VERBALE N. 3 – SEDUTA COLLOQUIO

L'anno 2026, il giorno 04 del mese di febbraio si è riunita la Commissione esaminatrice della valutazione per la copertura di n. 1 posto di Ricercatore a tempo determinato nel settore concorsuale nominata con Decreto Rettorale DR 586/2025 e composta dai seguenti professori e professoresse:

Nome e Cognome	Fascia	GSD	SSD	Ateneo di appartenenza
Antonio CALLEA	I^	11/PSIC-01	PSIC-01/C	Libera Università "Maria SS. Assunta"- LUMSA - ROMA
Paola GUARIGLIA	II^	11/PSIC-01	PSIC-01/A	Università Telematica Universitas Mercatorum
Giuseppina SPANO	II^	11/PSIC-01	PSIC-01/A	Università Telematica Pegaso

Tutti i componenti della Commissione sono collegati per via telematica, attraverso la modalità di conversazione diretta Google Meet https://meet.google.com/mvv-kdnz-zow in presenza di tutti, dai seguenti indirizzi dei componenti della Commissione, come da elenco che segue:

- Prof. Antonino Callea indirizzo mail: a.callea1@lumsa.it
- Prof.ssa Paola Guariglia indirizzo mail: paola.guariglia@unimercatorum.it
- Prof.ssa Giuseppina Spano indirizzo mail: giuseppina.spano@unipegaso.it

La Commissione inizia i propri lavori alle ore 14:30.

I candidati e le candidate che sono stati ammessi/e al colloquio sono:

1. GUERRERA Claudia
2. PINI Lorenzo
3. POLI Andrea
4. PYASIK Maria
5. SALFI Federico
6. SANTIROCCHI Alessandro

Verificata la regolarità della convocazione per il colloquio, la Commissione procede all'appello nominale. Risultano presenti i seguenti candidati:

1. GUERRERA Claudia carta d'identità [redacted]
2. PINI Lorenzo carta d'identità

3. POLI Andrea carta d'identità [redacted]
4. PYASIK Maria carta d'identità
5. SANTIROCCHI Alessandro carta d'identità

Risulta assente il candidato SALFI Federico.

Previo accertamento della loro identità personale, la Commissione dà inizio al colloquio, con il dott. PINI Lorenzo e a seguire nell'ordine la dott.ssa GUERRERA Claudia, il dott. POLI Andrea, la dott.ssa PYASIK Maria, il dott. SANTIROCCHI Alessandro.

Per ogni candidato/a, la Commissione invita a sintetizzare i titoli e le pubblicazioni presentate e successivamente procede all'accertamento delle competenze linguistiche, mediante la lettura e traduzione di un estratto, selezionato casualmente dal medesimo testo scientifico di pertinenza disciplinare.

Viene chiamato il candidato PINI Lorenzo: il candidato illustra i propri titoli e la propria produzione scientifica. Durante il colloquio viene accertata la conoscenza della lingua straniera prevista all'art. 6 del bando di concorso, mediante lettura e comprensione di un testo scritto [Allegato 2].

Viene chiamata la candidata GUERRERA Claudia: la candidata illustra i propri titoli e la propria produzione scientifica. Durante il colloquio viene accertata la conoscenza della lingua straniera prevista all'art. 6 del bando di concorso, mediante lettura e comprensione di un testo scritto [Allegato 2].

Viene chiamato il candidato POLI Andrea: il candidato illustra i propri titoli e la propria produzione scientifica. Durante il colloquio viene accertata la conoscenza della lingua straniera prevista all'art. 6 del bando di concorso, mediante lettura e comprensione di un testo scritto [Allegato 2].

Viene chiamata la candidata PYASIK Maria: la candidata illustra i propri titoli e la propria produzione scientifica. Durante il colloquio viene accertata la conoscenza della lingua straniera prevista all'art. 6 del bando di concorso, mediante lettura e comprensione di un testo scritto [Allegato 2].

Viene chiamato il candidato SANTIROCCHI Alessandro: il candidato illustra i propri titoli e la propria produzione scientifica. Durante il colloquio viene accertata la conoscenza della lingua straniera prevista all'art. 6 del bando di concorso, mediante lettura e comprensione di un testo scritto [Allegato 2].

Al termine della discussione sostenuta dai/lle candidati/e, la Commissione attribuisce un punteggio ai titoli e a ciascuna delle pubblicazioni presentate dai/lle candidati/e ammessi alla discussione ed esprime un giudizio sintetico sull'esito del colloquio in lingua straniera (dettagli riportati nell'allegato 2/A).

La Commissione, dopo ampia ed approfondita discussione collegiale sul profilo, sulla produzione scientifica e sull'esito del colloquio di ciascun candidato/a, sulla base delle valutazioni formulate e dopo aver effettuato la comparazione tra i/le candidati/e, all'unanimità dichiara il Dott. POLI Andrea vincitore della procedura selettiva per il reclutamento di n. 1 posto di Ricercatore a tempo determinato di tipologia A per il Settore concorsuale Cod. GSD: 11/PSIC-01 – Settore scientifico-disciplinare PSIC-01/C - Psicometria.

La Commissione termina i propri lavori alle ore 18:00.

Letto, approvato e sottoscritto.

Firma del Commissari

- Prof. Antonino Callea

- Prof.ssa Paola Guariglia

- Prof.ssa Giuseppina Spano

RELAZIONE FINALE

L'anno 2026, il giorno 04 del mese di febbraio si è riunita la Commissione esaminatrice della valutazione per la copertura di n. 1 posto di Ricercatore a tempo determinato nel settore concorsuale nominata con Decreto Rettorale DR 586/2025 e composta dai seguenti professori e professoresse:

Nome e Cognome	Fascia	GSD	SSD	Ateneo di appartenenza
Antonio CALLEA	I^	11/PSIC-01	PSIC-01/C	Libera Università "Maria SS. Assunta"- LUMSA - ROMA
Paola GUARIGLIA	II^	11/PSIC-01	PSIC-01/A	Università Telematica Universitas Mercatorum
Giuseppina SPANO	II^	11/PSIC-01	PSIC-01/A	Università Telematica Pegaso

Si è riunita in via telematica, attraverso la modalità di conversazione diretta Google Meet https://meet.google.com/mvv-kdnz-zow in presenza di tutti i commissari, dai seguenti indirizzi dei componenti della Commissione, come da elenco che segue:

- Prof. Antonino Callea indirizzo mail: a.callea1@lumsa.it
- Prof.ssa Paola Guariglia indirizzo mail: paola.guariglia@unimercatorum.it
- Prof.ssa Giuseppina Spano indirizzo mail: giuseppina.spano@unipegaso.it

Nei seguenti giorni e orari:

- I riunione: il giorno 12 novembre 2025 dalle ore 14:00 alle ore 15:00.
- II riunione: il giorno 19 gennaio 2026 dalle ore 8:30 alle ore 20:00.
- III riunione: il giorno 4 febbraio 2026 dalle ore 14:30 alle ore 18:00.

La Commissione ha tenuto complessivamente n. 3 riunioni iniziando, i lavori il giorno 12 novembre 2025 e concludendoli il 4 febbraio 2026.
Nella prima riunione la Commissione ha proceduto a verificare eventuali incompatibilità tra i membri della Commissione, a nominare il Presidente nella persona del Prof. Antonino Callea e della Segretaria nella persona della Prof.ssa Giuseppina Spano. Inoltre, dopo ampia e approfondita discussione ha fissato i criteri di valutazione da adottare nella procedura di valutazione, in base al bando del presente concorso.
Nella seconda riunione ha proceduto a verificare eventuali incompatibilità tra i membri della Commissione e i Candidati/e. Inoltre, la Commissione ha proceduto a valutare preliminarmente i Candidati/e, indicando gli ammessi e le ammesse alla prova orale e

specificando la data del colloquio.
Nella terza riunione ha proceduto a verificare la presenza dei Candidati e delle Candidate, nonché ad effettuarne il dovuto riconoscimento tramite i documenti di identità. Si è proceduto alla discussione dei titoli e della produzione scientifica, e all'accertamento della conoscenza della lingua inglese per ogni Candidato/a. La Commissione, al termine dei colloqui orali, ha proseguito i lavori attribuendo un punteggio ai titoli e a ciascuna delle pubblicazioni presentate ed esprimendo un giudizio sintetico sull'esito del colloquio per la lingua straniera.

Al termine della procedura concorsuale, la Commissione ha dichiarato il Dott. POLI Andrea vincitore della procedura selettiva.

