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ORIGINAL ARTICLE

Surface-acting emotional labor predicts depressive symptoms among health care workers over a 2-year prospective study

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Abstract

Objective Surface-acting emotional labor (SaEL) is the requirement to hide or suppress felt emotions to achieve acceptable job performance. It is a common feature of jobs featuring interactions with the public, such as customers or patients. Resulting emotional inauthenticity is associated with psychological strain, but there have been few prospective studies of mental health outcomes.

Methods A self-administered questionnaire was distributed in 24 skilled nursing facilities at baseline and 23 facilities 2 years later. Permanent full-time and part-time employees in all jobs were eligible to participate. Respondents in these analyses provided survey information on the frequency of SaEL at baseline and depressive symptoms on both occasions. Those without depression at baseline were deemed at risk. Multivariable logistic regression modeling estimated adjusted odds ratios (aOR) for SaEL, other job features, and demographic characteristics.

Results A total of 939 eligible participants had no depression at baseline; 15% developed depressive symptoms. About two-thirds were direct care providers, including 38% nursing and medical assistants. Adjusted for potential confounders, workers with intermediate and high SaEL had a higher risk (aORs around 2). Symptom onset was also predicted by high work-family conflict, younger age and low decision latitude at work.

Conclusions In this prospective study of long-term care workers, those who reported experiencing high SaEL at the time of the baseline survey were at higher risk of developing depressive symptoms 2 years later. Both exposure and outcome could have suffered some misclassification. Future studies should examine a broader range of strategies for coping with emotional labor demands.

Keywords Surface-acting emotional labor · Mental health · Depression · Health care workers · Psychosocial working conditions

Background

In work with frequent interactions with the public such as customers or patients, workers often have to display certain emotions and to manage their emotions. This is called "emotional labor," especially when the emotional display is monitored and enforced by management (Hochschild 1983). Based on these effortful emotional regulation strategies by workers (Gross 1998), previous researchers have divided emotional labor into surface acting and deep acting (Grandey 2000). When exposed to demands for emotional labor, workers can modify their expressions reactively (surface acting) or modify both felt emotion and expressions proactively (deep acting) (Grandey 2000; Gross 1998). In deep acting, workers try to align their inner emotions to the display rule through cognitive change and experience the

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transition of emotion from negative to positive. This changes the felt emotion through situation reappraisal, followed by a sincere expression, which results in positive performance with the public. In surface acting, workers only change the expression through suppression, while felt emotions remain the same. This leads to an uncomfortable state of emotive dissonance and faked expressions which may be perceived negatively by the public (Grandey 2000; Grandey and Melloy 2017).

For health care workers (HCWs), emotional labor might be one part of the necessary professional identity, connected directly to human caring work. While caring for patients, HCWs express and manage their emotions with frequent interactions. If they can achieve this through deep acting, they can generate positive feelings and express authentic emotions; this enhances social interactions with patients, and, in turn, serves to strengthen one's mental resources (Grandey 2000; Hulsheger and Schewe 2011). Meanwhile, emotional discordance between felt emotions and expression in surface acting has been shown to lead to negative well-being and lower job performance due to a prolonged experience of inauthenticity and unpleasant social relationships with patients, in which mental resources are depleted (Hulsheger and Schewe 2011). In addition, emotional suppression during monitoring felt emotions to avoid showing true state was linked to lower well-being as consequences through burnout and job satisfaction based on the emotional regulation paradigm (Grandey and Melloy 2017).

