Received: 18 August 2021 | Accepted: 27 January 2022

DOI: 10.1111/jmft.12584

ORIGINAL ARTICLE

JMFT Journal of Marital and Family Therapy

A new way to measure partner burden in depression: Construction, validation, and sensitivity to change of the partner burden in depression questionnaire

Friederike Winter MSc[1] | **Marc N. Jarczok**[2] | **Marco Warth**[1] | **Susanne Hembd-Peuse MSc**[1] | **Beate Ditzen**[1] | **Corina Aguilar-Raab**[1,3]

[1]Institute of Medical Psychology, Medical Faculty, Heidelberg University, Heidelberg, Germany

[2]Department of Psychosomatic Medicine and Psychotherapy, University Clinic Ulm, Ulm, Germany

[3]Department of Psychology, University of Kassel, Kassel, Germany

Correspondence
Corina Aguilar-Raab, Institute of Medical Psychology, Medical Faculty, Heidelberg University, Bergheimer Str. 20, Heidelberg 69115. Germany.
Email: corina.aguilar-raab@med.uni-heidelberg.de

Funding information
Mind and Life Institute, Grant/Award Number: Francisco J. Varela Award; Universitätsklinikum Heidelberg, Grant/Award Numbers: Physician-Scientist-Program, Stiftungen & Preise; Heidelberg University, Grant/Award Number: Olympia Morata Program

Abstract

Depression occurs in an interpersonal dynamic and living with a depressed person can lead to a significant burden on the partner. Instruments measuring burden do not address couples and often measure caregiving for individuals with schizophrenic disorders. The partner burden in depression (PBD) questionnaire is a new instrument measuring PBD by asking individuals, (1) which symptoms they can observe in their depressed partners and (2) to which degree this burdens them. Hence, PBD combines measuring the awareness of observed depressive symptoms and the resulting burden. Additionally, it addresses aspects unique to couple relationships. Our German validation confirmed a one-factor model with 12 items. The PBD had good psychometric properties and was sensitive to change. Partner burden predicted self-reported depressive symptoms (PHQ-9) over time. PBD is short, easily applicable in research and

practice and can add to the understanding of partner effects in depression.

KEYWORDS
depression, partner burden in depression, relationship quality, social support, system quality

1 | INTRODUCTION

Depression ranks among the most prevalent mental disorders worldwide and is highly relevant for health politics. In Germany, 11.6% of individuals experience a major depressive disorder (MDD) once in their lives. Ambulatory claims data show a relative increase in depressive diagnoses (ICD: F32, F33, or F34.1) of 26% between 2009 and 2017, with a stronger increase in men although women were overall still twice as likely to be diagnosed (Steffen et al., 2020). Within 5 years after remission of the first depressive episode, 31.5% of individuals experience another episode (Bukh et al., 2016).

Besides mood and cognitive impairments, individuals with depressive symptoms often experience social and interpersonal problems (Hames et al., 2013; Kupferberg et al., 2016) and difficulties in their couple relationship (Fink & Shapiro, 2013). While depressive symptoms can impair social functioning and lead to decreased relationship quality (Hames et al., 2013; Hirschfeld et al., 2000), discord in relationships is associated with depressive symptoms and can limit the outcome of individual therapy (Whisman & Baucom, 2012). Hence, a vicious circle can start in which depressive disorders harmfully affect the quality of life in patients and their significantly close family members. More specifically, depressive symptoms may lead to biased interpersonal perceptions, which can, in turn, lead to decreased engagement in adaptive social interaction and positive communication (Joormann & Gotlib, 2007; Overall & Hammond, 2013; Rehman et al., 2008). Further, past research has shown empathy, perspective-taking, and sexual satisfaction to be reduced in depression, which is likely to impair relationship quality in consequence (Kupferberg et al., 2016). Even years after recovery from depression, problems in social functioning can still persist (Rhebergen et al., 2010). Furthermore, low relationship quality can lead to maintenance or increase of symptoms (Denton et al., 2010; Kronmüller et al., 2011). Hence, researchers go beyond the question of which problem came first and assume a reciprocal association of depression and relationship quality (Barry et al., 2019; Morgan et al., 2018; Rehman et al., 2008).

While healthy relationships with significant others can have a fundamentally positive impact on life expectancy by improving physical and mental health (Ditzen et al., 2019; Holt-Lunstad et al., 2010), reversely, low relationship quality can have detrimental health effects (Robles et al., 2014). Partners seem to jointly influence their health and depressive symptoms seem to be one manifestation in this social dynamic interplay (Kiecolt-Glaser & Wilson, 2017; Lal & Bartle-Haring, 2011). Further, common psychotherapy treatments have shown only small to medium effects on improvement in social functioning, which could not be fully explained by the improvement of depressive symptoms (Renner et al., 2014). It is helpful to measure marital adjustment in patients with depressive symptoms to improve their outcomes in individual psychotherapy (Vittengl et al., 2020). Partners are likely to play an important role in the cure, maintenance, or worsening of depression. Therefore, it is key to study exactly how and to what extent partners are affected by the depressive symptoms of their significant other.

2 | PARTNER BURDEN IN PSYCHOPATHOLOGY

Research has shown that partners can be burdened by experiencing relationship conflicts, rumination, and feelings of helplessness (Benazon & Coyne, 2000; Cohen et al., 2010). Partners of individuals with a depressive disorder have reported impaired general mental health (Joutsenniemi et al., 2011; Wieser et al., 2016). Often, partners spend an enormous amount of time taking care of their significant other, additionally to the inpatient or outpatient health care that these might receive. This can be a positive experience but also may burden the caregiving partner (Ohaeri, 2003), including objective burden such as financial costs and subjective burden such as feelings of shame, guilt, or discrimination (Awad & Voruganti, 2008; Friedrich et al., 2012). Moreover, the roles that the partners take within the relationship can be fundamentally changed, challenging the system to adjust (A. B. Horn & Maercker, 2015). With regard to depression, caregivers have reported experiencing worries, tiredness, sleeplessness, lack of appetite, interpersonal conflict, and symptoms of anxiety and depression (Marguerite et al., 2017; van Wijngaarden et al., 2004). Above this, and specific to depression, partners of depressed patients report substantial fear of suicide risk. Caregivers of inpatient partners reported an increase in the use of medication, suggesting a need for treatment for partners themselves (van Wijngaarden et al., 2004). Some authors suggest fundamentally including the partner in therapy to improve treatment and to simultaneously address the relationship quality, the burden of the partner, and the disorder of the other individual (Baucom et al., 2018; Beach & Whisman, 2012).

