



Negative Cognitions and Emotional Distress Following Job Loss: Development and Validation of the Beliefs About Loss of Work (BLOW) Scale

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Abstract

Negative cognitions following job loss can contribute to emotional distress by motivating individuals to adopt coping styles that reduce stress in the short run while obstructing adjustment in the long run. It is unclear which specific cognitions are related to symptoms of complicated grief, depression, and anxiety following job loss. To fill this gap, this study introduces the Beliefs about Loss of Work (BLOW) scale and examines its psychometric properties. We recruited 222 Dutch workers who had lost their job, including 70 men and 152 women, with an average age of 52.5 years. Confirmatory factor analyses revealed that a second-order eight-factor model had the best fit to the data. The BLOW scale is a reliable instrument with a good convergent and divergent validity. This instrument may stimulate research on mechanisms involved in job loss-related distress and could inform the development of interventions to reduce this distress.

Keywords Job loss · Cognitions · Distress · Unemployment · Grief

Introduction

Although most people show a resilient response when confronted with job loss (approximately 82%, according Bonanno and colleagues, 2011), a minority develops symptoms of depression, anxiety, or job loss-related complicated grief (JLCG; Papa & Maitoza, 2013; Van Eersel et al., 2019). Employment is a key element of life

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involving psychological and social aspects that extend beyond basic needs and the manifest function of work, i.e. economic support (Jahoda, 1981). That is, involuntarily losing a job can cause disruption of identity, status, relationships, and social roles which can fuel emotional distress, such as JLCG symptoms (Papa & Lancaster, 2016). Detachment from the job that is lost requires revision and reconstruction of basic assumptions about the self, the world, life, others, and the future (Papa et al., 2014). The consequences of job loss and the degree to which losing one's job results in problems may depend on the degree to which people hold particular beliefs regarding this event, e.g. beliefs that the world is unfair (Dalbert, 2011), that others cannot be trusted (Lindström, 2009), and that oneself is worthless (Gowan, 2012). However, as yet, the role of these and other negative beliefs in recovery from job loss could not be investigated due to the lack of a measure tapping these beliefs. The present study fills this gap by introducing and evaluating a novel instrument to measure negative cognitions associated with job loss, which is based on the Grief Cognitions Questionnaire (GCQ), an instrument to measure negative cognitions related to bereavement (Boelen et al., 2003).

Beliefs About Job Loss

Different cognitions can contribute to emotional distress following job loss. For bereavement loss, Boelen and colleagues (2003) have developed the GCQ to measure negative cognitions within different categories. It is conceivable that there is overlap in the grieving process following bereavement loss and involuntarily job loss (Papa & Lancaster, 2016; Papa & Maitoza, 2013), which could be reflected in negative cognitions triggered by such losses. It is hypothesized that relevant categories in the context of job loss include negative beliefs about the “self”, “world”, “life”, “future”, “self-blame”, “others”, “appropriateness of grief reactions”, and “threatening interpretation of grief reactions”. The availability of an instrument measuring these cognitions in the face of job loss would enable researchers to investigate the role of negative cognitions in job loss-related distress, including symptoms of JLCG, depression, and anxiety. In addition, it would allow practitioners to identify specific job loss-related negative cognitions that should be targeted in cognitive behavioural treatment to reduce psychological problems and emotional distress following job loss.

How exactly might such negative beliefs fuel emotional distress after job loss? First, global negative assumptions concerning the “self”, the “world”, the “life”, and the “future” may contribute to emotional problems following loss events by generating separation distress and motivating individuals to engage in coping strategies that may reduce stress in the short run but possibly obstruct adjustment in the long run (Boelen & Lensvelt-Mulders, 2005). These types of negative beliefs have often been associated with emotional problems following bereavement loss (e.g., Currier et al., 2009; Janoff-Bulman, 1999) and unemployment (Creed et al., 2009; Paul & Moser, 2009). Negative beliefs can emerge when the altered reality is discrepant with a priori beliefs and someone is unable to accommodate these beliefs or when the changed reality confirms negative pre-existing beliefs (Park, 2010).