La Commissione, dopo ampio ed approfondito confronto, all'unanimità sulla base delle valutazioni formulate, del colloquio orale, e dopo aver effettuato la comparazione tra i candidati, formula una graduatoria di merito come di seguito indicata:

	Candidati	**punteggi**
1.	POLI Andrea	70,4
2.	PINI Lorenzo	69,2
3.	SANTIROCCHI Alessandro	62,3
4.	PYASIK Maria	61,3
5.	GUERRERA Claudia	57,1

La Commissione termina i propri lavori alle ore 18:00.

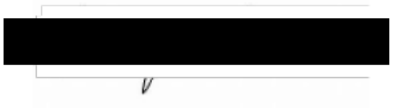
Letto, approvato e sottoscritto.

Firma del Commissari

- Prof. Antonino Callea

- Prof.ssa Paola Guariglia

- Prof.ssa Giuseppina Spano



ALLEGATO N. 2/A

TITOLI E PUBBLICAZIONI VALUTABILI
PROCEDURA SELETTIVA PER IL RECLUTAMENTO DI N. 1 RICERCATORE A TEMPO DETERMINATO PER IL SETTORE CONCORSUALE COD. GSD: 11/PSIC-01 – SETTORE SCIENTIFICO-DISCIPLINARE PSIC-01/C, DENOMINAZIONE PSICOMETRIA

L'anno 2026, il giorno 04 del mese di febbraio si è riunita la Commissione esaminatrice della valutazione per la copertura di n. 1 posto di Ricercatore a tempo determinato nel settore concorsuale nominata con Decreto Rettorale DR 586/2025 e composta dai seguenti professori e professoresse:

Nome e Cognome	Fascia	GSD	SSD	Ateneo di appartenenza
Antonio CALLEA	I^	11/PSIC-01	PSIC-01/C	Libera Università "Maria SS. Assunta"- LUMSA - ROMA
Paola GUARIGLIA	II^	11/PSIC-01	PSIC-01/A	Università Telematica Universitas Mercatorum
Giuseppina SPANO	II^	11/PSIC-01	PSIC-01/A	Università Telematica Pegaso

Tutti i componenti della Commissione sono collegati per via telematica, attraverso la modalità di conversazione diretta Google Meet https://meet.google.com/mvv-kdnz-zow in presenza di tutti, dai seguenti indirizzi dei componenti della Commissione, come da elenco che segue:

- Prof. Antonino Callea indirizzo mail: a.callea1@lumsa.it
- Prof.ssa Paola Guariglia indirizzo mail: paola.guariglia@unimercatorum.it
- Prof.ssa Giuseppina Spano indirizzo mail: giuseppina.spano@unipegaso.it

La Commissione inizia i propri lavori alle ore 14:30.

La Commissione inizia la valutazione dei titoli, delle pubblicazioni e delle tesi di dottorato dei candidati e delle candidate.
Si procede seguendo l'ordine alfabetico di Candidati/e e la Commissione esprime un giudizio sintetico sull'esito del colloquio in lingua straniera.
Il Presidente ricorda che le pubblicazioni redatte in collaborazione possono essere valutate sulla base dei criteri individuati nella prima riunione.
La Commissione procede all'attribuzione del punteggio ai titoli e a ciascuna delle pubblicazioni poste a valutazione dai/dalle candidati/e presenti alla discussione, sulla base della congruenza di ciascun titolo e di ciascuna pubblicazione di cui al presente bando; inoltre, viene espresso un giudizio sintetico sull'esito del colloquio in lingua

straniera come di seguito riportato.

Candidato PINI Lorenzo

TITOLI	VALUTAZIONE	PUNTEGGIO
a) Dottorato di ricerca o titoli equipollenti	Parzialmente pertinente	8
b) Attività didattica a livello universitario in Italia o all'estero	Sufficiente, parzialmente pertinente	2,4
c) Documentata attività di formazione o di ricerca presso qualificati istituti italiani o stranieri	Discreto, parzialmente pertinente	4,8
d) Organizzazione, partecipazione e coordinamento di gruppi di ricerca nazionali e internazionali	Discreto	4
e) Attività di relatore a congressi e convegni	Eccellente	10
f) Premi e riconoscimenti	Non valutabile	0
PUBBLICAZIONI		
a) Originalità/rilevanza/rigore metodologico	Eccellente	12
b) Congruenza	Buono	5,5
c) Collocazione editoriale	Eccellente	12
d) Apporto individuale	Eccellente	10,5
TOTALE		**69,2**

Giudizio complessivo finale della commissione e profilo scientifico del candidato.
Il Dott. PINI Lorenzo presenta i seguenti titoli: Dottorato Parzialmente pertinente; attività didattica sufficiente e parzialmente pertinente a livello nazionale; attività di formazione o ricerca presso qualificati istituti discreta e parzialmente pertinente; attività in gruppi di ricerca discreta a livello sia nazionale sia internazionale; attività congressuale eccellente a livello sia nazionale sia internazionale; i premi non sono valutabili. La produzione scientifica presentata è nel complesso eccellente per Originalità/rilevanza/rigore metodologico, per Collocazione editoriale e per Apporto individuale; la stessa risulta buona per Congruenza. La prova di lingua inglese è ottima.

Candidata GUERRERA Claudia

TITOLI	VALUTAZIONE	PUNTEGGIO
a) Dottorato di ricerca o titoli equipollenti	Parzialmente pertinente	8
b) Attività didattica a livello universitario in Italia o all'estero	Discreto, pertinente	3,6
c) Documentata attività di formazione o di ricerca presso qualificati istituti italiani o	Sufficiente, pertinente	1

stranieri		
d) Organizzazione, partecipazione e coordinamento di gruppi di ricerca nazionali e internazionali	Non valutabile	0
e) Attività di relatore a congressi e convegni	Eccellente	10
f) Premi e riconoscimenti	Non valutabile	0
PUBBLICAZIONI		
a) Originalità/rilevanza/rigore metodologico	Eccellente	12
b) Congruenza	Ottimo	8
c) Collocazione editoriale	Ottimo	9
d) Apporto individuale	Buono	5,5
TOTALE		**57,1**

Giudizio complessivo finale della commissione e profilo scientifico del candidato.
La Dott.ssa GUERRERA Claudia presenta i seguenti titoli: Dottorato parzialmente pertinente; attività didattica discreta e pertinente a livello nazionale; attività di formazione o ricerca presso qualificati istituti sufficiente e pertinente; attività in gruppi di ricerca non valutabile; attività congressuale eccellente a livello sia nazionale sia internazionale; i premi non sono valutabili. La produzione scientifica presentata è eccellente per Originalità/rilevanza/rigore metodologico; ottima per Congruenza e per Collocazione editoriale; buona per Apporto individuale. La prova di lingua inglese è sufficiente.

Candidato POLI Andrea

TITOLI	VALUTAZIONE	PUNTEGGIO
a) Dottorato di ricerca o titoli equipollenti	Parzialmente pertinente	8
b) Attività didattica a livello universitario in Italia o all'estero	Sufficiente, pertinente	2,6
c) Documentata attività di formazione o di ricerca presso qualificati istituti italiani o stranieri	Discreto, parzialmente pertinente	4,8
d) Organizzazione, partecipazione e coordinamento di gruppi di ricerca nazionali e internazionali	Sufficiente	2
e) Attività di relatore a congressi e convegni	Eccellente	10
f) Premi e riconoscimenti	Non valutabile	0
PUBBLICAZIONI		
a) Originalità/rilevanza/rigore metodologico	Eccellente	12
b) Congruenza	Ottimo	9

c) Collocazione editoriale	Eccellente	11
d) Apporto individuale	Eccellente	11
TOTALE		**70,4**

Giudizio complessivo finale della commissione e profilo scientifico del candidato.
Il Dott. POLI Andrea presenta i seguenti titoli: Dottorato parzialmente pertinente; attività didattica sufficiente e pertinente a livello nazionale; attività di formazione o ricerca presso qualificati istituti discreta e parzialmente pertinente; attività in gruppi di ricerca sufficiente a livello nazionale; attività congressuale eccellente a livello sia nazionale sia internazionale; i premi non sono valutabili. La produzione scientifica presentata è nel complesso eccellente per Originalità/rilevanza/rigore metodologico, per Collocazione editoriale e per Apporto individuale; la stessa risulta ottima per Congruenza. La prova di lingua inglese è ottima.