3 | PARTNER VERSUS CAREGIVER

It is important to mention that the terms caregiver, relative, and partner are not completely interchangeable and might represent different persons. A relative could be any family member whereas the term partner indicates a close and romantic relationship. Partners or relatives can be caregivers although a caregiver does not necessarily have to be related to a person. For instance, a caregiver can also be a legal guardian. The term rather focuses on the activity: A caregiver is defined as "a person who attends to the needs and provides assistance to someone else who is not fully independent" (American Psychological Association n.d.). Mostly referring to the context of children, elderly, or severe illness such as cancer, caregiving implies a supervisory responsibility for a person and assistance in daily life activities (e.g., hygiene). In the context of depression, a similar intensity of caregiving might only be required in very severe forms. Therefore, there can be a qualitative difference between caregivers and intimate partners.

Additionally, there might be a level difference: The close links between depressive symptoms and quality of couple relationships (Bodenmann & Randall, 2013; Robles et al., 2014) suggest that there is an impact on partners beyond the burden that other family members might experience. For example, sexual satisfaction might be reduced due to depressive symptoms (Bodenmann & Ledermann, 2007). Therefore, partner burden might be unique to the context of couple relationships and, to our knowledge, there is a lack to specifically measure it.

4 | PREVIOUS QUESTIONNAIRES

Previous instruments were developed mostly for caregivers or relatives. They divide caregiver burden into objective and subjective factors, differentiating between financial and other objective aspects on the one side and feelings of helplessness among other subjective aspects on the other side.

The majority of instruments are based on burden in relatives in the context of the schizophrenia spectrum or dementia and it is possible that they measure a construct that does not fully overlap with partner burden in depression (PBD). Among the previous questionnaires, the Zarit Burden Scale has been specifically developed for the context of aging and dementia (Zarit et al., 1980). The Involvement Evaluation Questionnaire (IEQ; Bernert et al., 2001) has been validated in a sample of relatives of individuals with schizophrenia spectrum disorders. Similarly, the Family Burden Questionnaire (FBQ; Möller–Leimkühler, 2005) has been developed based on an interview measuring the burden in families who care for a patient with schizophrenic symptoms at home (Pai & Kapur, 1981). The Burden Assessment Scale (Reinhard et al., 1994) has been developed predominantly in caregivers of persons with schizophrenic symptoms, while a German validation study has included a range of disorders (Hunger et al., 2016). Although there can be similar symptoms in depressive and schizophrenic disorders and some studies have suggested no difference to partner burden (Hadryś et al., 2011; van Wijngaarden et al., 2004), other studies have reported less burden in caregivers of individuals with depressive compared to schizophrenic symptoms (Möller–Leimkühler, 2006). Hence, it might be useful to measure PBD with items particularly matched to depressive symptoms rather than using items that were initially designed in the context of other mental or physical disorders. These might have a different focus such as asking about supervision behavior of the index patient or dealing with aggressive behavior (van Wijngaarden et al., 2004). To avoid underestimation of PBD, more precise items matched to depressive symptoms are necessary.

5 | PURPOSE OF THE PRESENT STUDY

The objective of the study was to develop and validate a new questionnaire to measure PBD. In a first sample, we aimed to examine the factor structure, reliability, and construct validity with regard to relationship quality, social system quality, and social support. We expected to detect negative correlations between the PBD and measures of relationship quality, social system quality, and social support. Contrarily, we expected positive correlations between the PBD and symptom measures. In a second sample, we aimed to investigate the sensitivity to change and the predictive validity of the PBD in a longitudinal design. Finally, we expected to detect change sensitivity as a result of the clinical intervention. We hypothesized that

H1: The PBD will be negatively correlated with relationship quality, social system quality, and social support and positively correlated with depressive symptoms.

H2: Controlling for the effect of the intervention and baseline depression levels, the PBD at measurement point one will predict the severity of depression at measurement point two.

6 | METHODS

6.1 | Development of the PBD

The 13 items of the PBD were taken from several sources: (1) A total of five items (PBD items 1, 5, 6, 7, and 8; see Table 1) were taken from the widely administered Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001) and rephrased so that individuals could indicate, which depressive symptoms they observe in their *partners* (e.g., the PHQ-9 item "Feeling down, depressed or hopeless" was rephrased to "My partner is feeling down,

TABLE 1 Item analysis and factor loadings

Items	*M*	*SD*	Factor loading	r_{itc}	α_{id}	*p*
Scale Cronbach's $\alpha = 0.87$						
1. My partner is feeling down, depressed, and hopeless.	1.07	1.9	0.73	0.70	0.85	0.21
2. My partner has no drive.	0.80	1.6	0.61	0.58	0.86	0.16
3. My partner is withdrawing.	0.74	1.6	0.73	0.75	0.85	0.15
4. My partner is not interested in joint activities.	0.48	1.3	0.50	0.53	0.86	0.09
5. My partner has difficulties falling asleep, sleeping through the night, or sleeps more.	0.48	1.8	0.47	0.51	0.86	0.30
6. My partner has a decreased appetite or an excessive hunger to eat.	0.32	1.3	0.30	0.37	0.87	0.12
7. My partner has thoughts that they would rather be dead or that they would like to harm themself.	0.44	1.2	0.45	0.47	0.85	0.06
8. My partner has a poor opinion of themself or feels like a failure or disappointment.	0.63	1.8	0.70	0.68	0.86	0.23
9. My partner has difficulties making decisions.	0.56	1.8	0.58	0.60	0.87	0.25
10. My partner is slow in thought processes.	0.29	1.3	0.32	0.31	0.87	0.09
11. My partner has reduced or no sexual interest.	0.34	1.7	0.35	0.37	0.87	0.20
12. My partner's depressive problems lead to difficulties in the family and among friends.	0.70	1.5	0.78	0.75	0.85	0.12
13. My partner's depressive problems lead to difficulties in our relationship.	0.80	1.9	0.88	0.86	0.84	0.20

Note: Initial 13 items measured in EFA-sub-sample from the online sample (sample 1); factor loadings for Partner Burden; α_{id} = alpha if an item is dropped; *p* = item difficulties; r_{itc} = corrected item-to-total correlation.

depressed or hopeless"). (2) A total of two items was taken from the PHQ-9 but further adjusted to facilitate the rating by the partner (e.g., PHQ-9 item "Feeling tired or having little energy" was transformed to "My partner has no drive"). The two PHQ-9 items measuring concentration and decision-making problems were reformulated to ask for concentration and decision-making problems in a more general and observable manner (e.g., PHQ-9 item "Trouble concentrating on things, such as reading the newspaper or watching television" was transformed to "My partner has difficulties making decisions" and "My partner is slow in thought processes"). (3) A total of five items was formulated and additionally included to specifically address the context of romantic relationships: We rephrased the PHQ-9 item "Little interest or pleasure in doing things" to "My partner is not interested in joint activities" and included two additional items ("My partner is withdrawing" and "My partner has a reduced or no sexual interest"). To ask for general negative interpersonal consequences we added the final two items (PBD item 12 "My partner's depressive problems lead to difficulties in the family and among friends" and PDB item 13 "My partner's depressive problems lead to difficulties in our relationship").