There is some evidence that, following involuntary job loss, low self-esteem, global belief in an unjust world, and maladaptive coping styles are associated with JLCG symptoms (Papa & Maitoza, 2013; Van Eersel et al., 2021). The basic assumption that the world is unfair enhances the tendency to act disrespectful to other people and increases cynicism (Dalbert, 2002). Accordingly, a recent study found that the belief that the world is unfair predicted JLCG symptoms 6 months later (Van Eersel et al., 2020).

Second, self-blame is potentially important in recovery from job loss. In the case of bereavement loss, high levels of self-blame have been found to be associated with higher levels of grief and slower recovery (Stroebe et al., 2014). As for unemployment, people who tend to blame themselves for their unemployment reported lower well-being (Pultz et al., 2019). Individuals might blame themselves for having lost their job or being unable to prevent their job loss. It can make them feel like there is something wrong with them and may underscore their flaws (Sharone, 2013), consequently fueling feelings of depression.

Third, negative cognitions about reactions from others might influence responses to bereavement loss (Stroebe et al., 2005) and unemployment (Ślebarska et al., 2009). For instance, in the case of job loss, such negative cognitions might block engagement in social activities that could foster recovery. This could fuel feelings of detachment and bitterness.

Fourth, misinterpretations of grief symptoms as signs of personal incompetence or impending insanity are likely important. In the case of bereavement, people may interpret their grief reactions (e.g. the feeling of going crazy or believing the loss is too painful to endure) as threatening (Boelen et al., 2010; Malkinson, 2001). In the case of the job loss, a person can interpret their responses as abnormal when experiencing grief reactions, especially if these reactions persist over a longer period of time (Archer & Rhodes, 1995).

The Present Study

The aim of the current study was to introduce and evaluate the psychometric properties of a novel instrument that measures negative cognitions associated with involuntary job loss. This new instrument, the Beliefs about Loss of Work (BLOW) scale, is based on the 38-item GCQ, a well-established instrument with adequate psychometric properties designed to measure negative cognitions following bereavement on nine subdomains (Boelen et al., 2003; Doering et al., 2021). The original GCQ subscale “cherish grief” was not included in the BLOW, as its items were deemed irrelevant to job loss. Hence, the BLOW scale was construed as containing eight subscales, tapping into four domains of negative cognitions. First is the *global negative beliefs about the self, the world, life, and the future*, which require accommodation due to the job loss event and can be related to strong feelings of sadness, depression, and anxiety. Second, *cognitions on self-blame* could be associated with an increase of rumination about what the person has done wrong, which is linked to feelings of depression and guilt. Third, *negative perceptions of others* as having failed to provide the right support could be related to more grief symptoms and posttraumatic

cognitions (e.g. one's general belief the world is completely dangerous and the self is totally incompetent; Foa et al., 1999) due to stronger emotional detachment and bitterness. Finally, *negative cognitions about one's own grief reactions* could block a healthy course of grief, which can be associated with feelings of depression, guilt, and shame.

The present study used data from over 200 people who had been confronted with the involuntary loss of their job in order to conduct an evaluation of psychometric properties of the BLOW scale. We first examined the factor structure of this novel instrument. Following prior findings on the GCQ (Boelen & Lensvelt-Mulders, 2005; Doering et al., 2021), it was expected that a second-order model with eight correlated factors would fit the data well (Hypothesis 1). Second, we examined its internal consistency, which was expected to be high since the BLOW scale was developed as an analogue of the GCQ (Hypothesis 2). Third, we examined the short-term temporal stability of the BLOW scale, expecting a high correlation between test and re-test results for the BLOW subscales (Hypothesis 3).