Candidata PYASIK Maria

TITOLI	**VALUTAZIONE**	**PUNTEGGIO**
a) Dottorato di ricerca o titoli equipollenti	Parzialmente pertinente	8
b) Attività didattica a livello universitario in Italia o all'estero	Non valutabile	0
c) Documentata attività di formazione o di ricerca presso qualificati istituti italiani o stranieri	Discreto, parzialmente pertinente	4,8
d) Organizzazione, partecipazione e coordinamento di gruppi di ricerca nazionali e internazionali	Buono	5
e) Attività di relatore a congressi e convegni	Discreto	4
f) Premi e riconoscimenti	Non valutabile	0
PUBBLICAZIONI		
a) Originalità/rilevanza/rigore metodologico	Eccellente	12
b) Congruenza	Buono	6
c) Collocazione editoriale	Eccellente	11,5
d) Apporto individuale	Eccellente	10
TOTALE		**61,3**

Giudizio complessivo finale della commissione e profilo scientifico del candidato.
La Dott.ssa PYASIK Maria presenta i seguenti titoli: Dottorato parzialmente pertinente; attività didattica non valutabile; attività di formazione o ricerca presso qualificati istituti discreta e parzialmente pertinente; attività in gruppi di ricerca buona; attività congressuale discreta a livello sia nazionale sia internazionale; i premi non sono valutabili. La produzione scientifica presentata è nel complesso eccellente per Originalità/rilevanza/rigore metodologico, per Collocazione editoriale e per Apporto individuale; la stessa risulta buona per Congruenza. La prova di lingua inglese è

eccellente.

Candidato SANTIROCCHI Alessandro

TITOLI	VALUTAZIONE	PUNTEGGIO
a) Dottorato di ricerca o titoli equipollenti	Parzialmente pertinente	8
b) Attività didattica a livello universitario in Italia o all'estero	Buona, parzialmente pertinente	6,4
c) Documentata attività di formazione o di ricerca presso qualificati istituti italiani o stranieri	Sufficiente, parzialmente pertinente	2,4
d) Organizzazione, partecipazione e coordinamento di gruppi di ricerca nazionali e internazionali	Buona	5,5
e) Attività di relatore a congressi e convegni	Buona	5
f) Premi e riconoscimenti	Presenti	1
PUBBLICAZIONI		
a) Originalità/rilevanza/rigore metodologico	Eccellente	12
b) Congruenza	Buono	6
c) Collocazione editoriale	Eccellente	11,5
d) Apporto individuale	Buono	4,5
TOTALE		**62,3**

Giudizio complessivo finale della commissione e profilo scientifico del candidato.
Il Dott. SANTIROCCHI Alessandro presenta i seguenti titoli: Dottorato parzialmente pertinente; attività didattica buona e parzialmente pertinente a livello nazionale; attività di formazione o ricerca presso qualificati istituti sufficiente e parzialmente pertinente; attività in gruppi di ricerca buona a livello nazionale; attività congressuale buona a livello sia nazionale sia internazionale; presente 1 premio nazionale. La produzione scientifica presentata è eccellente per Originalità/rilevanza/rigore metodologico e per Collocazione editoriale; la stessa risulta buona per Congruenza e per Apporto individuale. La prova di lingua inglese è buona.

La Commissione, dopo aver effettuato una discussione collegiale sul profilo e sulla produzione scientifica dei candidati e delle candidate, dichiara vincitore della procedura selettiva il dott. POLI Andrea.

La Commissione termina i propri lavori alle ore 18.00.

Letto, approvato e sottoscritto.

Firma del Commissari

- Prof. Antonino Callea

- Prof.ssa Paola Guariglia

- Prof.ssa Giuseppina Spano

ALLEGATO 3

Al Responsabile del Procedimento

OGGETTO: "Trasmissione degli atti e dei verbali relativi della procedura selettiva per il reclutamento di n. 1 Ricercatore a tempo determinato per il Settore concorsuale COD. GSD: 11/PSIC-01 – settore scientifico-disciplinare PSIC-01/C, denominazione PSICOMETRIA.

Il sottoscritto Prof. Antonino Callea in qualità di Presidente della Commissione giudicatrice nominata per la procedura selettiva indicata in oggetto, trasmette in allegato alla presente:

N° 3 Verbali con relativi allegati
N° 1 tabulati delle presenze dei candidati al colloquio

Distinti saluti

Roma, 04.02.2026

Firma

[redacted]

Rassegna di Psicologia (2020)
XXXVII, 1, 35-46

Dimensionality, Reliability and Validity of a Multidimensional Job Insecurity Questionnaire. Preliminary Findings in the Italian Context

Dimensionalità, Affidabilità e Validità del Questionario Multidimensionale sull'Insicurezza Lavorativa. Dati preliminari nel Contesto Italiano

Antonio Chirumbolo[a], Flavio Urbini[b], Antonino Callea[b]

[a]*Department of Psychology, Sapienza University of Rome, Rome, Italy*
[b]*Department of Humanities, LUMSA University of Rome, Rome, Italy*

Article info

Submitted: 10 February 2020
Accepted: 20 February 2020
DOI: 10.13133/1974-4854/16722

Abstract

Job insecurity is considered one of the major work stressors in the contemporary working life. Despite a long tradition of research, to date many questions about job insecurity are still open, including those regarding its measurement model. The present study aimed to introduce a Multidimensional Job Insecurity Questionnaire (MJIQ) and provide support for its psychometric properties. The MJIQ was composed by 20 items and is aimed at offering a complete and balanced assessment of job insecurity in its major dimensions (i.e. quantitative and qualitative) and narrow facets (affective and cognitive). Participants were employees from private and public Italian organizations (N=405). Results of Exploratory Factor Analysis supported the emergence of two major dimensions, namely quantitative and qualitative job insecurity. The invariance of the measurement model tested via Multi-group Confirmative Factor Analysis showed that the MJIQ parameters were invariant across gender. The two major dimensions of job insecurity evidenced good reliability and strong concurrent validity with well-known job insecurity outcomes. Overall, these preliminary results show that MJIQ is a reliable and valid measure to tap the complexity of the job insecurity construct.

Keywords: job insecurity questionnaire; validation; dimensionality; measurement invariance.

Riassunto

L'insicurezza lavorativa è considerato uno dei principali fattori di stress lavorativo. Nonostante una lunga tradizione di ricerca, molte questioni sull'insicurezza lavorativa rimangono ancora aperte, incluse quelle relative ai suoi modelli di misura. Questo studio ha l'obiettivo di presentare un questionario multidimensionale per la misura dell'insicurezza lavorativa e fornire supporto alle sue proprietà psicometriche. Il questionario è composto da 20 item e fornisce una misura dell'insicurezza lavorativa nelle sue principali dimensioni (quantitativa e qualitativa) e aspetti specifici (affettivi e cognitivi). I partecipanti allo studio sono stati lavoratori italiani occupati in organizzazioni pubbliche e private (N=405). I risultati dell'Analisi Fattoriale Esplorativa hanno evidenziato due dimensioni principali: l'insicurezza lavorativa quantitativa e qualitativa. I risultati dell'invarianza del modello di misura, testato mediante una Analisi Fattoriale Confermativa Multi-gruppo, hanno mostrato che i parametri del questionario risultano invarianti rispetto al genere. Inoltre, le due dimensioni dell'insicurezza lavorativa hanno evidenziato un'attendibilità più che soddisfacente e una buona validità concorrente rispetto ad alcune conseguenze note dell'insicurezza lavorativa. Nel complesso, questi risultati dimostrano che il questionario rappresenta una misura attendibile e valida in grado di cogliere la complessità del costrutto di insicurezza lavorativa.

Parole chiave: insicurezza del lavoro; lavoro temporaneo; comportamento dei consumatori; crisi finanziaria globale.

*Corresponding author
Antonio Chirumbolo
Department of Psychology, Sapienza University of Rome,
Via dei Marsi 78, 00185, Rome, Italy
Phone: +39 0641917667
Email: antonio.chirumbolo@uniroma1.it (A. Chirumbolo)

Introduction

Due to the rapid and deep changes in the worldwide working context - including technological transformations, increased competition and declining union power - the contemporary working life of most employees across different geographic areas is marred with stress. One important source of stress is nowadays related to the disappearance of long-term secure jobs. The rising of generalized job insecurity perception, occurring also for permanent employees, has become a topic of increasing scholarly and popular concern (Shoss, 2017).