Many of the studies of emotional labor with well-being focused on the psychological outcomes such as burnout and job satisfaction, not on well-defined mental health outcomes. However, a small number of cross-sectional studies have produced findings consistent with emotional demands being a risk factor for depression in general working population study (Murcia et al. 2013; Yoon et al. 2017). Compared with non-interpersonal service workers, HCWs who provided interpersonal services experienced longer duration, greater intensity, and a higher level of surface acting (Sohn et al. 2018). Among nurses, surface acting was associated with high levels of depressive symptoms (aOR: 2.46, 95% CI 1.56–3.86) (Yoon and Kim 2013). In a homecare worker study, emotional suppression was associated with a high risk of depression in the cross-sectional study, but not in the six months follow-up, in which they failed to find an association due to lead time bias with short follow-up period (Kim et al. 2013). Although a few recent studies have documented depressive symptoms or depression to be high in those with surface-acting emotional labor demands at work (Han et al. 2018; Kim et al. 2013; Murcia et al. 2013; Sohn et al. 2018; Yoon et al. 2017; Yoon and Kim 2013), all but one (Kim et al. 2013) of these were cross-sectional and thus unable to establish the direction of causality. In this study, we examined whether high surface-acting emotional labor was a risk factor for depressive symptoms among HCWs over a 2-year prospective study.

Methods

Setting and participants

The material was drawn from the Promoting Physical and Mental Health of Caregivers II (Pro-Care II) study, which examined a number of risk factors and workplace interventions in skilled nursing facilities (SNFs) that provide long-term care services within a single company in the US. The first ProCare II survey was conducted in 24 SNFs in 2012–2013. All permanent full-time and part-time direct employees (not through a temporary agency) over 18 years of age were invited to complete a standardized, self-administered questionnaire. Since the questions were answered on personal time, monetary compensation was offered to each participant. Participation was completely voluntary and informed consent was obtained from all respondents. The study protocol and questionnaire content have been previously described (Gold et al. 2017; Zhang et al. 2016) and were approved by the Institutional Review Board of the University of Massachusetts Lowell (12-056). A follow-up survey with a 2-year interval for each SNF was completed in 2014–2015 in 23 SNFs, excluding one which had closed in the interim.

To be included in the study population for the current analyses, a participant must have completed both surveys; have answered the questions on depressive symptoms (see below) at baseline (missing $n=9$) and follow-up survey (missing $n=7$); and have completed questions regarding surface-acting emotional labor at baseline survey (missing $n=27$) (Fig. 1). Also we excluded the participants who reported having received a diagnosis of depression ($n=6$), bipolar disorder ($n=1$), or anxiety ($n=2$) at the baseline survey.

Variables and measurements

Outcome variable

The outcome variable was depressive symptoms in the week prior to the survey, determined using the 10-item version of the Center for Epidemiological Studies Depression (CES-D) screening instrument in both the baseline and follow-up surveys (Chronbach's $\alpha=0.744$). The validity and reliability of CES-D have been well established (Radloff 2016) and it has been widely used in epidemiologic studies (Vilagut et al. 2016). The CES-D-10 has shown good reliability and validity in several populations (Bjorgvinsson et al. 2013). The participants who had no depressive symptoms at baseline