Fourth, we tested a number of hypotheses concerning the validity of the BLOW scale. With respect to concurrent validity, we expected higher scores on all BLOW subscales to be strongly associated with JLCG, since they both tap into negative aspects of grief following job loss (Hypothesis 4). Although symptoms of JLCG, depression, and anxiety are distinguishable, these symptoms are still moderately to strongly correlated (Van Eersel et al., 2019). Hence, we also expected the BLOW subscales to be positively associated with symptom levels of depression and anxiety (Hypothesis 5). In addition, since the BLOW scale measures negative cognitions connected with an adverse event, we expected scores on the BLOW scale to be significantly correlated with an established measure also tapping into event-related negative cognitions, namely the Posttraumatic Cognition Inventory (Wells et al., 2019; Hypothesis 6). Positive cognitions (such as optimism, hope, and resilience) are viewed as potential buffers against the negative impact of loss (Gallagher et al., 2019) and unemployment (Wanberg, 2012). Optimism plays an important role in maintaining a positive perspective, resilience in overcoming adversities, and hope in pursuing multiple pathways to attain goals, which can be source of positive emotions (Avey et al., 2011). Accordingly, with respect to the divergent validity, we expected scores on the BLOW subscales that tap into negative cognitions to be inversely associated with these positive cognitions (Hypothesis 7).

Method

Participants and Procedure

This study was approved by the Ethics Review Board of the faculty of Social and Behavioural Sciences of Utrecht University (FETC 19-108). Dutch individuals who had involuntarily lost their job were recruited between October 2019 and February 2020 through three channels: (1) social media, (2) social networks, and (3) meetings about the impact of the job loss. Information about the study was provided through posts on social media channels (e.g. LinkedIn, Facebook), the researchers shared it

within their social network, and participants of the job loss meetings were informed of the study afterwards. Those who were interested read the information letter before deciding on their participation. All participants of this convenience sample signed an informed consent form ($N=249$) after which 89% completed the survey in a secured online area; the remaining 11% dropped out before finishing the first questionnaire. Filling out the questionnaires took approximately 15 min.

Participants who did not complete the survey up to and including the BLOW scale ($N=27$) were excluded. The remaining group ($N=222$) consisted of 70 men (32%) and 152 women (68%), with an average age of 52.5 years ($SD=9.0$ years). Their level of education varied, with 69 people (31%) having completed primary or secondary education only and 153 people (69%) holding a college or university degree. They had lost their job due to personal reasons (e.g. illness or a labour conflict; $n=83$, 37%) or situational reasons (e.g. a reorganization or bankruptcy; $n=139$, 63%). The average duration of the participant's employment in their last job was 8.6 years ($SD=9.4$), the time passed since the job loss was 18 months ($SD=23.9$), and at the time of taking the survey, 142 people (64%) were actively searching for a new job. At the time of this study, the unemployment rate was 3% in the Netherlands, of which 31% had been unemployed for more than 12 months (CBS, 2021).

Of all 222 participants, 50 were at randomly selected and asked to fill out the BLOW scale once more to evaluate its test–retest reliability. To limit response burden, not all participants were invited to complete the BLOW scale a second time. This group consisted of 40 women (80%). The average age was 54.2 ($SD=7.3$) years, and 32 people (64%) held a college or university degree. Half had lost their job due to personal reasons ($n=25$) and half due to situational reasons ($n=25$). The average employment duration in their last job was 10.0 ($SD=10.0$) years; on average 17.5 ($SD=20.8$) months had passed since they had lost their job, and at the moment of completing the survey, 30 people (60%) were actively searching for a job. The test–retest interval ranged from 10 to 24 ($M=14.0$, $SD=2.4$) days.

Measures

Demographic and Work Characteristics Data on demographic (e.g. age, gender, education) and work characteristics (e.g. reason for job loss, time passed since the job loss, and length of employment) were collected.