In this respect, the subjective perception of the threat by an employee to maintain his/her own employment has been conceptualized in the research area of work psychology, more than thirty years ago, in the seminal paper by Greenhalgh and Rosenblatt (1984). Recent and older meta-analytic reviews have provided empirical evidence that clearly showed the increasing human and organizational costs triggered by job insecurity (e.g., Cheng & Chan, 2008; De Witte, Pienaar, & De Cuyper, 2016; Llosa et al., 2018; Shoss, 2017; Sverke, Hellgren, & Näswall, 2002; Sverke et al., 2019). Overall, the condition of job insecurity is well recognized as a psycho-social risk factor that can lead to impaired psychological, physical and organizational well-being over time (besides meta-analyses, for reviews see De Witte, 2005; De Witte, Pienaar, & De Cuyper, 2016; Sverke & Hellgren, 2002). Moreover, job insecurity could affect people's life also outside the working context (e.g., De Witte, Vander Elst, & De Cuyper, 2015; Lozza, Libreri, & Bosio, 2013).

The concept and the outcomes of job insecurity

Job insecurity effects were explained mostly through theoretical frameworks in line with different theories of the stress process (e.g., Mauno, Leskinen, & Kinnunen, 2001; Sverke & Hellgren, 2002). Many diverse definitions of the construct have been proposed over time (Sverke et al., 2004) and it was not possible to find in the literature a universally shared definition of job insecurity (Lee, Huang, & Ashford, 2018). To date, however, some common elements in the different definitions could be outlined (Sverke et al., 2019). In line with the literature, we referred to job insecurity as a subjective employee's appraisal of the likelihood and concern for a future involuntary loss of the current job position and/or for valued job features, based on his/her own evaluation of the work environment (see also De Witte, 2005; Sverke et al., 2002). This definition aimed at integrating different aspects that constitute the job insecurity construct, as will be described later. A key role here is played by the subjective component in the evaluation of an uncertain event, namely the future involuntary job loss. In fact, the same objective work situation may be evaluated differently by employees leading to different levels of job insecurity and, at the same time, not all individuals in an similar objective work situation are equally affected by various aspects of job insecurity (Klandermans & van Vuuren, 1999). In this regard, although related, the subjective perception of job insecurity represents a different phenomenon from an "objective" job insecurity that may, instead, derive from the occupational status of the job (e.g. temporary jobs).

Different aspects of job insecurity as a subjective perception can be distinguished (Sverke et al., 2002). The first distinction concerns two broad dimensions, named *quantitative* job insecurity (i.e., the fear of losing the job as a whole) and *qualitative* job insecurity (i.e., worries about losing valued job features, such as career prospects, salary increase and stimulating tasks) (see Greenhalgh & Rosenblatt, 1984; Hellgren, Sverke, & Isaksson, 1999). The second distinction regards two narrow facets, called *affective* job insecurity (i.e., an affective feeling as being concerned, worried, or extremely anxious about losing the job or job features) and *cognitive* job insecurity (i.e., the perceived likelihood of negative changes to the job or the loss itself) (Borg & Elizur, 1992; De Witte, Vander Elst, & De Cuyper, 2015; Probst 2003; Reisel & Banai, 2002). Research has shown that even if these dimensions and facets of job insecurity tend to be empirically correlated, they are not the same construct. Cognitive and affective job insecurity (Huang et al., 2010, 2012b; Ito & Brotheridge, 2007; Jiang & Lavaysse, 2018; König & Staufenbiel, 2006), as well as quantitative and qualitative job insecurity (e.g., Chirumbolo et al., 2017; Fischmann et al., 2019; Hellgren et al., 1999; Vander Elst, De Witte, & De Cuyper, 2014) appear to be differently related to different outcomes variables. More specifically, quantitative job insecurity was found to be correlated with poorer mental and physical health, lower organizational commitment, job satisfaction, job performance and with higher intentions to leave the organization (for meta-analytic findings, see Cheng & Chan, 2008; Shoss, 2017; Sverke et al., 2002). Qualitative job insecurity worsens, for example, organizational citizenship behaviors, job performance, organizational identification and overall organizational justice (e.g., Callea, Urbini, & Chirumbolo, 2016; Chirumbolo & Areni, 2010; Chirumbolo et al., 2017; De Witte et al., 2010; Greenhalgh & Rosenblatt, 2010). Overall, qualitative job insecurity appears to have an even greater impact than quantitative job insecurity (Callea et al., 2019; Chirumbolo et al., 2017).

The assessment of job insecurity

Despite the proliferation of scales and questionnaires over time, so far no study has yet provided a concise and consistent multidimensional measurement model with solid psychometric properties (Lee et al., 2018; O'Neill & Sevastos, 2013; Van Wyk & Pienaar, 2008). Most research showed a predominance of quantitative compared to qualitative job insecurity (Shoss, 2017) and the prevalence for measuring cognitive compared to affective job insecurity (Huang, Zhao, & Lee, 2012a). For example, two of the most used scale in empirical research (De Witte, 2000; Sverke et al., 2004) have shown strong psychometric features also in cross-cultural contexts (Chirumbolo et al., 2015; Vander Elst, De Witte, & De Cuyper, 2014). However, these brief instruments refer only to the quantitative job insecurity dimension, predominantly tapping the cognitive facet (about the 75% of the items). Recently, Brondino and colleagues (2020) have proposed

a new scale to measure the qualitative job insecurity in a multidimensional perspective; however, these authors did not consider neither including in the scale the quantitative dimension of job insecurity nor balancing the cognitive and affective facets of the construct.

So far, many measurement instruments of job insecurity manifestly show a lack of content and construct validity since they: (a) frequently consider only one dimension at time (e.g., quantitative or qualitative); (b) very often display no balance between affective and cognitive items; (c) rarely include reverse scored items (e.g., De Witte, 2000; Hellgren et al., 1999; for a meta-analysis, see Jiang & Lavaysse, 2018) This lack of consistency and uniformity in the measurement of the two major dimensions (i.e., quantitative & qualitative) and the two narrow facets of job insecurity (i.e., affective & cognitive) has led researchers to treat the different aspects of job insecurity as related but distinct features and they have rarely combined them into a single multidimensional integrated questionnaire (Chirumbolo, Callea, & Urbini, 2019). The rare exceptions which have tried to do this (e.g., Chirumbolo & Areni, 2010; Hellgren et al., 1999; O'Neill & Sevastos, 2013) have not comprised a fair, complete and balanced representation of all dimensions and facets of job insecurity, resulting in a lack of content and construct validity as well.

Aims of the present study

The main purpose of this study was to develop and validate a comprehensive measure that integrated the fundamental aspects of job insecurity as they emerge in psychological literature (e.g., De Witte, 2005; Greenhalgh & Rosenblatt, 2010; Hellgren et al., 1999; Jiang & Lavaysse 2018). In this framework, we aimed to simultaneously combining the distinction between *Types of Job Insecurity*, namely quantitative and qualitative, and *Focus of Job Insecurity*, namely affective and cognitive. See figure 1 for a representation of the model.

Fig. 1. Type and Focus of job insecurity

		Type of Insecurity	
		Quantitative	**Qualitative**
Focus of Job Insecurity	Cognitive	Perceived likelihood or cognition of job loss	Perceived likelihood or cognition to lose important job features
	Affective	Fear and worry of job loss	Fear or worry to lose important job features

The proposed *Multidimensional Job Insecurity Questionnaire* (MJIQ) comprised the intersection of these two axes (Type and Focus) representing four different sub-dimensions (see figure 1). The four sub-dimensions were the bases and the *generation criteria* for developing the items to include in the scale. In the following paragraph we will state the definitions and some example of items for each sub-dimension.

Quantitative-cognitive job insecurity taps perceived likelihood or cognition of job loss (QT–CO; a sample item is "I think I will lose my job"). *Quantitative-affective job insecurity* measures fear and worry of job loss (QT–AF; an example of item is "I am afraid I will get fired"). *Qualitative-cognitive job insecurity* assesses perceived likelihood or cognition to lose important job features such as salary, career, tasks, role and competence (QL–CO; a sample item is "I think that the career opportunities in my organization will not be favourable). *Qualitative-affective job insecurity* refers to fear or worry to lose important job features (QL–AF; sample item: "I worry that within my organization my job role will be less and less important). Each of this sub-dimension was measured by five items, yielding an overall scale of 20 items which are reported in the Appendix.

The MJIQ was partially inspired by different validated scales which measured quantitative job insecurity (e.g., Castellini et al., 2018; Chirumbolo et al., 2015; De Witte, 2000; Sverke et al., 2004) and qualitative job insecurity (e.g., Chirumbolo & Areni, 2010; Hellgren et al., 1999). In particular, items 1, 5 and 11 were taken from Sverke and colleagues (2004; see also Chirumbolo at al., 2015); item 9 was taken from Castellini and colleagues (2018), while item 6 was taken from Hellgren and colleagues (1999). The remaining items were formulated by the first author following the generation criteria definitions previously exposed.