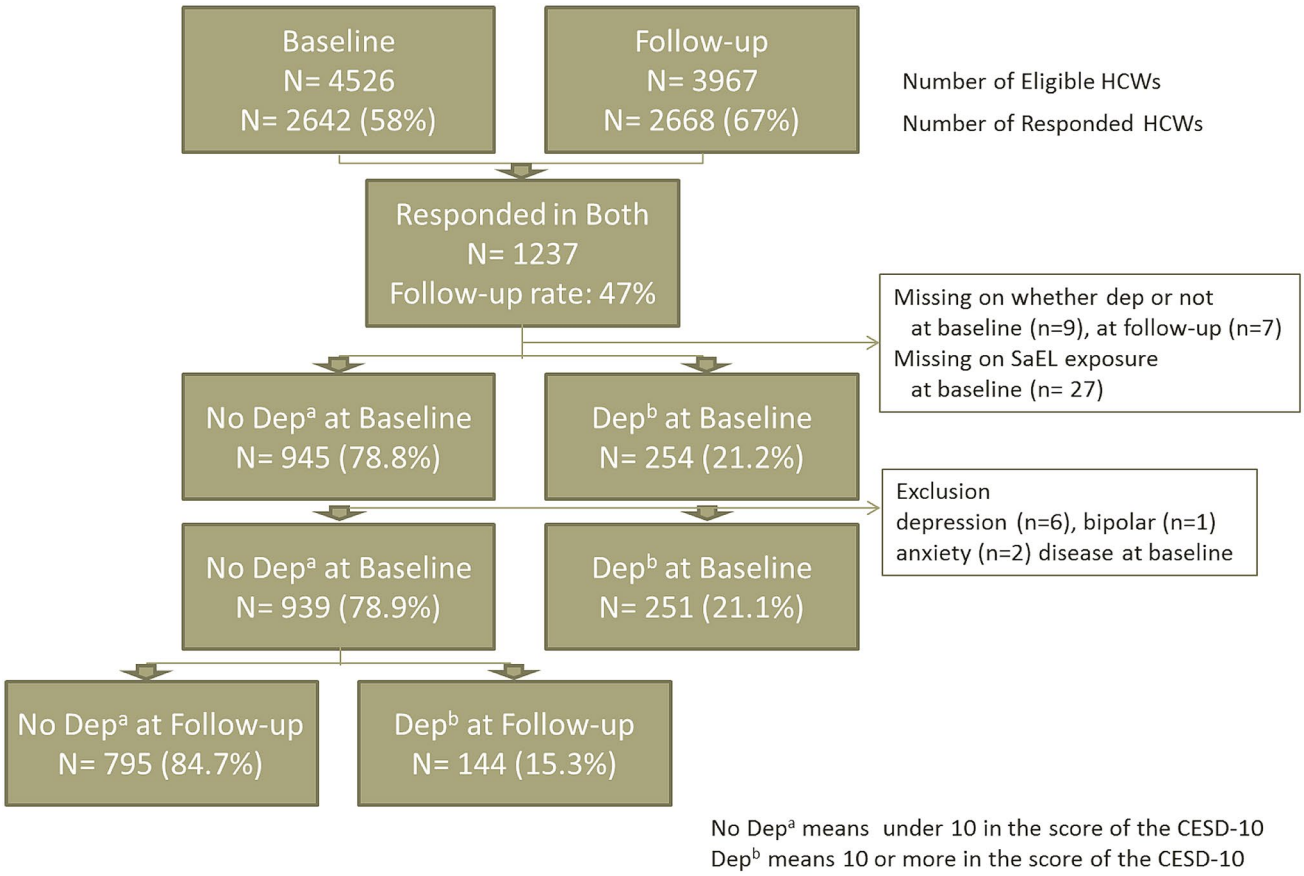

Fig. 1 Study participants

[CES-D-10 score under 10 (Andresen et al. 1994)] were considered at risk for depression at follow-up.

Exposure variables

Relevant independent variables were taken from the baseline survey. Surface-acting emotional labor was defined as hiding or suppressing felt emotions to show what is required for job performance (Grandey 2000; Hochschild 1983). It was measured in the baseline survey by asking the respondents three questions: how often do you (1) resist expressing your true feelings; (2) pretend to have emotions that you do not really have; and (3) hide your feelings about a situation (Brotheridge and Lee 2003). The answer categories for each question were never (1), rarely, sometimes, often, and many times (5). Chronbach's α was 0.774. We computed a composite score from the average of the three questions, which was divided into tertiles and labeled as low (1 to < 2), intermediate (2 to < 3), and high (3–5).

Demographic variables of age, gender, race, education, and marital status were considered potential confounding factors. Race was categorized into white, black (Afro-American), and others (Latino, Asian, Native American). Education was measured in total years of school and categorized into 13–16, 17, and 18–22 years. Marital status was categorized as (1) single, never married; (2) married or living with a partner; and (3) widowed, divorced or separated.