Beliefs About Loss of Work Scale The BLOW scale was based on the GCQ that taps negative beliefs following bereavement loss (Boelen et al., 2003); the items of the GCQ were adapted to refer to job loss. For example, the item “Since ___ is dead, I think I am worthless” became “Since I lost my job, I think I am worthless”. In line with the GCQ, the BLOW contains eight subscales: self, world, life, future, self-blame, others, appropriateness, and threatening interpretation of grief reactions. To reduce response burden and improve the ease of use, the list was shortened. For that reason, two items were selected from each subscale, based on the highest item correlations found in prior research (Boelen & Lensvelt-Mulders, 2005). In addition

to the researchers, three practitioners working in the field of grief and psychology reviewed these adaptations. Several minor changes in the item wordings were made until consensus was reached. The participants were asked to which extent they agreed with the selected sixteen cognitions on a 6-point scale (1 = *strongly disagree* to 6 = *strongly agree*). Table 1 presents all item wordings.

Job Loss Grief Scale (JLGS) JLCG symptoms were measured with the 33-item JLGS (Van Eersel et al., 2019). Participants rated the extent to which they had experienced the listed symptoms (e.g. “I can’t accept the loss of my job”) during the last month, with their job loss in mind (1 = *never* to 5 = *always*). To avoid overlap with JLCG symptoms and negative cognitions related to the job loss, eight JLGS items (items 10, 14, 18, 21, 23, 25, 26, and 27 in Van Eersel et al., 2019) were removed from the analyses, considering that these items represent cognitions about job loss, which would inflate the association between the JLGS and the BLOW scale. Samples of these omitted items are: “Ever since the loss of my job, it’s hard for me to trust people”, and “I feel that the loss of my job has smashed my view of the world”. The modified version (JLGS-m) contained 25 items. In the present sample Cronbach’s α for the JLGS-m was 0.95.

Hospital Anxiety and Depression Scale (HADS) Anxiety and depression symptoms were measured with the 14-item HADS (Zigmond & Snaith, 1983; Dutch version: Spinhoven et al., 1997); seven items tapped into anxiety and seven into depression. Participants rated the extent to which they had experienced symptoms, such as “I still enjoy the things I used to enjoy”, during the last 4 weeks on a 4-point scale (e.g. *definitely as much* to *hardly at all*). In the present sample, Cronbach’s α for anxiety was 0.88, and for depression, it was 0.88.

Posttraumatic Cognitions Inventory (PTCI-9) The PTCI-9 is a 9-item measure of traumatic cognitions (Wells et al., 2019; Dutch version: Van Emmerik et al., 2006). Participants were instructed to focus on their job loss and rate the extent to which they agreed with the statements listed (e.g., “The event happened because of the way I acted”) on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). In the present sample Cronbach’s α was 0.83.

Life Orientation Test-Revised (LOT-R) To measure optimistic cognitions, the 6-item LOT-R (Scheier & Carver, 1985; Dutch version: Ten Klooster et al., 2010) was used. Participants rated the extent to which they agreed with each item (e.g. “In uncertain times, I usually expect the best”) on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). In the present sample, Cronbach’s α was 0.79.

The Brief Resilience Scale Resilience was measured with the Brief Resilience Scale (Smith et al., 2008; Dutch version: Soer et al., 2019). Participants rated the extent to which they agreed with its six statements (e.g., “I tend to bounce back quickly after hard times”) on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). In the present sample, Cronbach’s α was 0.82.

Table 1 Confirmatory factor analysis of Beliefs about Loss of Work

Items	Self	World	Life	Future	Self-blame	Others	Appropriateness	Threatening interpretation of grief
Since I lost my job, I think I am worthless	.83							
Ever since I lost my job, I think negatively of myself	.83							
Since I lost my job, I realise that the world is a bad place		.90						
The loss of my job made me realise that we live in awful place		.80						
My life is useless since I lost my job			.88					
My life is meaningless since I lost my job			.88					
I don't have confidence in the future				.72				
Since I lost my job, I have a negative view on the future				.88				
I should have prevented the loss of my job					.85			
If I would have done things differently, I wouldn't have lost my job					.53			
The people around me should give me more support						.87		
People around me should show much more interest in me						.89		
My reactions to my job loss are abnormal							.85	
I do not react normally to my job loss							.85	
If I really allow my sorrow to come, I would go crazy								.87
If I let go of my emotions, I would lose control								.83
Subscales								
Factor loadings	.88	.67	.88	.94	.46	.52	.66	.77
<i>M</i>	6.1	5.2	4.8	6.0	6.0	6.3	4.7	6.2
<i>SD</i>	3.4	3.3	2.9	3.2	3.5	3.3	2.8	3.5