Psychometric properties of the MJIQ were examined at different levels. At an early stage, given the initial preliminary validation of the scale, the factor structure of the MJIQ was investigated via Explorative Factor Analysis (EFA) in order to determine how many latent factors underlined the items. In employing EFA at this step, we followed Mulaik (2010) suggestions. In early construction and validation of a new measure, this author strongly recommended the assessment of the item structure with an EFA (for similar points see also Comrey & Lee, 1992; Costello & Osborne, 2005; Gerbing & Hamilton, 1996; Kline, 2013; Pett, Lackey, & Sullivan, 2003; Reise, Waller, & Comrey, 2000). In this respect, EFA was used here with the aim to exploratively select the best items by deleting possible poor indicators with low or multiple factor loadings (Comrey & Lee, 1992; Kline, 2013). Subsequently, the measurement invariance of the emerged factor structure was tested via a Multigroup Confirmative Factor Analysis, contrasting males vs. females' sub-groups. This analysis was conducted to prove that the factor structure showed different grades of measurement invariance across males and females (Barbaranelli & Ingoglia, 2013). Reliability was investigated via Cronbach alpha and concurrent validity was tested against several different variables that represent established individual and organizational outcomes of job insecurity highlighted in previous reviews and meta-analysis (see Cheng & Chan, 2008; De Witte, 2005; Sverke & Hellgren, 2002; Sverke et al., 2002). These outcome variables were physical health, psychological distress, job satisfaction, organizational commitment and turnover intentions.

Method

Participants and procedures

Participants of the study consisted of 405 employees, ranging from 19 to 65 years old (Mage = 40.17, SDage = 11.55) balanced for gender (44.7% males and 55.3% females). Employees worked in private (69.4%) or public (30.6%) organizations, with permanent (53.8%) or fixed-term (46.2%) contracts, in most cases with a full-time job (67.9%). White collar employees represented about 83.4% of the participants. With regards to organizational size, about 43.7% worked in firms with more than 250 employees, 20.3% worked in a firm composed from 51 to 250 employees and 36% worked in a firm with less than 50 employees. About 38% of the participants were single, 59.7% were married (or lived with a partner) and the rest were divorced or widowed. Regarding education, 44.2% had a university degree, 20% had a high school degree, and the remaining completed only compulsory school.

Participants were recruited on a voluntary basis, contacted via a snowball procedure. The main concern, within this non-probabilistic procedure, was to obtain a heterogeneous and varied sample in terms of socio-demographical features. The self-report questionnaire respected the privacy and anonymity of participants, guaranteeing information confidentiality and ensuring that the data would be threatened only in an aggregated fashion. Written informed consent was requested from participants.

The present study was part of a larger project started in 2018, approved and financed by the Academic Committee of Sapienza University of Rome, whose title was "The impact of job insecurity on individual and organizational well-being".

Measures

As previously described, the proposed *Multidimensional Job Insecurity Questionnaire* is composed of 20 items covering the two *types* of job insecurity, i.e. quantitative and qualitative, and the two *focus* of job insecurity, that is cognitive and affective job insecurity. Each of the four sub-dimensions was assessed by five items. Items 3, 7, 11 and 15 referred to QT-CO. Items 1, 5, 9, 13 and 17 referred to QT-AF. Items 2, 6, 10, 14 and 18 referred to QL-CO, while items 4, 8, 12, 16 and 20 referred to QL-AF. Items were randomly ordered and five items out of twenty (25%) were reversed so to balance a possible response set (Kline, 2013). The Italian items and their English translation were fully reported in the Appendix. Participants were asked to express their own agreement or disagreement with the statements on a Likert scale from 1 (strongly disagree) to 5 (strongly agree).

The booklet administered to participants was formed also by the following measures designed to test the concurrent validity of the MJIQ.

Physical complaints. Physical health complaints were measured via the Patient Health Questionnaires (PHQ-15; Spitzer, Kroenke, & Williams, 1999). The PHQ-15 consists of a check list of 15 somatic symptoms and participants had to rate how frequently they had suffered from various symptoms over the last six months, on a scale from 1 (never) to 4 (almost always). The PHQ-15 was shown to be equal or superior to other brief measures for assessing somatic symptoms and screening for somatoform disorders (Kroenke et al., 2010) and the Italian version showed good psychometric features (Chirumbolo, 2006). High scores on this scale indicate more physical complaints and poorer physical health (Cronbach's Alphas = .85).

Psychological distress. Distress and mental health complaints were measured by the General Health Questionnaire (GHQ) (Goldberg, 1979). This scale was composed of 12 items principally relating to an anxiety–depressive set of symptoms. Participants indicated how frequently they had suffered from various symptoms over the last six months, on a scale from 1 (never) to 4 (almost always). Example of item was: "Lost much sleep through worry". The GHQ is one of the most widely used measure to assess psychological health and the Italian validation showed good psychometric properties as well (Fraccaroli & Schadee, 1993; Piccinelli et al., 1993). High scores on this scale indicate higher psychological distress (Cronbach's Alphas = .85).

Job satisfaction. Job satisfaction was assessed with three items measuring the overall satisfaction with the actual job (see De Witte, 2000; Hellgren, Sjöberg, & Sverke, 1997). Participants were asked to express their own agreement/disagreement with each statement on a five-point Likert-scale from 1 (strongly disagree) to 5 (strongly agree). Example of item was: "I am very satisfied with my job". The Italian version of the scale showed good psychometric properties (Chirumbolo & Hellgren, 2003). Higher scores indicated higher job satisfaction (Cronbach's Alpha =.92).

Organizational commitment. Organizational commitment was measured with a five item scale derived from Allen and Meyer (1996). The scale tapped affective attachment toward the organization. Participants were asked to express their own agreement or disagreement with the statements on a five-point Likert-scale from 1 (strongly disagree) to 5 (strongly agree). Example of item was: "This organisation has a great deal of personal meaning to me". Also this scale showed good psychometric properties in its Italian version (Chirumbolo & Hellgren, 2003). Higher scores meant higher affective commitment (Cronbach's Alpha = .94).

Turnover intentions. Turnover intentions were measured with a three-item scale (Sjöberg & Sverke, 2000). The scale measured the propensity to leave the actual job position in the organization. Participants were asked to express their own agreement or disagreement with the statements on a five-point Likert-scale from 1 (strongly disagree) to 5 (strongly agree). Example of item was: "I feel that I could leave this job". The Italian version of the scale displayed good psychometric features (Chirumbolo & Hellgren, 2003). High scores on this scale indicated compelling intention to leave the organization (Cronbach's Alpha = .80).

Data Analysis

Firstly, an Exploratory Factor Analysis (EFA) was performed with MPLUS, employing MLR (i.e., maximum likelihood estimation with robust standard errors) as estimator for factor extraction and operating an oblique rotation of the factor loadings matrix. Parallel Analysis was used for determining the number of factors to be extracted (Horn, 1965). The rationale underlying Parallel

Analysis is the construction of several correlation matrices of random variables based on the same sample size and number of variables in the real data set. The average eigenvalues of the random correlation matrices, named parallel eigenvalues, are compared to the actual eigenvalues. In line with literature suggestions (Montanelli & Humphreys, 1976; Turner, 1998), we only extracted factors from actual data which have higher eigenvalues than parallel eigenvalues. Only items with loadings of .32 and above were interpreted (Tabachnick & Fidel, 2007) as the greater the loading, the more the item represents a pure measure of the factor. Comrey and Lee (1992) suggested that loadings in excess of .71 (50% overlapping variance) are considered excellent, .63 (40% overlapping variance) very good, .55 (30% overlapping variance) good, .45 (20% overlapping variance) fair, while loadings below .32 (10% overlapping variance) are to be considered poor. Items which loads highly on more than one factor were not considered a pure indicator of a given pertinent factor and therefore should be dismissed (e.g., Comrey & Lee, 1992; Kline, 2013, Mulaik, 2010).