Job classification comprised (1) nursing assistants [certified nursing assistant (CNA), geriatric nursing assistant (GNA)] and certified medical assistants (CMA); (2) nurses [licensed practical nurse (LPN), registered nurse (RN)]; (3) physical and occupational therapists; (4) administrators and social workers; and (5) dietary, housekeeping, and maintenance personnel. Psychosocial factors were assessed with subsets of the Job Content Questionnaire (JCQ) to measure psychological demands, decision latitude (the sum of skill discretion and decision authority subscales), and social support (the sum of coworker support and supervisor support subscales). The validity and reliability of the JCQ have been established in large study populations (Karasek et al. 1998). Both psychological demands (PD, Chronbach's $\alpha = 0.478$) and decision latitude (DL, Chronbach's $\alpha = 0.739$) were dichotomized into high and low at their median values. Psychosocial job strain was defined using PD and DL: (1) low PD and high DL were put into the low strain group, (2) high PD and low DL into the high strain group, (3) low PD and

low DL into the passive group, and (4) high PD and high DL into the active group. Social support (Chronbach's $\alpha = 0.709$) was trichotomized into low, intermediate, and high at their tertile values.

Work-family imbalance was measured with three items: "After work I come home too tired to do some of the things I'd like to do;" "On the job, I have so much work to do that it takes away from my personal interests;" "My family and/or friends dislike how often I am preoccupied with my work while I am at home." Chronbach's α was 0.729. The average score of the three questions was dichotomized into high and low at their median values. These three questions were selected from the Work Interference with Family Scale (24 items), which has demonstrated good reliability and validity in different populations (Kopelman et al. 1983). Physical violence at work was measured with one item: "In the past 3 months, have you been hit, kicked, grabbed, shoved, pushed or scratched by a patient, patient's visitor or family member while you were at work?" with the response categories as *none*, *one time*, and *2 or more times*. Work shift schedule was categorized into the day, evening, night, or other/rotating.

Statistical method

Descriptive statistics and bivariate analyses were reviewed to assess range and power for analysis and to identify crude associations. Among the exposure variables, strong univariate predictors (chi-squared test, p values ≤ 0.10) were forced into the multivariate model to ensure that their effects were taken into account. Multivariable logistic regression modeling with the Wald test was used to calculate adjusted odds ratios and 95% confidence intervals. All statistical analyses were undertaken using SPSS version 25.

Results

At baseline, the number of eligible HCWs in 24 SNFs was 4526, of whom 2642 (58%) responded to the survey. At follow-up, in 23 SNFs, there were 3967 HCWs and 2668 (67%) of these responded. The number of the HCWs who responded to both was 1237, yielding a 2-year follow-up of 47% baseline participants. A total of 939 participants had no depression at baseline and no other exclusion factors.

At both baseline and follow-up, the study population was about 80% female, and about one-half of those who provided a year of birth were 40–60 years old (Table 1). About two-thirds were direct care providers, with 38% working as nursing aides or in similar jobs. Respondents were spread almost evenly across levels of surface-acting emotional labor: 34% low, 37% intermediate, and 29% high. Those scored as having low decision latitude represented 47% of the baseline population.

Among 939 HCWs who were free of depressive symptoms at baseline, 144 (15.3%) developed symptoms over 2 years (Table 1). New depressive symptoms were higher among those with intermediate and high surface-acting emotional labor, compared to those with a low baseline rating. Depression at follow-up was only slightly more likely among women than men but was notably higher among the youngest workers (aged 18 to <30) and those with less education, low social support, and low decision latitude. Symptoms were also more common among those working rotating shifts and reporting high work-family conflict.

After adjusting for potential confounders, workers with intermediate surface-acting emotional demands were 1.8 times more likely to develop depressive symptoms (adjusted odds ratio [aOR]; 95% confidence interval, 1.1 to 3.0) and those with high surface-acting emotional demands had an adjusted OR of 1.9 (1.1–3.3) (Table 2). Depressive symptoms were also predicted by low decision latitude (aOR = 1.4, 95% CI 0.9–2.2) and by high work-family conflict (aOR = 1.9, 95% CI 1.2–2.9). The odds ratios for high job strain and passive jobs were also elevated but with wide confidence intervals in a different model. Risk of depressive symptoms remained higher among the youngest workers.