6.2 | Procedure

This study consisted of two samples, which were both approved by the local ethics committee at Heidelberg University in Germany. (1) Sample 1 was a cross-sectional online survey (Leiner, 2020) in which participants agreed to an online informed consent before filling out demographic data and the questionnaires. As an incentive, participants could win vouchers for online shopping and/or receive individual feedback on their relationship quality (as measured in a questionnaire) if both partners participated. (2) Sample 2 was part of a larger research project (Aguilar-Raab et al., 2018) at the Institute for Medical Psychology at Heidelberg University Hospital. Heterosexual couples without psychological burden versus couples with high depressive symptoms in women were cross-sectionally compared in self-report questionnaires such as the newly developed PBD among other parameters (Aguilar-Raab et al., 2018). All burdened couples were invited for 2 consecutive laboratory days before and after an intervention. On both measurement points, they responded to a survey on a tablet via SoSci Survey among other assessments (Aguilar-Raab et al., 2018). After measurement point one, the burdened couples were randomized to a cognitively based compassion training (CBCT®) for couples, consisting of 10 weekly group-based sessions of secular compassion training (for a detailed description see Aguilar-Raab et al., 2018) or treatment-as-usual (TAU). After the intervention, couples were invited to the laboratory for measurement point two. For ethical reasons, couples in the TAU group were offered to participate in the training after study completion. Furthermore, couples received 50€ per lab day for their participation.

6.3 | Participants

Participants in sample 1 (online sample) were recruited via university mailing lists, social media, self-help platforms, self-help groups for persons with depression and their relatives, and counseling centers. Persons could participate if they were over 18 years old and in a romantic relationship for at least 1 year. In case of suicidal tendencies, participants were informed about local institutions. The intervention sample (sample 2) was part of a larger randomized controlled clinical trial (Aguilar-Raab et al., 2018), which had a primarily psychobiological focus in evaluating the intervention. For this trial, heterosexual couples were recruited via newspaper articles, postings in public places, institutions, social media, in outpatient psychiatric and psychological centers, and in the psychiatric and psychosomatic clinic of the Heidelberg University Hospital. Due to the psychobiological, precisely stress physiological focus of the overall research project, the higher prevalence of MDD in women than men in the general population combined with limited infrastructural resources, the study focused on women with depressive disorders to keep the trial feasible (Aguilar-Raab et al., 2018). Male partners filled out the PBD questionnaire before and after the training. Couples were eligible to participate if they were at least 20 years old and in a romantic relationship for at least 2 years. Persons reporting psychotic symptoms, suicidal tendencies, bipolar disorders, and current substance abuse were excluded from the study and informed about alternative treatment options.

6.4 | Measures

6.4.1 | Partner burden in depression

The 13-item questionnaire was developed to measure the partner burden associated with the depressive symptoms in partners as observed by individuals: Thirteen items measure which depressive symptoms a person observes in their partner and how much burden these symptoms cause for their own selves. Each item lists one potential depressive symptom observable in partner A. When partner B completes the questionnaire, they express, how much burden it causes to own selves to observe these symptoms in partner A. Items are answered on a 6-point Likert scale from 0 to 5 with an increasing level of burden (zero meaning that the symptom is rated as not present). No items are reversed. A total sum score is calculated. Therefore, higher values stand for a greater partner burden.

6.4.2 | Depressive symptoms

Levels of depressive symptoms were measured with the Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001). The PHQ-9 is a self-report measure capturing depressive symptoms in the past 2 weeks, matched to the criteria for MDD in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5; American Psychiatric Association 2015). Internal consistency was previously reported to be good with $\alpha = 0.89$ (Kroenke et al., 2001) and in our study to be $\alpha = 0.92$.

Additionally, the Hamilton Depression Rating Scale (HDRS) was used to measure current depressive symptoms in the intervention sample (Hamilton, 1960). The clinician-administered interview was led by trained psychologists in our study. The inter-rater reliability was reported to range between Pearson's $r = 0.82$ to $r = 0.98$ and internal consistency between $\alpha = 0.46$ to $\alpha = 0.92$ (Bagby et al., 2004). In our study, Cronbach's alpha was $\alpha = 0.90$.

6.4.3 | Psychological distress

Psychological distress was measured with the Brief Symptom Inventory (BSI-18; Derogatis, 2000). The Global Severity Index (GSI) reflects a global sum score of all eighteen items. In a German validation study, internal consistency was reported to range from $\alpha = 0.82$ to $\alpha = 0.93$ (Franke et al., 2017). In our study, internal consistency was $\alpha = 0.93$.

6.4.4 | Relationship quality

The Partnership Questionnaire (PFB; Hahlweg, 1979) measures relationship quality on three dimensions (conflict behavior, tenderness, communication/similarities). The items indicate how often one's partner shows a specific behavior. A higher number reflects a higher level of relationship quality. Internal consistency was reported to range between $\alpha = 0.85$ to $\alpha = 0.93$ (Hinz et al., 2001) and in our study to be $\alpha = 0.84$.

6.4.5 | System quality

Social system quality was measured with the Evaluation of Social Systems Scale (EVOS; Aguilar-Raab et al., 2015). The instrument measures the current quality of the relationship within a system (couples, families, or others) and the collective efficacy (e.g., "For me, the way we make decisions is..."). An additional item captures the perceived agreement of the answers within the members of the social system. The instrument is free from assumptions or judgment and theoretically based on systems and constructivist theory. Internal consistencies range between $\alpha = 0.87$ to $\alpha = 0.92$ (Aguilar-Raab et al., 2015). In our study, Cronbach's alpha for the overall scale was $\alpha = 0.93$.

6.4.6 | Social support

The Berlin Social-Support Scales (BSSS) were used to measure social support (Schwarzer & Schulz, 2000). For the purpose of this study, only two subscales were used (available social support, received social support). For both subscales, internal consistencies were good $\alpha = 0.83$ (Schulz & Schwarzer, 2003) and in our study slightly higher with $\alpha = 0.94$ and $\alpha = 0.92$, respectively.

6.5 | Statistical analyses

All analyses were performed with R version 4.0.3 (R Core Team, 2020) using the psych package for factor analysis (Revelle, 2020). Missing data and assumptions of normality were checked. Sociodemographic and other relevant study variables were compared between the two samples using *t*-tests, which are expected to be robust against non-normal distributions with regard to the large sample size (Gollwitzer et al., 2010).

The validation of the PBD was based on the online sample (sample 1), which was randomly split into 75/25% of the sample for the explorative and the confirmatory factor analysis (CFA) to ensure enough data for both methods. For the explorative factor analysis (EFA), the number of factors was determined using the eigenvalue criteria, scree-test, and parallel analysis (Cattell, 1966; Gollwitzer et al., 2010; J. L. Horn, 1965). Reliability was examined using Cronbach's alpha. Item difficulties and item-to-total correlations were calculated.