Table 1 (continued)

	Self	World	Life	Future	Self-blame	Others	Appropriateness	Threatening interpretation of grief
Correlations between subscales								
World	.59							
Life	.77	.58						
Future	.83	.62	.82					
Self-blame	.40	.31	.40	.43				
Others	.45	.34	.45	.48	.24			
Appropriateness	.59	.44	.58	.62	.30	.34		
Threatening interpretation of grief	.68	.51	.68	.72	.35	.40	.51	

The State of Hope Scale The State of Hope Scale is an 8-item measure of hope (Snyder et al., 1991; Dutch version: Brouwer et al., 2008). Participants rated the extent to which they agree with the statements (e.g. “I can think of many ways to get out of a jam”) on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). In the present sample, the scale’s Cronbach’s α was 0.84.

Statistical Analyses

The analyses were conducted in Mplus (Version 8; Muthén & Muthén, 1998–2017). To investigate the dimensionality of the BLOW scale, confirmatory factor analysis (CFA) was performed to compare the fit of three models: a one-factor model (M_1), an eight-factor model (M_2) in which the eight factors (corresponding with the BLOW subscales: self, world, life, future, self-blame, others, appropriateness, and threatening interpretation of grief reactions) were allowed to correlate, and a second-order eight-factor model (M_3). To evaluate the goodness-of-fit, the following indices were examined: the χ^2 -value, the χ^2/df ratio, the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA), Akaike’s information criterion (AIC), and the Bayesian information criterion (BIC). Lower values of χ^2 and χ^2/df ratio (Hoelter, 1983), AIC, and BIC (Nylund et al., 2007) indicate better fit. For CFI and TLI values of >0.90 and for RMSEA values of <0.08 , it indicate acceptable fit (Hu & Bentler, 1999). Chi-square difference tests were conducted to compare the fit of these three models that we all tested.

The internal consistency of the BLOW and its subscales was evaluated using Cronbach’s alpha. The temporal consistency of the BLOW scale was evaluated with Pearson correlations. A power analysis in GPower (version 3.1; Faul et al., 2009) was conducted, based on the average power of the GCQ scales (0.90; Boelen & Lensvelt-Mulders, 2005), which showed that a minimum of 44 participants was required for a reliable test–retest analysis. To examine the convergent validity of the BLOW scale, Pearson correlations were calculated between the (subscales of the) BLOW and JLCG symptoms, depression, anxiety, and posttraumatic cognitions. To examine the divergent validity, Pearson correlations were computed between the (dimensions of the) BLOW scale and optimism, resilience, and hope. The data set is freely retrievable (Van Eersel et al., 2021a).

Results

Beliefs About Loss of Work as a Function of Socio-demographics and Loss Characteristics

The scores on the overall BLOW and its subscales were examined as a function of socio-demographic variables (age, gender, and educational level) and work characteristics (cause of dismissal, duration of employment, time passed since job loss, and active job searching). Bonferroni adjustment was applied to control for type 1 error; a significance level of 0.0008 (that is, $0.05/63$) was required. None of the

socio-demographic and work characteristics were significantly related to the BLOW or its subscales. For a complete overview, additional analyses were conducted to examine the relation between the socio-demographics and loss characteristics on the one hand and JLCG, depression, anxiety, or post-traumatic cognitions on the other hand, but these yielded no significant results.