Discussion

This 2-year prospective study of healthcare workers showed an exposure–response relationship between surface-acting emotional labor and the development of new depressive symptoms, after accounting for a number of other possible risk factors. Previous studies of surface-acting emotional labor have mostly focused on psychological outcomes, such as burnout and strain, or work performance (Hulsheger and Schewe 2011). These could plausibly lie on the causal pathway to poor mental health, through exhaustion, depersonalization, psychological strain, and/or job dissatisfaction. In the present study, we found an association between depressive symptoms and surface acting emotional demands with 2-year follow-up, raising questions about the necessary duration of exposure and latency period involved.

Surface acting requires workers to constantly monitor their feelings and desired emotions and adjust their emotional expression by suppression or faking to align with the professional or employer's display rule. In the emotional process, workers experience the discrepancy between actually felt emotions and required emotions (Hochschild 1983). This emotion-rule dissonance can cause an unpleasant state or emotional strain (Hulsheger and Schewe 2011). In addition, effortful emotional regulation is known to reduce workers' mental performance (Richards and Gross 2000)

Table 1 Demographic and occupational characteristics at baseline of 939 long-term care personnel with no depression at baseline, and cumulative incidence of depressive symptoms at follow-up (F/U)

	No Dep Sx at F/U		Dep Sx at F/U		Total	*p* value
Baseline study population	795	84.7%	144	15.3%		
Surface acting emotional labor						
Low (1 to < 2)	281	88.6%	36	11.4%	317	0.051
Intermediate (2 to < 3)	289	83.0%	59	17.0%	348	
High (3–5)	225	82.1%	49	17.9%	274	
Gender						
Male	145	87.3%	21	12.7%	166	0.305
Female	628	84.2%	118	15.8%	746	
Age						
18 to < 30	116	76.3%	36	23.7%	152	0.005
30 to < 40	153	88.4%	20	11.6%	173	
40 to < 50	185	82.6%	39	17.4%	224	
50 to < 60	220	88.4%	29	11.6%	249	
60 to < 73	85	88.5%	11	11.5%	96	
Race						
White	426	85.5%	72	14.5%	498	0.571
Black	251	84.5%	46	15.5%	297	
Others	118	81.9%	26	18.1%	144	
Education						
Edu year 13–16	55	77.5%	16	22.5%	71	0.085
Edu year 17	274	83.8%	53	16.2%	327	
Edu year 18–22	443	86.9%	67	13.1%	510	
Marital status						
Married	420	86.8%	64	13.2%	484	0.162
Single	231	81.9%	51	18.1%	282	
Widowed or divorced	137	83.0%	28	17.0%	165	
Job title						
Nurse	144	90.6%	15	9.4%	159	0.066
Nursing and medical assistants	292	82.3%	63	17.7%	355	
Physical and occupational therapist	91	89.2%	11	10.8%	102	
Administrator and social worker	87	85.3%	15	14.7%	102	
Housekeeping, maintenance, and dietary	181	81.9%	40	18.1%	221	
Psychosocial demand						
Low	377	84.9%	67	15.1%	444	0.782
High	385	84.2%	72	15.8%	457	
Decision latitude						
Low	343	80.3%	84	19.7%	427	0.001
High	428	88.6%	55	11.4%	483	
Job strain						
Low strain	207	87.3%	30	12.7%	237	0.003
High strain	171	78.1%	48	21.9%	219	
Passive group	161	82.6%	34	17.4%	195	
Active group	210	89.7%	24	10.3%	234	
Social support						
Low	299	79.5%	77	20.5%	376	0.002
Intermediate	258	86.9%	39	13.1%	297	
High	207	89.6%	24	10.2%	231	
Shift work						
Day	527	84.7%	95	15.3%	620	0.047
Evening	104	89.7%	12	10.3%	116	
Night	65	87.8%	9	12.2%	74	

Table 1 (continued)