Secondly, a multigroup Confirmative Factor Analysis (CFA) was conducted in order to investigate whether the factor model, emerged from the previous EFA, showed measurement invariance and could be generalized across the two independent sub-populations of males and females' employees. In line with the widely accepted recommendations and guidelines (Cheung & Rensvold, 2002; Vandenberg & Lance, 2000), configural invariance (i.e., no constrains), metric invariance (i.e., factor loadings constrained equal) and scalar invariance (strong invariance, i.e., factor loadings and intercepts constrained equal) were tested in this order. The goodness of fit of the models has been evaluated by the χ^2, the Root Mean Square Error of Approximation (RMSEA), the Standardized Root Mean Square Residual (SRMR), the Comparative Fit Index (CFI) and the Tucker Lewis Index (TLI). A model is usually considered reaching a satisfactory level of goodness of fit when RMSEA and SRMR are lower .08, and CFI and TLI are higher .95 (Hu & Bentler, 1999). Finally, we compared these nested models of measurement invariance through a set of chi-square difference tests ($\Delta\chi^2$). Specifically, a significant $\Delta\chi^2$ suggests rejecting the null hypothesis of invariance (Cheung & Rensvold, 2002), whereas a non-significant $\Delta\chi^2$ is an indicator that the hypothesis of measurement invariance cannot be rejected. Both EFA and CFA were performed with MPLUS-8 (Muthén & Muthén, 2017).

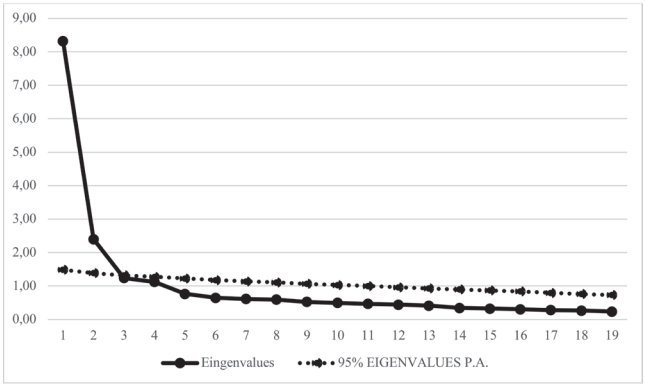
Internal consistency was evaluated via Cronbach alphas while concurrent validity was investigated using Pearson's correlation between MJIQ dimensions and the other measured outcomes such as physical complaints, psychological distress, job satisfaction, organizational commitment and turnover intentions.

Results

Explorative factor analysis

An EFA was performed to investigate the latent structure of the data. Parallel analysis suggested a two-factor solution. After oblique rotation, the factor loadings matrix showed that each item loaded only on one pertinent factor except for item 20, which showed significant loadings on both factors. Therefore, item 20 was deleted and a new EFA was subsequentially performed. The two-factor solution was again confirmed by parallel analysis and the scree plot inspection (see figure 2).

Fig. 2. Scree Plot and Parallel Analysis



Factor 1 was composed by 10 items, with very good factor loadings that ranged between .85 (item 5) and -.56 (item 13, reverse scored), and referred to both cognitive and affective aspects of Quantitative Job Insecurity (QTJI), namely the fear and the likelihood of losing the job as a whole. Factor 2 was composed by the remaining 9 items, with good factor loadings between .65 (item 14) and .41 (item 4) and regarded the cognitive and affective aspects of Qualitative Job Insecurity (QLJI), that is the fear and the likelihood of losing valued job features. The two factors explained 48.09% of variance and were negatively correlated (-.49). The full loading matrix is given in table 1.

Tab. 1. Factor loading matrix after oblique rotation

Item#	Item wording	Factors	
		1	2
QTJI5	I am afraid I will get fired	.85	
QTJI3	I think I will lose my job	.84	
QTJI11	I think I might get fired in the next future	.84	
QTJI1	I fear to lose my job	.82	
QTJI17	I fear to became unemployed in the next future	.81	
QTJI15	The probability that I will become unemployed is high	.76	
QTJI7	There is a serious possibility that my job is at risk	.75	
QTJI19	I am sure I can keep my job (R)	-.66	
QTJI9	I am worried about not being able to keep my job	.64	
QTJI13	I don't fear that my job is at risk (R)	-.56	
QLJI14	I think that the career opportunities in my organization will not be favourable		.65
QLJI18	The grow of my salary in my organization is not promising at all		.65
QLJI10	I believe that in the future my organization will ensure me a job with stimulating tasks (R)		-.62
QLJI8	I feel confident about the career opportunities in my organization (R)		-.58
QLJI12	I fear that I will end to carry out uninteresting tasks in my organization		.55
QLJI16	I worry that within my organization my job role will be less and less important		.53

Item#	Item wording	Factors	
		1	2
QLJI6	I think that in my organization my contribution will be less and less decisive		.52
QLJI2	I assume that my organization will need my capacities also in the future (R)		-.42
QLJI4	I worry that my salary will not adequately increase in the future		.41

Note. Item #20 was deleted due to significant double loadings.

Measurement invariance across gender

Firstly, we examined the configural invariance (M0), i.e. an unconstrained baseline model in which all parameters freely differ between males and females' employees. Secondly, the metric invariance was examined (M1), i.e. a model in which all factor loadings are simultaneously constrained across gender groups. Finally, the scalar invariance M2 was tested, i.e. a model in which the intercepts are constrained to be equal across groups. As can be noted in table 2, all models exhibited satisfactory fit indexes as both RMSEA and SRMR are always lower than .08, and CFI and TLI are equal to .99.

Tab. 2. Multigroup confirmative factor analysis and measurement invariance (males vs. females)

Model	Chi-Square	df	CFI	TLI	RMSEA	SRMR
Configural	29.01*	16	.99	.98	.06	.02
Metric	30.49	20	.99	.99	.05	.03
Scalar	36.20	24	.99	.99	.05	.03

Note. * $p < .05$; df = degrees of freedom; Models: Configural = no constrains; Metric = factor loadings constrained equal; Scalar = strong invariance factor loadings and intercepts constrained equal.

All nested models were formally contrasted via the $\Delta\chi^2$ comparison. The comparison M1 versus M0 showed a non-significant $\Delta\chi^2$: this result suggests no significant group differences for factor loadings supporting metric invariance (table 3). In other words, males and females' employees attributed the same meaning to the latent constructs under investigation. Furthermore, both the M0 and M1 were also tested and compared to the scalar invariance model M2. Result always showed a non-significant $\Delta\chi^2$. Therefore, scalar invariance was supported meaning that also the levels of the underlying items (intercepts) may be considered equal in both groups. The comparisons among models are detailed reported in table 3.

Tab. 3. Comparison between the models of measurement invariance

Model comparison	Chi-Square	df-diff	p-value
Metric against Configural	1.079	4	.90
Scalar against Configural	6.961	8	.54
Scalar against Metric	5.715	4	.22

Note. df-diff= degrees of freedom difference between the compared models; Models: Configural = no constrains; Metric = factor loadings constrained equal; Scalar = strong invariance factor loadings and intercepts constrained equal.

Reliability and concurrent validity

Descriptives and internal consistency of QTJI and QLJI were reported in table 4. Cronbach's Alpha proved to be very good, that is .93 and .82 respectively.

Tab. 4. Descriptives and Reliabilities of Job Insecurity Scales

	Mean	Std. Dev.	Alpha
Quantitative Job Insecurity	2.27	.99	.93
Qualitative Job Insecurity	2.91	.80	.82

QTJI and QLJI were positively and significantly correlated with physical complaints, psychological distress and turnover intentions (tables 5). Furthermore, both were also negatively and significantly correlated with job satisfaction and organizational commitment (tables 5). All correlations between QTJI, QLJI and the outcome variables were perfectly consistent with those reported in literature and in several meta-analytic reviews (e.g., Cheng & Chan, 2008; Sverke et al, 2002; 2019).

Tab. 5. Concurrent validity: Correlations between QTJI, QLJI and outcome variables

	QTJI	QLJI
Physical complaints	.30**	.38**
Psychological distress	.43**	.52**
Job satisfaction	-.27**	-.58**
Organizational commitment	-.22**	-.49**
Turnover intentions	.36**	.46**

Note. * $p < .05$, ** $p < .01$. QTJI = Quantitative Job Insecurity; QLJI = Qualitative Job Insecurity

Discussion

Considering the increasing instability in the labour market, job insecurity has become an important issue as a powerful job stressor among today working population. In this regard, future studies aimed to assess levels of stress at the workplace should never leave out the assessment of job insecurity as a relevant source of stress variable (Mohr, 2000). In this perspective, the purpose of the current study was to validate a new integrated measure of job insecurity that could represents all the different aspects of job insecurity in a parsimonious way. The present measure was the first one which attempted to combine simultaneously, and in a balanced way, the cognitive and affective facets of the two major dimensions of job insecurity, namely qualitative and quantitative.

The construction and the validation of the MJIQ addressed some of the recommendations recently suggested by some authors on the improvement of job insecurity measurement and construct clarification (Shoss, 2017; Lee and colleagues, 2018). The cohabitation of different types and facets of job insecurity without a systematic integration into a single comprehensive measurement tool could led to puzzling

and confounding results. The way MJIQ referred to different focus (cognitive and affective) of job insecurity could help to shed a new theoretical light on the distinction between the two most important types of its dimensions, quantitative and qualitative, and its practical implications.