The CFA was performed with maximum likelihood estimation with robust standard errors and a Satorra-Bentler scaled test statistic, which is recommended for non-normal but complete data (Gollwitzer et al., 2010; Rosseel, 2012). The models were evaluated using the χ^2-test, the Comparative Fit Index, the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR).

To assess the construct validity, Kendall's Tau correlations of the PBD with relevant variables were calculated with Bonferroni correction for alpha-error accumulation. The prognostic validity of the PBD was analyzed in the men of the intervention sample (sample 2). Levels of depressive symptoms posttreatment (t2) were predicted by the PBD pretreatment (t1) controlling for baseline levels of depressive symptoms and the effects of the intervention in a hierarchical multiple regression analysis. The prognostic validity was examined regarding the self-reported PHQ-9 and the clinician-administered HDRS.

A repeated measurements ANOVA with a 2×2 design (EG/CG x pre/post measurement point) and *t*-test for simple contrasts between the groups at each measurement were calculated to examine the change of PBD over time in the treatment and control group. The standardized effect size (SES) and the standardized response mean (SRM) reflect the change of the sample means. The SES reflects mean change over time relative to the standard deviation at t1, while the SRM mirrors mean change divided by the average change in standard deviation (Husted et al., 2000). Additionally, the Guyatt's Responsiveness Index (GRI) was computed, which represents the mean change in the experimental group to the standard deviation of the control group (Guyatt et al., 1987). Finally, Norman's *S* was calculated, which reflects the variance due to change divided by the sum of change variance plus error variance (Norman, 1989). No gold standard has previously been set to interpret the levels of responsiveness (Husted et al., 2000).

7 | RESULTS

A total of $N = 673$ participants completed the online survey. Nine participants were excluded due to double participation and 115 participants were excluded due to insufficient relationship duration resulting in an online sample (sample 1) of $N = 549$ participants, randomly split into $n_{efa} = 137$ and $n_{cfa} = 412$ for the explorative and confirmatory factor analyses. These subsamples did not differ significantly regarding any of the study variables. In the intervention sample (sample 2), 21 participants dropped out or were excluded after T1 (e.g., for the lack of a depressive diagnosis in women), and data at T2 was missing for two participants. Therefore, the intervention sample (sample 2) was reduced to $N = 41$ couples. Sample characteristics and descriptive analyses are presented in Supplements 1 and 2.

7.1 | Exploratory factor analysis

A Kaiser-Meyer Olkin criterion of 0.86 and a significant Bartlett's test for sphericity $\chi^2(78) = 652.772$, $p < 0.001$, confirmed the EFA sample to be suitable for factor analysis (Tabachnick & Fidell, 2007). The scree plot and the parallel analysis both indicated one factor, while the eigenvalue criteria suggested three factors. The one factor model of the EFA accounted for 36% of the variance. One item (item 10: "My partner is slow in thought processes") had a relatively low factor loading (0.32) and a very high item difficulty (0.09). Excluding the item improved the proportion of explained variance to 38%. The extracted factor for the accepted one-factor solution was named Partner Burden. Internal consistencies were good, ranging $\alpha = 0.84$ to $\alpha = 0.87$, and the corrected item-to-total correlations were high with the exceptions of item 6 ($r_{itc} = 0.39$) and item 11 ($r_{itc} = 0.36$), which were kept because of their acceptable factor loadings. Factor loadings and item characteristics are presented in Table 1.

7.2 | Confirmatory factor analysis

The one-factor solution was tested in the remaining 75% of the online sample (sample 1) using CFA without item 10. The one-factor model did not show an ideal fit to the data according to the significant χ^2-test and a ratio of $\chi^2/df > 2$ [63]. Other fit indices were acceptable with RMSEA = 0.08, CFI = 0.916, and SRMR = 0.049. The correlation of residuals between items

3 and 4 of $r = 0.18$ indicated an association of item 3 (withdraw) and item 4 (joint activities) outside their factor loadings on the partner burden factor. Because this association is theoretically reasonable, a model with post-hoc modifications allowing the residuals of items 3 and 4 to covary was tested. The χ^2-test to compare the two models indicated a better fit for the modified model, $\chi^2(1) = 43.533$, $p < 0.001$. The overall internal consistency was $\alpha = 0.87$. Fit indices are reported in Supplement 3, while Figure 1 shows the final factor model of the PBD without item 10. The final PBD items are listed in Supplements 5 and 6 in English and German, respectively.

7.3 | Construct validity

Confirming H1, the PBD showed small positive and significant correlations with depressive symptoms and small to moderate negative significant associations with relationship quality, system quality, and social support in both the online and the intervention sample. Kendall's Tau correlations are reported in Table 2.

7.4 | Prognostic validity

In the intervention sample (sample 2), participants were on average 44.07 years old ($SD = 15.17$) and in a relationship for on average 12.09 years ($SD = 9.66$). Hierarchical multiple regression analysis showed that PBD at t1 could predict self-reported depressive symptoms (PHQ-9) at t2, while controlling for baseline levels of depressive symptoms and the effect of the

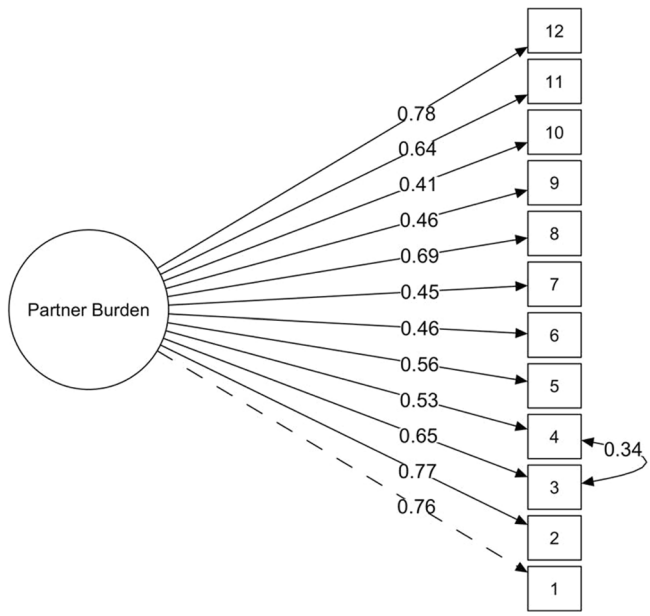

FIGURE 1 Factor model of the partner burden questionnaire. Factor loadings for each item (after deletion of item 10) in confirmatory factor analysis noted to individual paths; covariance of error between the items 3 and 4 as indicated by curved arrows

TABLE 2 Correlations of the partner burden in depression with convergent measures

	PHQ-9	BSI	HDRS	PFB	EVOS	BSSS-p	BSSS-r
PBD_{EFA}	0.29***	0.26***	-	−0.31***	−0.41***	−0.23***	−0.39***
PBD_{CFA}	0.29***	0.27***	-	−0.33***	−0.41***	−0.22***	−0.28***
$PBD_{sample2}$	0.24**	-	0.20**	−0.47***	−0.37***	−0.37***	−0.27***

Note: Kendall's Tau correlations; PBD without item 10 in all three samples; PBD in intervention sample (sample 2) pre-training (without items 10 and 13); ***$p < 0.001$; **$p < 0.01$. HDRS (Hamilton Depression Rating Scale) was only measured in the intervention sample (sample 2); BSI (Brief Symptom Inventory) was only measured in the online sample (sample 2); BSSS-p, Berlin Social Support Scales-perceived social support; BSSS-r, Berlin Social Support Scales-received social support; EVOS, Evaluation of Social Systems Scale; PFB, Partnership Questionnaire; PHQ-9, Patient Health Questionnaire-9.