	No Dep Sx at F/U		Dep Sx at F/U		Total	*p* value
Rotating	91	77.1%	27	22.9%	118	
Physical violence at work						
None	602	85.3%	104	14.7%	706	0.731
1 time	65	82.3%	14	17.7%	79	
2 times and more	124	83.8%	24	16.2%	148	
Work-family conflict						
Low	404	89.6%	47	10.4%	451	< 0.001
High	387	80.3%	95	19.7%	482	

p value by Chi-squared test

Total of 27 subjects were missing gender, 45 subjects age, 31 subjects education, 8 subjects marital status, 38 subjects psychosocial demand, 29 subjects decision latitude, 54 subjects job strain, 35 subjects social support, 11 subjects shift work, 6 subjects physical violence at work, and 6 subjects work-family conflict

and drain their mental resources (Zyphur et al. 2007). To suppress or adjust negative emotions and simulate positive emotions reduces the authenticity (Simpson and Stroh 2004), which is associated with depressed mood (Erickson and Wharton 1997).

Based on the social interaction model (Cote 2005), worker's emotional display is evaluated by the customer or client, who responds accordingly, and this eventually affects the worker again. When customers feel inauthenticity in interacting with workers, they react unfavorably compared to when in the presence of authentic displays (Hennig-Thurau et al. 2006). Under this interpersonal process, surface acting could influence a worker's negative emotional and psychological state of health through inauthentic interaction with patients. Considering the combination of these intra- and inter-personal mechanisms, we can anticipate detrimental effects of surface acting emotional labor on psychosocial well-being and mental health.

Psychosocial working conditions such as low decision latitude or job control has been shown repeatedly to increase depressive symptoms over time (Theorell et al. 2015). In an Australian cohort, workers with low job control were at twice the risk of anxiety and depression than those with high control (OR 2.04 95% CI 1.53–2.73) (Too et al. 2019). Also, job control alleviated negative outcomes, such as emotional exhaustion or low well-being, by emotion regulation (Grandey et al. 2005; Johnson and Spector 2007). There was a significant interaction between high emotional demand and low job control for the risk of depressive mood both in female (aOR: 1.96, CI 1.20–3.22) and male (aOR: 2.85, CI 1.13–7.17) service and sales workers (Han et al. 2018). In our study, low decision latitude had a marginally significant increased risk of depressive symptoms (aOR: 1.4, CI 0.9–2.2).

In Grandey and Melloy's revised model of emotional labor (Grandey and Melloy 2017), social climate such as social support affects the outcomes of emotional regulation and eventually leads to the worker's well-being. Supportive work interactions reduce the amount of surface acting required and support more deep acting. Feeling socially supported by colleagues buffers the detrimental effects of surface-acting emotional labor (Grandey et al. 2012). In our study, low social support was shown to increase risk of depressive symptoms (aOR: 1.4, CI 0.8–2.5) compared to high social support. Although not statistically significant, there was also an increased trend of depressive symptoms in relation to decision latitude and social support. Obviously, a larger number of subjects in future prospective research would be important to obtain more robust information about the mediating effect of social support and control on depression.

This study has strengths beginning with the 2-year follow-up of nearly one thousand workers. Emotional labor has often been studied in nurses, but in this study that was the job group with the lowest adjusted odds ratio for new depressive symptoms. In addition to nurses, we have also included various HCWs such as nursing and medical assistants, administer and social worker, housekeeping, maintenance, and dietary. The large number of individual and work environment characteristics assessed in the study questionnaire permitted us to include numerous potential causes of depression in the analyses.