Factor Structure

As expected, CFA showed that the one-factor model M_1 did not fit the data well (AIC=12,819.14; BIC=12,982.47; $\chi^2=740.66$; $df=104$; $\chi^2/df=7.12$; RMSEA=0.17; CFI=0.68; TLI=0.63). The correlated eight-factor model M_2 showed substantially better fit to the data (AIC=12,321.62; BIC=12,580.22; $\chi^2=187.13$; $df=76$; $\chi^2/df=2.46$; RMSEA=0.08; CFI=0.94; TLI=0.91; $\Delta\chi^2_{(M1 \text{ vs } M2)}$ with 28 $df=553.53$, $p<0.001$). The second-order factor model M_3 had the best fit to the data (AIC=12,314.67; BIC=12,505.22; $\chi^2=220.19$; $df=96$; $\chi^2/df=2.29$; RMSEA<0.08; CFI=0.94; TLI=0.92; $\Delta\chi^2_{(M3 \text{ vs } M1)}$ with 20 $df=33.06$, $p<0.05$; $\Delta\chi^2_{(M3 \text{ vs } M2)}$ with 28 $df=520.47$, $p<0.001$). All factor loadings were statistically significant, ranging from 0.53 to 0.90, with an average loading of 0.83. This indicates the items are good indicators of the eight factors, supporting Hypothesis 1.

Reliability

Cronbach's alpha for the BLOW scale was 0.91, and for its subscales, the alphas were 0.82 (self), 0.84 (world), 0.87 (life), 0.78 (future), 0.63 (self-blame), 0.88 (others), 0.84 (appropriateness), and 0.84 (threatening interpretation of grief), supporting Hypothesis 2.

For the test–retest stability between time 1 and time 2, the correlation for the overall BLOW scale was 0.88, and for its subscales, it was 0.78 (self), 0.85 (world), 0.85 (life), 0.81 future), 0.71 (self-blame), 0.75 (others), 0.77 (appropriateness), and 0.68 (threatening interpretation of grief), with all p 's < 0.001, supporting Hypothesis 3.

Convergent Validity

Table 2 presents the relevant correlations, confirming a significant relation between the BLOW scale and JLCG symptoms. The subscales “self”, “life”, “future”, and “threatening interpretation of grief reactions” were strongly related; the subscales “world” and “appropriateness” showed a moderate correlation; and the subscales “others” and “self-blame” showed a small correlation with the JGLS-m. The correlation between the JLGS-m and the total BLOW was 0.76, and for the subscales, r ranged from 0.31 to 0.71, supporting Hypothesis 4.

All BLOW subscales were significantly correlated with depression and anxiety symptoms. The correlation for the general BLOW score and depression was 0.69 and for anxiety 0.65. The r 's for the subscales ranged from 0.22 to 0.67, confirming Hypothesis 5 (see Table 2). Depression was relatively strongly associated with the

Table 2 Correlations of Beliefs about Loss of Work

	JLGS—job loss-related complicated grief (modified)	HADS—depression	HADS—anxiety	PTCI-9—post-trau- matic cognitions	Lot—optimism	State of hope	Brief resilience
Subscales							
Self	.63 ^{***}	.61 ^{***}	.60 ^{***}	.56 ^{***}	-.54 ^{***}	-.51 ^{***}	-.48 ^{***}
World	.54 ^{***}	.37 ^{***}	.39 ^{***}	.62 ^{***}	-.44 ^{***}	-.27 ^{**}	-.27 ^{***}
Life	.60 ^{***}	.57 ^{***}	.52 ^{***}	.53 ^{***}	-.36 ^{***}	-.41 ^{***}	-.38 ^{***}
Future	.63 ^{***}	.62 ^{***}	.53 ^{***}	.60 ^{***}	-.50 ^{***}	-.51 ^{***}	-.44 ^{***}
Self-Blame	.31 ^{***}	.22 ^{**}	.23 ^{**}	.51 ^{***}	-.44 ^{***}	-.08	-.16 [*]
Others	.34 ^{***}	.41 ^{***}	.26 ^{**}	.39 ^{***}	-.64 ^{***}	-.28 ^{**}	-.28 ^{***}
Appropriateness	.54 ^{***}	.49 ^{***}	.48 ^{***}	.48 ^{***}	-.51 ^{***}	-.40 ^{***}	-.34 ^{***}
Threatening inter- pretation of grief reactions	.71 ^{***}	.63 ^{***}	.67 ^{***}	.48 ^{***}	-.17 ^{***}	-.45 ^{***}	-.48 ^{***}
Total	.76	.69	.65	.74	-.63	-.51	-.50