TABLE 3 Predictive validity

	B	*SE*	*T*	R^2	R^2 adj.	ΔR^2 adj	*F*
Self-reported							
PHQ-9 t1	0.494	0.136	3.641***				
Intervention	−0.094	0.284	−0.329				
PBD	0.295	0.138	2.139*	0.360	0.308	0.065	6.934
Clinician-assessed							
HDRS t1	0.403	0.165	2.440*				
Intervention	0.157	0.346	0.453				
PBD	0.084	0.160	0.523	0.147	0.078	−0.017	2.124

Note: Dependent variables self-reported PHQ-9 (Patient Health Questionnaire-9) at t2 and clinician-assessed HDRS (Hamilton Depression Rating Scale) at t2; models with standardized predictors; $n = 41$ from the intervention sample (sample 2); *ΔR2 adj* = difference to baseline model with only Intervention and PHQ-9 t1/HDRS t1 as predictors.

intervention. Confirming H2 means that the higher the partner burden pretreatment, the higher the levels of depressive symptoms posttreatment. The total explained variance in self-reported depressive symptoms was $R^2 = 0.31$, while the incremental variance for partner burden was $R^2{}_\Delta = 0.05$. However, this was not shown for clinician-rated depressive symptoms (HDRS). Post-hoc power analysis using G*Power (Faul et al., 2009) suggested a sample size of $n = 82$ to detect a medium-sized incremental effect of $R^2 = 0.09$ for the final step of the regression with a power (1-β) of 0.80 and $\alpha = 0.05$. Results of the regression analyses are reported in Table 3.

7.5 | Sensitivity to change

There were significant differences in PBD between groups ($F[39] = 13.163$, $p < 0.001$, $\eta^2 = 0.145$) and measurement points ($F[39] = 6.214$, $p < 0.05$, $\eta^2 = 0.073$). Yet, the interaction of time and group remained insignificant ($F[39] = 0.852$, $p = 0.362$, $\eta^2 = 0.011$). Simple contrasts at each measurement point revealed that no significant difference was found at t1 but a significant difference at t2. All other indicators of sensitivity to change showed considerable responsiveness of the PBD over time. The results are displayed in Supplement 4, indicating a high sensitivity to change for the PBD.

8 | DISCUSSION

The PBD is a new instrument to measure PBD with 12 items. Hence, the questionnaire is short and easily applicable in research and practice. The overall internal consistency was good and the PBD was positively correlated with depressive symptoms and negatively associated with relationship and social system quality. The PBD predicted self-reported depressive symptoms in a longitudinal design and showed considerable change over time as reflected in several indicators of sensitivity-to-change. The PBD can advance the field of couple research and therapy in several ways: First, the PBD exclusively measures partner burden rather than burden in relatives overall. It reflects aspects in a romantic relationship, for example, reduced interest in sexual activities. Partner burden is likely to be a key part of the interpersonal and circular dynamic of depressive disorders within the couple system (Benazon & Coyne, 2000; Davila, 2001). A burdened partner might experience difficulties engaging in a positive or constructive interaction with their significant other, possibly reducing relationship quality and adaptive self and emotional coregulation (Rehman et al., 2008). Partner burden or the potential relationship discord that come along with it can reinforce depressive symptoms—a result which was supported in our intervention sample (sample 2) and in previous findings, even over a period of 2 years (Woods et al., 2019). Therefore, the PBD can inform about an important aspect within the interpersonal dynamic of depression. This makes the PBD attractive for use in the couple research or therapy context and differentiates the questionnaire from previous instruments (e.g., Hunger et al., 2016). Second, the PBD asks individuals about their awareness of depressive symptoms in their partners and how much observing them makes them feel burdened. This approach also allows to measure if individuals observe depressive symptoms without being burdened by them. Notably, burden scales that are not specific to depression tend to not ask for suicide tendencies or tendencies to self-harm. However, given that suicide ideation is one of the most threatening symptoms for close relationships (May et al., 2019), assessing for the partner burden in dealing with this constant or recurring threat is essential when focusing on the partner perspective.

8.1 | Strengths of the study

The PBD fills a gap in couple and depression-focused research: It measures an individual's awareness of depressive symptoms in their partner and combines this with a self-report on the consequential subjective partner burden. The PBD is short enough to be administered in couple therapy if a depressive disorder is a primary diagnosis. Participants in the online sample (sample 1) were diverse with regard to their sexual orientation reflecting approximately the general German population (Pöge et al., 2020). We used both a cross-sectional (online) and a longitudinal intervention design, studying prognostic validity with rigor.

8.2 | Limitations

Despite the strengths of the study, some limitations have to be reported. In the intervention sample (sample 2), the last item (initially item 13) had to be deleted from the analyses because the option to report that the content of the item is not at all applicable was not given. However, this item represents a superordinate item, which is inherent in all other items. Therefore, we do not expect the analysis for the prognostic validity to be diminished. Further, PBD focuses on partner burden in the context of depressive symptoms. This precise focus represents a strength but also a limitation since depressive

disorders are often accompanied by comorbid symptoms such as anxiety. Hence, PBD might be best used if depressive disorders are the primary diagnosis. Future studies should examine whether burden is different if comorbid symptoms such as anxiety are present or if depression is a secondary diagnosis. Another limitation is that the questionnaire was only validated in its German version. More than 95% of participants in both samples had German nationality and more than 75% achieved either a higher secondary school certificate or a university degree. Future studies should examine a more diverse sample regarding race and education. We strived to include participants of all genders in our online sample. Yet, we had almost twice as many female participants compared to men and only one person identifying as nonbinary, preventing us to test the influence of gender on subjective PBD. We expect the generalizability of results to be limited to populations with similar demographic characteristics. Correlations with previous questionnaires measuring burden in family members or caregivers should have been calculated to report the convergent validity more comprehensively.