Actually, the results of the EFA supported the measurement of job insecurity through two reliable and robust dimensions, quantitative and qualitative, which subsumed the two distinct facets of cognitive and affective focus. Tests of factorial, metric and strong invariance across two independent sub-groups (males vs. females) confirmed the statistical equivalence and robustness of the proposed factor structure. In addition to their high internal consistency, the two job insecurity scales showed strong concurrent validity via meaningful correlations with well-known job insecurity outcomes. As a matter of fact, job insecurity was confirmed to be detrimental for both individuals and organizations in line with the existing literature, correlating with higher somatic complaints and psychological distress, with intentions to leave the organization and with lower job satisfaction and organizational commitment (e.g., Cheng & Chan, 2008; De Witte, 2005; Sverke et al., 2002; 2019). Furthermore, the magnitude of the relationship between qualitative job insecurity and other outcomes variables was always higher compared to the quantitative job insecurity. This finding confirms what it was often found in literature, namely that the impact of qualitative job insecurity maybe higher as compared to the quantitative job insecurity (Callea et al., 2019; Chirumbolo, 2017; Chirumbolo et al., 2017). It may also indicate that quantitative and qualitative job insecurity represent two relative distinct dimensions that have a different weight for other variables, although their impact works always in the same direction. Therefore, it makes sense to measure different levels of job insecurity including thinking and/or feelings about the risk of losing the job and/or losing important, valued features of the job (Pienaar et al., 2013).

From a theoretical point of view, among the different stress theories, the latent deprivation model of Jahoda (1982) could be valuably adopted to disentangle and account for the different dimensions of job insecurity. This author distinguished between *manifest* and *latent* functions of work (Jahoda, 1982). From this theoretical perspective, quantitative job insecurity (that is the anticipation of job loss) would principally refer to the frustration of the *manifest* functions of employment, as the continuity of one's own job guarantees a paid job to earn one's own living. Only secondary it would concern the *latent* functions of employment, which mostly involve social identity, social status and activity. On the contrary, qualitative job insecurity (that is the anticipation of losing valued aspect of the job, such as career advancement, competence utilization, job role and status) would closely and primary regard the frustration of the *latent* functions of employment and only secondary and more abstractedly the *manifest* functions of employment. This theoretical distinction could also explain why often qualitative job insecurity was found to mediate the effect of quantitative job insecurity on several external outcomes (e.g., Callea et al., 2019; Chirumbolo et al., 2017).

From a practical point of view, the operationalisation of job insecurity as a multidimensional construct represents a step forward in empirical research because any psychometric assessment is closely related to empirical findings and the magnitude of the highlighted relationships as well (Kline, 2013). If a given measure is only partially valid, it could affect the results attained by a give investigation and, therefore, could affect conclusions and implications for policy makers with manifest practical (negative) fallouts (Kline, 2013). Paraphrasing Kurt Lewin, it can be said that there is nothing more practical than a good measure. In this line, the solid psychometric properties highlighted by MJIQ allow to effectively use the present questionnaire in different organizational settings. Given its shortness, still with high reliability and validity, the MJIQ can be profitably administered alongside other widely used instruments for diagnosing and detecting issues related to work stress and organizational well-being (e.g., Avallone, & Paplomatas, 2005; Barbaranelli et al., 2018; De Carlo, Falco, & Capozza, 2008). Likewise, it can be successfully administered by its own as an indicator to monitoring job insecurity levels during organizational change (e.g., merging, fusion, downsizing, restructuring).

Clearly, the present study is not without limitations. To begin with, the convenient sample would not allow the generalizability of the MJIQ. Further studies are therefore needed to confirm the results and validate the robustness of the scale. Moreover, compared to the rest of Europe and other Western countries, Italy has a relatively higher unemployment rate (Eurostat, 2019) and hence probably higher levels of job insecurity. Future research should focus on samples that are more representative and consider other culture context in order to examine the invariance of the MJIQ across demographics and work categories. From this perspective, future research will be also devoted to investigating the psychometric features of the MJIQ in different international contexts. Another important issue for future studies will be to consider the longitudinal invariance and via multi-wave modelling, to determine the structural stability of the measurement model over time and its suitability for longitudinal research. Moreover, other types of validity should also be investigated.

Conclusions

As a work stressor job insecurity has been convincedly linked to several detrimental outcomes, such as more negative job attitudes and behaviors, decreased employees' psychological and physical well-being (Cheng & Chan, 2008; De Witte et al., 2016; Shoss, 2017; Sverke et al., 2002). However, studies on job insecurity are still necessary to better understand its antecedents and consequents, as well as the specificities of working contexts and cultures. In the perspective to enhance employee's well-being, a deepened knowledge of job insecurity could develop more effective organizational and state workforce policies to cope with its negative outcomes. Within this framework, having a solid measurement tool represents a necessary step for both theoretical and practical goals.

Compliance with Ethical Standards

Conflict of interest

The authors declare that they have no competing interests.

Funding
The author(s) received no financial support for the research, authorship, and/or publication of this article.

Ethical approval
All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent
Each participant dealt with the process of informed consent.

References

Allen, N.J., & Meyer, J.P. (1996). Affective, continuance, and normative commitment to the organization: An examination of construct validity. *Journal of Vocational Behavior, 49*(3), 252-276.

Avallone, F., & Paplomatas, A. (2005). *Salute organizzativa: psicologia del benessere nei contesti lavorativi*. Milano: Raffaello Cortina.

Barbaranelli, C., & Ingoglia, S. (2013). *I Modelli di Equazioni Strutturali: Temi e prospettive*. Milano: LED.

Barbaranelli, C., Ghezzi, V., Di Tecco, C., Ronchetti, M., Fida, R., Ghelli, M., & Iavicoli, S. (2018). Assessing objective and verifiable indicators associated with work-related stress: validation of a structured checklist for the assessment and management of work-related stress. *Frontiers in psychology*, *9*, 2424.

Borg, I., & Elizur, D. (1992). Job Insecurity: Correlates, Moderators and Measurement. *International Journal of Manpower, 13*(2), 13-26.

Brondino, M., Bazzoli, A., Vander Elst, T., De Witte, H., & Pasini, M. (2020). Validation and measurement invariance of the multidimensional qualitative job insecurity scale. *Quality & Quantity*. doi: 10.1007/s11135-020-00966-y

Callea, A., Urbini, F., & Chirumbolo, A. (2016). The mediating role of organizational identification in the relationship between qualitative job insecurity, OCB and job performance. *Journal of Management Development, 35*(6), 735-746.

Callea, A., Lo Presti, A., Mauno, S., & Urbini, F. (2019). The associations of quantitative/qualitative job insecurity and well-being: The role of self-esteem. *International Journal of Stress Management*, *26*(1), 46-56.

Castellini, G., Lozza, E., Castiglioni, C., & Chirumbolo, A. (2018). The measurement of job insecurity: A revision of Chirumbolo et al., (2015) scale. *Rassegna di Psicologia, 33*(1), 29-38.

Cheng, G.H.-L., & Chan, D.K.-S. (2008). Who suffers more from job insecurity? A meta-analytic review. *Applied Psychology, 57*(2), 272-303.

Cheung, G.W., & Rensvold, R.B. (2002). Evaluating Goodness-of-Fit Indexes for Testing Measurement Invariance. *Structural Equation Modeling: A Multidisciplinary Journal, 9*(2), 233-255.

Chirumbolo, A., & Hellgren, J. (2003). Individual and Organizational Consequences of Job Insecurity: A European Study. *Economic and Industrial Democracy, 24*(2), 217-240.

Chirumbolo, A. (2006, September). *Dimensionalità, attendibilità e validità di una breve scala per la misura dei sintomi somatici*. Paper presented at the VII Congresso Nazionale della Società Italiana di Psicologia della Salute, Cesena.

Chirumbolo, A. (2017, March). *The sneaky side of Job Insecurity*. Paper presented at the XIII European Spring Conference of Social Psychology, Cortina.

Chirumbolo, A., & Areni, A. (2010). Job insecurity influence on and job performance and mental health: Testing the moderating effect of the need for closure. *Economic and Industrial Democracy, 31*(4), 195-214.

Chirumbolo, A., Callea, A., & Urbini, F. (2019, May). *Quantitative, qualitative, affective and cognitive: Which dimensions of job insecurity*? Paper presented at the XIX European Association of Work and Organizational Psychology, Turin.