* $p < .05$; ** $p < .01$; *** $p < .001$

overall BLOW score and its subdimensions “self”, “future”, and “threatening interpretation of grief reactions”. For anxiety the strongest correlations were found for the overall BLOW score and its subdimensions “threatening interpretation of grief reactions” and “self”.

Finally, Table 2 shows that there was a significant, moderate-to-strong relation between the BLOW total score ($r=0.74$) and all subscales on the one hand and post-traumatic cognitions on the other hand, with r 's ranging from 0.39 to 0.62, supporting Hypothesis 6.

Divergent Validity

The BLOW and its subscales were negatively related to optimism ($r=-0.63$), hope ($r=-0.50$), and resilience ($r=-0.51$), supporting Hypothesis 7 (cf. Table 2).

Discussion

The current study offered a first evaluation of the psychometric properties of the BLOW scale—a novel questionnaire designed to tap into the negative cognitions that are hypothesized to play a role in the development and maintenance of post-loss psychopathological symptoms. The BLOW was designed to facilitate research on the impact of involuntary job loss, negative cognitions, and JLCG symptoms. Moreover, measuring such cognitions would enable practitioners to target specific individual negative cognitions following job loss which could trigger and maintain JLCG symptoms and other emotional problems.

In general, the results indicated that the total score of the BLOW scale may be used as index of job loss-related negative thinking, in addition to the scores on the BLOW subscales. The results also showed both the overall BLOW scale and its subscales had good psychometric properties, with high internal consistencies and good temporal stabilities. Finally, the current findings indicate it is possible to draw links between negative beliefs and elevated emotional reactions to job loss. This will be discussed for each subscale.

First, high scores on the subscales *self*, *life*, and *future* seem to be related to a diminished sense of self and confusion about one's role in life (Papa & Lancaster, 2016), which could lead to apathy and withdrawal, making it more difficult to move on and set new goals. Interventions could be targeting restoration of one's self-confidence, exploring social roles besides being an employee, rebuilding one's identity, re-engagement in meaningful activities, and setting concrete goals to reshape the future perspective.

Second, high scores on the *world* and *self-blame* subscales seem to be related to a low sense of control (Janoff-Bulman, 1999), feelings of bitterness, and cynicism about the world (Dalbert, 2011). Interventions could be aimed at regaining one's trust in the world, increase one's sense of control, and challenge irrational assumptions about one's own role in the job loss event.

Third, a high score on the subscale *others* could indicate a feeling of emotional detachment from others, social isolation, and stigmatizing from losing one's job loss (Blau et al., 2013; Peterie et al., 2019). Interventions could be aimed at reconnecting with others, setting realistic expectations of others, and exploring one's personal need in terms of social support.

Finally, high scores on the subscales *threatening* or *inappropriate grief reactions* seem to be associated with avoidance of own thoughts and feelings (Archer & Rhodes, 1995). Therefore, the basic psychological education on the function of emotions and thoughts combined, for instance, with defusion techniques from the Acceptance and Commitment Therapy, could be a useful intervention. Overall, these negative cognitions might hinder someone from adapting to one's new life, settings goals to build a future, and engaging in meaningful activities; therefore, it is necessary to be able to refine and develop specific interventions.