8.3 | Future aspects

Future research may examine if some depressive symptoms cause more partner burden than others. Moreover, partner burden could be studied as a mediator between depression and relationship quality. Intervention studies might explore how partner burden during the process of couple or individual therapy. This would add to research on the inclusion of partners into therapy. Additionally, studies could compare PBD in different samples, for example comparing between high and low severity of depression. It is important to test whether results can be replicated in more diverse samples regarding race, gender identities, and education. Validation studies of English and other language versions are also important goals to be pursued further.

9 | CONCLUSION

PBD provides the opportunity to measure partner burden as caused by observed depressive symptoms with a short and profoundly validated questionnaire. It is a specific measure for partner burden in the couple context and in depressive syndromes, which are highly prevalent mental disorder that is exceptionally related to interpersonal dynamics.

ACKNOWLEDGMENTS

We would like to thank all individuals who participated in this study. This study has enormously benefited from the work of our research assistants and interns. Marc N. Jarczok and Marco Warth received funding from the Physician-Scientist Program of the Medical Faculty at Heidelberg University. Friederike Winter received a grant from "Stiftungen & Preise" of the Medical Faculty at Heidelberg University. Corina Aguilar-Raab received two Francisco J. Varela Awards by the Mind and Life Organization was further supported by the Olympia Morata Program at Heidelberg University. Open Access funding enabled and organized by Projekt DEAL.

ORCID

Friederike Winter http://orcid.org/0000-0003-2877-2267
Marc N. Jarczok http://orcid.org/0000-0002-6055-385X
Marco Warth http://orcid.org/0000-0003-3277-5516

Beate Ditzen http://orcid.org/0000-0001-5853-4572
Corina Aguilar-Raab http://orcid.org/0000-0001-9956-7047

REFERENCES

Aguilar-Raab, C., Grevenstein, D., & Schweitzer, J. (2015). Measuring social relationships in different social systems: the construction and validation of the evaluation of social systems (EVOS) scale. *PLoS One*, *10*(7), e0133442. https://doi.org/10.1371/journal.pone.0133442

Aguilar-Raab, C., Jarczok, M. N., Warth, M., Stoffel, M., Winter, F., Tieck, M., Berg, J., Negi, L. T., Harrison, T., Pace, T. W. W., & Ditzen, B. (2018). Enhancing social interaction in depression (SIDE study): Protocol of a randomised controlled trial on the effects of a cognitively based compassion training (CBCT) for couples. *BMJ Open*, *8*(9), e020448. https://doi.org/10.1136/bmjopen-2017-020448

American Psychiatric Association. (2015). *Diagnostisches und statistisches manual psychischer störungen DSM-5*. APA.

American Psychological Association. (n.d.). *Caregiver. In APA dictionary of psychology*. https://dictionary.apa.org/caregiver

Awad, A. G., & Voruganti, L. N. P. (2008). The burden of schizophrenia on caregivers. *PharmacoEconomics*, *26*(2), 149–162. https://doi.org/10.2165/00019053-200826020-00005

Bagby, R. M., Ryder, A. G., Schuller, D. R., & Marshall, M. B. (2004). The hamilton depression rating scale: Has the gold standard become a lead weight? *American Journal of Psychiatry*, *161*(12), 2163–2177. https://doi.org/10.1176/appi.ajp.161.12.2163

Barry, R. A., Barden, E. P., & Dubac, C. (2019). Pulling away: Links among disengaged couple communication, relationship distress, and depressive symptoms. *Journal of Family Psychology*, *33*(3), 280–293. https://doi.org/10.1037/fam0000507

Baucom, D. H., Fischer, M. S., Worrell, M., Corrie, S., Belus, J. M., Molyva, E., & Boeding, S. E. (2018). Couple-based intervention for depression: An effectiveness study in the National Health Service in England. *Family Process*, *57*(2), 275–292. https://doi.org/10.1111/famp.12332

Beach, S. R. H., & Whisman, M. A. (2012). Affective disorders. *Journal of Marital and Family Therapy*, *38*(1), 201–219. https://doi.org/10.1111/j.1752-0606.2011.00243.x

Benazon, N. R., & Coyne, J. C. (2000). Living with a depressed spouse. *Journal of Family Psychology*, *14*(1), 71–79. https://doi.org/10.1037/0893-3200.14.1.71

Bernert, S., Kilian, R., Matschinger, H., Mory, C., Roick, C., & Angermeyer, M. C. (2001). Die erfassung der belastung der angehörigen psychisch erkrankter menschen (The assessment of burden on relatives of mentally Ill people: The German version of the Involvement Evaluation Questionnaire [IEQ-EU]). *Psychiatrische Praxis*, *28*(Suppl 2), 97–101.

Bodenmann, G., & Ledermann, T. (2007). Depressed mood and sexual functioning. *International Journal of Sexual Health*, *19*(4), 63–73. https://doi.org/10.1300/J514v19n04_07

Bodenmann, G., & Randall, A. K. (2013). Close relationships in psychiatric disorders. *Current Opinion in Psychiatry*, *26*(5), 464–467. https://doi.org/10.1097/YCO.0b013e3283642de7

Bukh, J. D., Andersen, P. K., & Kessing, L. V. (2016). Rates and predictors of remission, recurrence and conversion to bipolar disorder after the first lifetime episode of depression—A prospective 5-year follow-up study. *Psychological Medicine*, *46*(6), 1151–1161. https://doi.org/10.1017/S0033291715002676

Cattell, R. B. (1966). The screen test for the number of factors. *Multivariate Behavioral Research*, *1*(2), 245–276. https://doi.org/10.1207/s15327906mbr0102_10

Cohen, S., O'Leary, K. D., & Foran, H. (2010). A randomized clinical trial of a brief, problem-focused couple therapy for depression. *Behavior Therapy*, *41*(4), 433–446. https://doi.org/10.1016/j.beth.2009.11.004

Davila, J. (2001). Paths to unhappiness: The overlapping courses of depression and romantic dysfunction. In S. R. H. Beach (Ed.), *Marital and family processes in depression: A scientific foundation for clinical practice* (pp. 71–87). American Psychological Association. https://doi.org/10.1037/10350-004

Denton, W. H., Carmody, T. J., Rush, A. J., Thase, M. E., Trivedi, M. H., Arnow, B. A., Klein, D. N., & Keller, M. B. (2010). Dyadic discord at baseline is associated with lack of remission in the acute treatment of chronic depression. *Psychological Medicine*, *40*(3), 415–424. https://doi.org/10.1017/S0033291709990535

Derogatis, L. R. (2000). *Brief Symptom Inventory 18—Administration, scoring, and procedures manual*. NCS Pearson.

Ditzen, B., Eckstein, M., Fischer, M., & Aguilar-Raab, C. (2019). Partnerschaft und Gesundheit [Romantic relationships and health]. *Psychotherapeut*, *64*(6), 482–488. https://doi.org/10.1007/s00278-019-00379-9

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149–1160.