This study has limitations, as well, measuring surface-acting emotional labor exposure once at baseline, with a question asking about the "average day at work." However, emotional labor demands might fluctuate from day to day, and, furthermore, average levels could have changed over the course of the 2-year study period. Similarly, depressive symptoms were assessed through questions referring to the week prior to the baseline and follow-up surveys. Although we have characterized the outcome as cumulative incidence, it could also be that individuals experienced multiple episodes of depressive symptoms, either before or during the follow-up period, which were not captured by this study

Table 2 Adjusted odds ratios (aORs) predicting the cumulative incidence of depressive symptoms over 2 years: multivariable logistic regression model of 939 long-term care personnel with no depression at baseline

	Adjusted OR	Lower CI	Upper CI
Surface acting emotional labor			
Low (1 to < 2)	Reference		
Intermediate (2 to < 3)	1.8	1.1	3.0
High (3–5)	1.9	1.1	3.3
Age			
18 to < 30	2.1	1.0	4.8
30 to < 40	1.2	0.5	2.7
40 to < 50	1.6	0.8	3.5
50 to < 60	0.9	0.4	2.0
60 to < 73	Reference		
Education			
13–16 years	Reference		
17 years	0.7	0.3	1.5
18–22 years	0.6	0.3	1.4
Job title			
Nurse	0.6	0.3	1.4
Nursing and medical assistants	0.9	0.5	1.5
Physical and occupational therapist	0.5	0.2	1.2
Administrator and social worker	1.2	0.5	2.5
Housekeeping, maintenance, and dietary	Reference		
Decision latitude			
Low	1.4	0.9	2.2
High	Reference		
Social support			
Low	1.4	0.8	2.5
Intermediate	1.1	0.6	1.9
High	Reference		
Shift work			
Day	Reference		
Evening	0.7	0.4	1.8
Night	0.8	0.4	1.9
Rotating	1.4	0.8	2.6
Work-family conflict			
Low	Reference		
High	1.9	1.2	2.9

OR odds ratio; *CI* confidence interval

Each odds ratio is adjusted for all other variables in the table

design. We also need to consider possible selection bias, especially that of the healthy worker effect. If a healthcare worker has difficulties in performing emotional labor, and especially if she or he becomes depressed in relation to these job demands, there may be a higher likelihood to quit the job. This bias might attenuate the measured effect of surface-acting emotional labor on depressive symptoms.

We focused only on the surface-acting form of emotional labor. However, each worker may use combinations of emotion regulation strategies to respond to their work context. According to latent profiles of emotional regulation strategies (Gabriel et al. 2015), workers could be classified into non-actors, low actors, surface actors, deep actors, and regulators based on a person-centered perspective. Surface acting is just one category in this classification. In their professional relationships with patients, HCWs often have repeated interactions with each person, which is different than the one-time interactions that typically occur in service encounters such as at airport check-in counters or call centers. Thus, HCWs may develop a mix of surface-acting and deep-acting EL. We could not compare healthcare work with other job types in the current data, nor did we obtain information about how our study subjects used selected sets of strategies

preferentially over others to manage their emotion in the nursing homework environment. It is possible that different strategies or profiles have consequent outcomes on depressive symptoms or other mental health outcomes. We suggest that future research on emotional labor and mental health compare the effects among different types of client relationships as well as the range of emotional regulation strategies.

Our findings suggest that intervention regarding emotional demands is needed for HCWs to reduce the risk of depression through: (1) to recognize HCWs emotional labor type, duration and intensity; (2) to provide regular mental health screening and provide educational program or employee assistant program; and (3) to support at the organizational level: increased decision latitude and social support, reduced work-family conflict.

Conclusion

In this moderately large study of long-term care workers, those who had been experiencing high surface-acting emotional labor as of the baseline survey were at a higher risk of developing depression 2 years later.

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Author contributions CS: Conceptualization, Methodology, Data curation, Formal analysis, Writing-Original draft preparation. LP: Conceptualization, Methodology, Resources, Writing-Reviewing and Editing.

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Compliance with ethical statndards

Conflict of interest Not applicable.

Ethical approval The study protocol and questionnaire content have been approved by the Institutional Review Board of the University of Massachusetts Lowell (12-056).

Informed consent Participation was completely voluntary and informed consent was obtained from all respondents.

Availability of data and material Data are available upon reasonable request.

Code availability Not applicable.

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