), one investigation has quantitatively
316 examined burnout in the "sandwiched generation" (i.e., having a child at home and at
317 the same time providing informal care to a parent) (Pines, Neal, Hammer, & Icekson,
318 2011). This study did not include a control group and was thus not included but it
319 indicated that informal care stressors were one of the elements leading to professional
320 burnout, even more than stressors related to parenting. Regarding out present results,
321 future research on various forms of burnout should therefore, at minimum, control for
322 the presence of informal caregiving and at best try to understand in which ways it
323 interferes with their different other roles.

The online research of articles led to finding more than ten thousand references. The 97 finally screened studies indicated that terms used to describe caregivers are very diverse (e.g., caregivers, partners, mothers, parents, significant others, primary caregivers, care-providers). The term caregivers covers many roles outside of informal caregiving, the two mains involving being either a parent or a nurse. This polysemy and the profusion of terms underscore the need to have a better reporting of studies investigating informal or family caregiving. The terms of double or triple-duty caregiving also appear ambiguous. Indeed, several studies considered that parents of typical children could be considered as double caregivers, while other studies considered only parents of children with a disability or an illness as potential double-duty caregivers. In the present work, we used only the latter definition since it is more representative of having an additional strain or double duty in such cases. However, such conceptual ambiguity could lead to misunderstandings in this emerging literature.

Perspectives

Beyond parents, spouses, white-collar workers, and formal caregivers, the present results mostly pave the way of extending the consideration of non-professional burnout to informal caregivers. Although the origin of burnout is solely professional, chronic stress – and, as a consequence, burnout – is not exclusive to work (Bianchi et al., 2014). This kind of approach has led to the consideration of forms of burnout such as parental or student burnout, and now allows to consider the existence of the informal caregiver burnout (Gérain & Zech, 2019). The present literature screening has permitted to identify a rising number of studies using burnout measures to investigate caregiving strain. This use of burnout measures could be a way to answer criticisms regarding the actual ways of apprehending caregiving strain (Bastawrous, 2013; Mosquera et al.,

2016).

Conclusions and Implications

The present results support the increase of strain experienced when someone informally provides care to a relative. This was clearly shown for parents and formal caregivers, and to a lesser extent for spouses and white-collar workers. The direct implication of these results is to better understand one aspect of the impact of the pressure exerted on the caregiver, as long-term care systems rely more and more on them. In terms of public policies, showing the global impact of informal care on other spheres (such as parenting, or work), also highlight the necessity to consider informal care as a key-element throughout the system and not only when focusing on the care recipient's health.

The second main implication is the necessity to directly address the possibility of a form of burnout applied to informal caregivers. The present summary provides strong indicators that informal caregiving has an impact on other roles burnout. It thus calls for a necessary consideration of informal caregiving burnout in itself.

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Declaration of interest statement

The authors declare that the research was conducted in the absence of any commercial

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Declaration of interest statement

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560 **Appendix**
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562 **Appendix 1 : Prisma checklist.**
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565 **Tables**
566 Table 1. Characteristics of the included studies.
567 Table 2. Moderator analyses.

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Tables

Table 1. Characteristics of the included studies.