Study Limitations

Several study limitations need to be mentioned. First, the cross-sectional design does not allow conclusions about the direction of the relationship between negative cognitions following job loss and JLCG, depression, anxiety, and posttraumatic cognitions. However, the present study aimed to develop and validate a new instrument for measuring job loss-related beliefs; to establish convergent and divergent validity, the temporal direction of associations with other concepts is not of particular interest. Future longitudinal research is needed to examine the predictive value of the BLOW scale regarding the development or maintenance of JLCG, depression, and anxiety symptoms. Alternatively, follow-up research could focus on testing to which extent these negative cognitions are influenced by a cognitive bias modification training in order to test the presumed causal role of these cognitions in emotional distress following job loss (Lang et al., 2012; Woud et al., 2018).

Second, the items of the BLOW were based on the GCQ (Boelen et al., 2003) a measure of negative cognitions related to bereavement loss. The domains of cognitions assessed using the BLOW were limited to those included in the GCQ. It is possible that other non-assessed cognitions also affect emotional responses to job loss. Future research is needed to examine the possible role of such cognitions.

Finally, the sample used in this study was a convenience sample. Compared to the general population in the Netherlands, especially the number of females and highly-educated people were overrepresented. Specifically, females made up two-thirds of the sample (compared to 47% of the number of unemployed in the Netherlands in June, 2020), and 69% of the participants held a college or university degree (compared to 26% of the unemployed in the Netherlands, CBS, 2020). Albeit gender and educational level showed no significant relation with job loss-related negative cognitions, the present sample is a convenience sample, meaning that findings presented here may not immediately be generalized to all Dutch people who involuntary lost their job. This applies especially to descriptive statistics (e.g., means and standard deviations); hence, it is not yet possible to decide upon on a cut-off score indicating the severity of the negative cognitions someone experiences following job loss.

Since this was the first study to examine the psychometric properties of the BLOW scale, replication studies in more nationally representative groups is a logical next step for future research.

Study Implications

Notwithstanding these limitations, the study results indicate that the BLOW scale is a promising instrument to measure negative cognitions that can be associated emotional distress and problems after job loss. Assuming that these negative cognitions play a role in the development and maintenance of emotional distress following job loss, the current findings have clinical implications. Global negative cognitions about the self, the future, the world, and the life, which could fuel the emotional distress, could be targeted with, e.g., interventions from the Acceptance and Commitment Therapy to increase one's psychological flexibility and reduce one's cognitive fusion with undesirable beliefs. Specifically, negative beliefs about the meaning of life and future were associated with JLCG and depressive symptoms. Hence, interventions to increase the level of valuable activities and set goals for the future could be effective. Finally, the misinterpretation of one's own grief response could block a natural course of grief. Confronting the person to face the changed reality and all consequences of the job loss, or Socratic questions to challenge and validate one's beliefs about the appropriateness of their grief reactions, could be particularly helpful to correct fearful interpretations. The effectiveness of these types of interventions on the negative cognitions following job loss is an important issue for future research.

It is conceivable that these types of dysfunctional cognitions form the basis of an individual's view of the world, the self, and the others (Clifton, 2020). If a person believes the world is a dangerous place to live in and that one should always keep their guard up, there is an increased chance they also possess characteristics of neuroticism (Dweck, 2017). In this line of reasoning, it is possible that the negative cognitions from the BLOW and GCQ are not only related to job and bereavement loss, but similar cognitions could also be potential risk factors in the case of other types of losses, traumas, and negative events. It would be interesting to explore this in future research, for instance, by examining responses to job loss and to other events in a single sample to investigate if similar types of cognitions influence these responses.

Conclusion

The BLOW scale enables a reliable and valid measurement of negative cognitions following involuntary job loss. These negative cognitions can be linked to emotional distress and were associated with JLCG symptoms, depression, anxiety, and post-traumatic cognitions. The overall BLOW scale as well as its subscales may stimulate more profound research on the impact of job loss, especially the relationship between negative cognitions and similar constructs that could cause psychological

problems following job loss. Practitioners could use the BLOW to refine and develop interventions to address these negative cognitions to reduce emotional distress and prevent related emotional problems from occurring.

Declarations

Conflict of Interest The authors declare no competing interests.

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