Fink, B. C., & Shapiro, A. F. (2013). Coping mediates the association between marital instability and depression, but not marital satisfaction and depression. *Couple and Family Psychology: Research and Practice*, *2*(1), 1–13. https://doi.org/10.1037/a0031763

Franke, G. H., Jaeger, S., Glaesmer, H., Barkmann, C., Petrowski, K., & Braehler, E. (2017). Psychometric analysis of the Brief Symptom Inventory 18 (BSI-18) in a representative German sample. *BMC Medical Research Methodology*, *17*(1), 14. https://doi.org/10.1186/s12874-016-0283-3

Friedrich, F., Unger, A., Freidl, M., Stelzig-Schöler, R., Rittmannsberger, H., Simhandl, C., Grill, W., Doby, D., & Wancata, J. (2012). Prädiktoren für die Belastung von Angehörigen Schizophreniekranker—Risks for burden among relatives caring for schizophrenia patients. *Psychiatrische Praxis*, *39*(7), 339–344. https://doi.org/10.1055/s-0032-1305318

Gollwitzer, M., Eid, M., & Schmitt, M. (2010). *Statistik und Forschungsmethoden*. Beltz.

Guyatt, G., Walter, S., & Norman, G. (1987). Measuring change over time: Assessing the usefulness of evaluative instruments. *Journal of Chronic Diseases*, *40*(2), 171–178. https://doi.org/10.1016/0021-9681(87)90069-5

Hadryś, T., Adamowski, T., & Kiejna, A. (2011). Mental disorder in Polish families: Is diagnosis a predictor of caregiver's burden? *Social Psychiatry and Psychiatric Epidemiology*, *46*(5), 363–372. https://doi.org/10.1007/s00127-010-0200-8

Hahlweg, K. (1979). Konstruktion und Validierung des Partnerschaftsfragebogen PFB. *Zeitschrift für Klinische Psychologie*, *8*(1), 17–40.

Hames, J. L., Hagan, C. R., & Joiner, T. E. (2013). Interpersonal processes in depression. *Annual Review of Clinical Psychology*, *9*, 355–377. https://doi.org/10.1146/annurev-clinpsy-050212-185553

Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery and Psychiatry*, *23*(1), 56–62. https://doi.org/10.1136/jnnp.23.1.56

Hinz, A., Stöbel-Richter, Y., & Brähler, E. (2001). Der Partnerschaftsfragebogen (PFB): Normierung und soziodemographische Einflussgrößen auf die Partnerschaftsqualität = The 'Partnerschaftsfragebogen' (marital quality questionnaire): Psychometric norms and sociodemographic influences on partnership quality. *Diagnostica*, *47*(3), 132–141. https://doi.org/10.1026//0012-1924.47.3.132

Hirschfeld, R. M., Montgomery, S. A., Keller, M. B., Kasper, S., Schatzberg, A. F., Moller, H. J., Healy, D., Baldwin, D., Humble, M., Versiani, M., Montenegro, R., & Bourgeois, M. (2000). Social functioning in depression: A review. *Journal of Clinical Psychiatry*, *61*(4), 268–275.

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine*, *7*(7), e1000316. https://doi.org/10.1371/journal.pmed.1000316

Horn, A. B., & Maercker, A. (2015). Anpassung an ein belastendes Ereignis im Paar: Depressionen beim Partner als Risiko für das Auftreten von Anpassungsstörungen [Adjustment to a stressful event in the couple: Depression of the partner as risk for adjustment disorder]. *Psychotherapy, Psychosomatik, Midizinische Psychologie*, *65*(08), 296–303.

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, *30*(2), 179–185. https://doi.org/10.1007/BF02289447

Hunger, C., Krause, L., Hilzinger, R., Ditzen, B., & Schweitzer, J. (2016). When significant others suffer: German validation of the Burden Assessment Scale (BAS). *PLoS One*, *11*(10), e0163101. https://doi.org/10.1371/journal.pone.0163101

Husted, J. A., Cook, R. J., Farewell, V. T., & Gladman, D. D. (2000). Methods for assessing responsiveness: A critical review and recommendations. *Journal of Clinical Epidemiology*, *53*(5), 459–468. https://doi.org/10.1016/S0895-4356(99)00206-1

Joormann, J., & Gotlib, I. H. (2007). Selective attention to emotional faces following recovery from depression. *Journal of Abnormal Psychology*, *116*(1), 80–85. https://doi.org/10.1037/0021-843X.116.1.80

Joutsenniemi, K., Moustgaard, H., Koskinen, S., Ripatti, S., & Martikainen, P. (2011). Psychiatric comorbidity in couples: A longitudinal study of 202,959 married and cohabiting individuals. *Social Psychiatry and Psychiatric Epidemiology*, *46*(7), 623–633. https://doi.org/10.1007/s00127-010-0228-9

Kiecolt-Glaser, J. K., & Wilson, S. J. (2017). Lovesick: How couples' relationships influence health. *Annual Review of Clinical Psychology*, *13*, 421–443. https://doi.org/10.1146/annurev-clinpsy-032816-045111

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine*, *16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kronmüller, K.-T., Backenstrass, M., Victor, D., Postelnicu, I., Schenkenbach, C., Joest, K., Fiedler, P., & Mundt, C. (2011). Quality of marital relationship and depression: Results of a 10-year prospective follow-up study. *Journal of Affective Disorders*, *128*(1), 64–71. https://doi.org/10.1016/j.jad.2010.06.026

Kupferberg, A., Bicks, L., & Hasler, G. (2016). Social functioning in major depressive disorder. *Neuroscience and Biobehavioral Reviews*, *69*, 313–332. https://doi.org/10.1016/j.neubiorev.2016.07.002

Lal, A., & Bartle-Haring, S. (2011). Relationship among differentiation of self, relationship satisfaction, partner support, and depression in patients with chronic lung disease and their partners. *Journal of Marital and Family Therapy*, *37*(2), 169–181. https://doi.org/10.1111/j.1752-0606.2009.00167.x

Leiner, D. J. (2020). *SoSci Survey (Version 3.2.16)*. https://www.soscisurvey.de

Marguerite, S., Laurent, B., Marine, A., Tanguy, L., Karine, B., Pascal, A., & Xavier, Z. (2017). Actor-partner interdependence analysis in depressed patient-caregiver dyads: Influence of emotional intelligence and coping strategies on anxiety and depression. *Psychiatry Research*, *258*, 396–401. https://doi.org/10.1016/j.psychres.2017.08.082

May, A. M., Crenshaw, A. O., Leifker, F., Bryan, C. J., & Baucom, B. R. W. (2019). Knowledge of suicide history, current depressive symptoms, and future suicide risk within couples. *Behaviour Research and Therapy*, *120*, 103394. https://doi.org/10.1016/j.brat.2019.03.015