Authors	Publ. Year	Type	Sample's origin	Sampling	Receiver's issue	Type of caregiving	BO scale	N IC	N control	% Female IC	IC age
Family care burnout studies (parental and spouse caregivers)											
Basaran et al.	2013	Article	Turkey	Purposive	Cerebral Palsy	Parent	MBI-P	143	60	44.1	33.3
Benutto	2016	Thesis	Online (Eng)	Purposive	Cerebral Palsy	Parent	MBI-P	106	101	98.5	30.0
Duygyn & Sezgin	2003	Article	Turkey	Purposive	Mental disab.	Parent	MBI-P	118	121	100.0	34.0
Gérain & Zech	2018	Article	Online (Fr/Eng)	Random	Unspecific	Parent	PBI	132	717	86.5	38.2
Klaric et al.	2010	Article	Bosnia & Herz.	Purposive	PTSD	Spouse	MBI-S	153	77	100.0	45.1
Lindahl N. et al.	2007	Article	Sweden	Random	Cell transplant	Parent	SMBQ	44	259	54.5	41.0
Lindahl N. et al.	2014	Article	Sweden	Random	Brain tumour	Parent	SMBQ	278	403	56.4	n.m.
Lindström et al.	2010	Article	Sweden	Random	IBD & TD1M	Parent	SMBQ	289	124	56.4	43.3
Mikolajczak et al.	2018	Article	Online (Fr)	Random	Unspecific	Parent	PBI	194	1529	89.2	42.6
Séjourné et al.	2018	Article	France	Random	Unspecific	Mix	BMS-P	27	236	100.0	36.7
Weis	2002	Article	USA	Purposive	Autism & MR	Parent	MBI-P	80	40	100.0	n.m.
Professional burnout studies (double duty caregivers and office workers)											
Boumans & Dorant	2014	Article	Netherlands	Random	Unspecific	Double-Duty mix	UBOS	93	235	90.3	47.6
DePasquale, Mogle et al.	2018	Article	USA	Random	Unspecific	Double-Duty adult	MBI	300	672	92.4	37.4
DePasquale, Polenick, et al.	2018	Article	USA	Random	Unspecific	Double-Duty adult	MBI	152	394	100.0	43.1
DePasquale, Zarit, et al.	2018	Article	USA	Random	Unspecific	Double-Duty adult	MBI	34	89	0.0	35.3
Dorant & Boumans*	2016	Article	Netherlands	Random	Unspecific	Office workers	UBOS	62	499	64.5	44.9
Häusler et al.	2017	Article	Switzerland	Random	Unspecific	Double-Duty adult	CBS	112	1294	94.6	n.m.
Yank et al.	2019	Letter	Online (USA)	Random	Unspecific	Double-Duty mix	MZBS	918	4695	100.0	40.7

Note. BO scale = Burnout scale used as a base for the questionnaire. IC = Informal Caregivers. * Dorant & Boumans had two distinct sample: one in a care company (CC) and one in a financial company (FC). IBD = Inflammatory bowel disease. TD1M = Type 1 Diabetes Melitus. MR = Mental Retardation. MBI = Maslach Burnout Inventory. MBI-P = Maslach Burnout Inventory adapted to parenting. MBI-S = Maslach Burnout Inventory adapted to spouse. SMBQ = Shirom Melamed Burnout Questionnaire. PBI = Parental Burnout Inventory. BMS = Burnout Measure Short form adapted to parenting. UBOS = Utrecht Burn Out Scale. CBS = Copenhagen Burnout Inventory. MZBS = Mini Z Burnout Survey.

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Table 2. Moderator analyses.

	Family Care burnout									Professional burnout					
	Family care Exhaustion (k = 10)			Parental exhaustion (k = 9)			Family care reduced positive accomplishment (k = 4)			Double duty exhaustion (k = 6)			Professional exhaustion (k = 7)		
Moderator	B	Z	p	B	Z	p	B	Z	p	B	Z	p	B	Z	p
Adult receiver or mix	**0.60**	**2.83**	**.005**												
Specific Scale	0.30	1.32	.187	0.19	1.06	.288									
Purposive Sampling	**0.42**	**2.40**	**.016**	0.28	1.83	.067	0.27	0.99	.324						
Caregiver mean age	-0.01	-0.35	.723	**-0.04**	**-3.25**	**.001**	-0.04	-1.00	.317	-0.01	-0.77	.440	-0.01	-0.67	.504
%WomenCg	0.01	1.58	.114	0.00	1.05	.296	**-0.01**	**-3.45**	**.001**	0.00	0.48	.628	0.00	0.32	.746
Study Quality	0.33	1.72	.085	0.22	1.40	.163	0.28	1.01	.315	0.19	1.84	.066	0.12	1.36	.173
Publication Year	-0.00	-0.04	.970	0.02	0.35	.726	0.00	0.05	.963	0.03	1.22	.223	0.02	1.05	.293
Scimago Journal rank	-0.36	-0.98	.326	-0.07	-0.31	.758	0.12	0.23	.819	0.01	0.57	.566	0.01	0.57	.566

Note. No moderator analyses could be performed on depersonalization/emotional distancing due to the small number of included studies (k = 3). Family care burnout encompasses the studies in parental exhaustion plus the adult study, Klaric et al. (2010). Professional exhaustion studies encompass double duty exhaustion studies, plus Dorant & Boumans (2016), the white-collar study. %WomenCg = proportion of female caregivers. Specific Scale = Burnout scale specific to one role.

Figures

Fig. 1. PRISMA flowchart of the inclusions process of the studies.
Fig. 2. Summaries of the differences in means between informal caregivers and non-caregivers in different contexts.
Fig. 3. Funnel plots of the included studies.