Möller–Leimkühler, A. M. (2005). Burden of relatives and predictors of burden. Baseline results from the Munich 5-year-follow-up study on relatives of first hospitalized patients with schizophrenia or depression. *European Archives of Psychiatry and Clinical Neuroscience*, *255*(4), 223–231. https://doi.org/10.1007/s00406-004-0550-x

Möller–Leimkühler, A. M. (2006). Multivariate prediction of relatives' stress outcome one year after first hospitalization of schizophrenic and depressed patients. *European Archives of Psychiatry and Clinical Neuroscience*, *256*(2), 122–130. https://doi.org/10.1007/s00406-005-0619-1

Morgan, P., Love, H. A., Durtschi, J., & May, S. (2018). Dyadic causal sequencing of depressive symptoms and relationship satisfaction in romantic partners across four years. *American Journal of Family Therapy*, *46*(5), 486–504. https://doi.org/10.1080/01926187.2018.1563004

Norman, G. R. (1989). Issues in the use of change scores in randomized trials. *Journal of Clinical Epidemiology*, *42*(11), 1097–1105. https://doi.org/10.1016/0895-4356(89)90051-6

Ohaeri, J. U. (2003). The burden of caregiving in families with a mental illness: A review of 2002. *Current Opinion in Psychiatry*, *16*(4), 457–465. https://doi.org/10.1097/00001504-200307000-00013

Overall, N. C., & Hammond, M. D. (2013). Biased and accurate: Depressive symptoms and daily perceptions within intimate relationships. *Personality and Social Psychology Bulletin*, *39*(5), 636–650. https://doi.org/10.1177/0146167213480188

Pai, S., & Kapur, R. L. (1981). The burden on the family of a psychiatric patient: Development of an interview schedule. *British Journal of Psychiatry*, *138*(4), 332–335. https://doi.org/10.1192/bjp.138.4.332

Pöge, K., Dennert, G., Koppe, U., Güldenring, A., Matthigack, E. B., & Rommel, A. (2020). The health of lesbian, gay, bisexual, transgender and intersex people. *Journal of Health Monitoring*, *5*, 3294–3299. https://doi.org/10.25646/6449

R Core Team. (2020). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org

Rehman, U. S., Gollan, J., & Mortimer, A. R. (2008). The marital context of depression: research, limitations, and new directions. *Clinical Psychology Review*, *28*(2), 179–198. https://doi.org/10.1016/j.cpr.2007.04.007

Reinhard, S. C., Gubman, G. D., Horwitz, A. V., & Minsky, S. (1994). Burden assessment scale for families of the seriously mentally ill. *Evaluation and Program Planning*, *17*(3), 261–269. https://doi.org/10.1016/0149-7189(94)90004-3

Renner, F., Cuijpers, P., & Huibers, M. J. H. (2014). The effect of psychotherapy for depression on improvements in social functioning: A meta-analysis. *Psychological Medicine*, *44*(14), 2913–2926. https://doi.org/10.1017/S0033291713003152

Revelle, W. (2020). *Procedures for psychological, psychometric, and personality research*. https://personality-project.org/r/psych

Rhebergen, D., Beekman, A. T. F., de Graaf, R., Nolen, W. A., Spijker, J., Hoogendijk, W. J., & Penninx, B. W. J. H. (2010). Trajectories of recovery of social and physical functioning in major depression, dysthymic disorder and

double depression: A 3-year follow-up. *Journal of Affective Disorders*, *124*(1), 148–156. https://doi.org/10.1016/j.jad.2009.10.029

Robles, T. F., Slatcher, R. B., Trombello, J. M., & McGinn, M. M. (2014). Marital quality and health: A meta-analytic review. *Psychological Bulletin*, *140*(1), 140–187. https://doi.org/10.1037/a0031859

Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, *48*(2), 1–36. https://doi.org/10.18637/jss.v048.i02

Schulz, U., & Schwarzer, R. (2003). Soziale unterstützung bei der krankheitsbewältigung: Die Berliner Social Support Skalen (BSSS) = Social support in coping with illness: The Berlin Social Support Scales (BSSS). *Diagnostica*, *49*(2), 73–82. https://doi.org/10.1026//0012-1924.49.2.73

Schwarzer, R., & Schulz, U. (2000). Berlin Social Support Scales (BSSS). https://www.coping.de

Steffen, A., Thom, J., Jacobi, F., Holstiege, J., & Bätzing, J. (2020). Trends in prevalence of depression in Germany between 2009 and 2017 based on nationwide ambulatory claims data. *Journal of Affective Disorders*, *271*, 239–247. https://doi.org/10.1016/j.jad.2020.03.082

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Pearson Education.

van Wijngaarden, B., Schene, A. H., & Koeter, M. W. J. (2004). Family caregiving in depression: impact on caregivers' daily life, distress, and help seeking. *Journal of Affective Disorders*, *81*(3), 211–222. https://doi.org/10.1016/S0165-0327(03)00168-X

Vittengl, J. R., Clark, L. A., Thase, M. E., & Jarrett, R. B. (2020). Psychometric properties of the Marital Adjustment Scale during cognitive therapy for depression: New research opportunities. *Psychological Assessment*, *32*(11), 1028–1036. https://doi.org/10.1037/pas0000944

Whisman, M. A., & Baucom, D. H. (2012). Intimate relationships and psychopathology. *Clinical Child and Family Psychology Review*, *15*(1), 4–13. https://doi.org/10.1007/s10567-011-0107-2

Wieser, E., Tanja, R.-S., Glückler, C., Schmidt, A., Volkert, J., Reif, A., Kornhuber, J., & Biermann, T. (2016). Psychische Störung und Partnerschaft: Auswirkungen und Belastungen affektiver Störungen auf die Partnerschaft—Mental disorder and partnership: The influence and potential burden of affective disorders on the quality of partnerships. *Psychiatrische Praxis*, *43*(6), 305–311. https://doi.org/10.1055/s-0034-1387588

Woods, S. B., Priest, J. B., Signs, T. L., & Maier, C. A. (2019). In sickness and in health: The longitudinal associations between marital dissatisfaction, depression and spousal health. *Journal of Family Therapy*, *41*(1), 102–125. https://doi.org/10.1111/1467-6427.12207

Zarit, S. H., Reever, K. E., & Bach-Peterson, J. (1980). Relatives of the impaired elderly: Correlates of feelings of burden. *The Gerontologist*, *20*(6), 649–655.

SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

How to cite this article: Winter, F., Jarczok, M. N., Warth, M., Hembd-Peuse, S., Ditzen, B., & Aguilar-Raab, C. (2022). A new way to measure partner burden in depression: Construction, validation and sensitivity to change of the partner burden in depression questionnaire. *Journal of Marital and Family Therapy*, 48, 1111–1127. https://doi.org/10.1111/jmft.12584