Chirumbolo, A., Hellgren, J., De Witte, H., Goslinga, S., Näswall, K., & Sverke, M. (2015). Caratteristiche psicometriche di una scala breve per la misura della job insecurity: uno studio cross-culturale europeo. *Rassegna di Psicologia, 32*(3), 83-98.

Chirumbolo, A., Urbini, F., Callea, A., Lo Presti, A., & Talamo, A. (2017). Occupations at Risk and Organizational Well-Being: An Empirical Test of a Job Insecurity Integrated Model. *Frontiers in Psychology, 8*, 1-13.

Comrey, A. L., and Lee, H. B. (1992). *A First Course in Factor Analysis* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research, and evaluation*, *10*(1), 7.

De Carlo, N. A., Falco, A., & Capozza, D. (2008). *Test di valutazione del rischio stress lavoro-correlato nella prospettiva del benessere organizzativo (Q-BO)*. Milano: Franco Angeli.

De Witte, H. (2000). Work ethic and job insecurity: Assessment and consequences for well-being, satisfaction and performance at work. In Bowen, R., De Witte, K., De Witte, H., & Taillieu, T. (Eds.). *From Group to Community* (pp. 325-50). Leuven, Belgium: Garant (in Dutch).

De Witte, H. (2005). Job insecurity: Review of the international literature on definitions, prevalence, antecedents and consequences. *South African Journal of Industrial Psychology, 31*(4), 1-6.

De Witte, H., De Cuyper, N., Handaja, Y., Sverke, M., Näswall, K., & Hellgren, J. (2010). Associations between quantitative and qualitative job insecurity and well-being: A test in Belgian banks. *International Studies of Management and Organization, 40*(1), 40-56.

De Witte, H., Vander Elst, T., & De Cuyper, N. (2015). Job insecurity, health and well-being. In Vuori, J., Blonk, R., & Price, R. H. (Eds.). *Sustainable Working Lives: Managing Work Transitions and Health Throughout the Life Course* (pp. 109-128). New York (NY): Springer.

De Witte, H., Pienaar, J., & De Cuyper, N. (2016). Review of 30 years of longitudinal studies on the association between job

insecurity and health and well-being: is there causal evidence? *Australian Psychologist, 51*(1), 18-31.

Eurostat. (2019). *Euro area unemployment at 7.5%* (Product code: 3-09012020-AP). Retrieved from https://ec.europa.eu/eurostat/en/web/products-press-releases/-/3-09012020-AP

Fischmann, G., Sulea, C., Kovacs, P., Iliescu, D., & De Witte, H. (2019). Qualitative and quantitative job insecurity: relations with nine types of performance. *Psihologia Resurselor Umane, 13*(2), 152-164.

Fraccaroli, F., & Schadee, H.M. (1993). L'analisi fattoriale confermativa applicata al General Health Questionnaire. Una comparazione della versione inglese e italiana. *Giornale Italiano di Psicologia, 20*(2), 319-338.

Gerbing, D. W., & Hamilton, J. G. (1996). Viability of exploratory factor analysis as a precursor to confirmatory factor analysis. *Structural Equation Modeling: A Multidisciplinary Journal, 3*(1), 62-72.

Greenhalgh, L., & Rosenblatt, Z. (1984). Job insecurity: Toward conceptual clarity. *Academy of Management Review 9*(3), 438-448.

Greenhalgh, L., & Rosenblatt, Z. (2010). Evolution of research on job insecurity. *International Studies of Management and Organization, 40*(1), 6-19.

Goldberg, D. (1979). *Manual of the General Health Questionnaire*. Windsor: National Foundation for Educational Research.

Hellgren, J., Sjöberg, A., & Sverke, M. (1997). Intention to quit: Effects of job satisfaction and job perceptions. In F. Avallone, J. Arnold, & H. De Witte (Eds.), *Feelings work in Europe* (pp. 415-423). Milano: Guerini.

Hellgren J., Sverke M., & Isaksson K. (1999). A Two dimensional approach to job insecurity: Consequences for employee attitudes and well-being. *European Journal of Work and Organizational Psychology, 8*(2), 179-195.

Horn, J.L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 30*, 179-185.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1-55.

Huang, G.-H., Lee, C., Ashford, S., Chen, Z., & Ren, X. (2010). Affective Job Insecurity. *International Studies of Management & Organization, 40*(1), 20-39.

Huang, G.-H., Zhao, H. H., & Lee, C. (2012a). Job insecurity in the Chinese context: A critical review. In X. Huang, & M. Harris Bond (Eds.), *Handbook of Chinese organizational behavior: Integrating theory, research and practice* (pp. 343-356). Cheltenham(UK): Edward Elgar Publishing.

Huang, G.-H., Niu, X., Lee, C., & Ashford, S. J. (2012b). Differentiating cognitive and affective job security: Antecedents and outcomes. *Journal of Organizational Behavior, 33*(6), 752-769.

Huang, G.-H., Wellman, N., Ashford, S. J., Lee, C., & Wang, L. (2017). Deviance and exit: The organizational costs of job insecurity and moral disengagement. *Journal of Applied Psychology, 102*(1), 26-42.

Ito, J., & Brotheridge, C. (2007). Exploring the predictors and consequences of job insecurity's components. *Journal of Managerial Psychology, 22*(1), 40-64.

Klandermans, B., & van Vuuren, T. (1999). Job insecurity: Introduction. *European Journal of Work and Organizational Psychology*, *8*(2), 145-153.

Kline, P. (2013). *Handbook of psychological testing*. London: Routledge (2nd Edition).

König, C.J., & Staufenbiel, T. (2006, May). *The Difference Between Cognitive and Affective Job Insecurity*. Paper presented at the 21st annual conference of the Society for Industrial and Organizational Psychology, Dallas, TX.

Kroenke, K., Spitzer, R.L., Williams, J.B., & Löwe, B. (2010). The patient health questionnaire somatic, anxiety, and depressive symptom scales: a systematic review. *General hospital psychiatry*, *32*(4), 345-359.

Jahoda, M. (1982). *Employment and unemployment: A social-psychological analysis*. London: Cambridge University Press.

Jiang, L., & Lavaysse, L.M. (2018). Cognitive and Affective Job Insecurity: A Meta-Analysis and a Primary Study. *Journal of Management, 44*(6), 2307-2342.

Lee, C., Huang, G.-H., & Ashford, S.J. (2018). Job insecurity and the changing workplace: Recent developments and the future trends in job insecurity research. *Annual Review of Organizational Psychology and Organizational Behavior, 5*(1), 335-359.

Llosa, J.A., Menéndez-Espina, S., Agulló-Tomás, E., & Rodríguez-Suárez, J. (2018). Job insecurity and mental health: A meta-analytical review of the consequences of precarious work in clinical disorders. *Anales de Psicología, 34*(2), 211-223.

Lozza, E., Libreri, C., & Bosio, A.C. (2013). Temporary employment, job insecurity and their extraorganizational outcomes. *Economic and Industrial Democracy*, *34*(1), 89-105.

Mauno, S., Leskinen, E., & Kinnunen, U. (2001). Multi-wave, multi-variable models of job insecurity: applying different scales in studying the stability of job insecurity. *Journal of Organizational Behavior, 22*(8), 919-937.

Mohr, G.B. (2000). The changing significance of different stressors after the announcement of bankruptcy: a longitudinal investigation with special emphasis on job insecurity. *Journal of Organizational Behavior, 21*(3), 337-359.

Montanelli, R.G., & Humphreys, L.G. (1976). Latent roots of random data correlation matrices with squared multiple correlations on the diagonals: A Monte Carlo study. *Psychometrika, 41*, 341-348.

Mulaik, S.A. (2010). *Foundations of Factor Analysis*. Boca Raton: Chapman and Hall/CRC.

Muthén, L.K., & Muthén, B.O. (2017). *Mplus Statistical Analysis with Latent Variables User's Guide (Version 8)*. Los Angeles, CA: Authors.

O'Neill, P., & Sevastos, P. (2013). The development and validation of a new multidimensional Job Insecurity Measure (JIM): An inductive methodology. *Journal of Occupational Health Psychology, 18*(3), 338-349.

Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research*. London: Sage.

Probst, T.M. (2003). Exploring employee outcomes of organizational restructuring: A Solomon four-group study. *Group and Organizational Management, 28*(3), 416-439.

Piccinelli, M., Bisoffi, G., Bon, M.G., Cunico, L., & Tansella, M. (1993). Validity and test-retest reliability of the Italian version of the 12-item General Health Questionnaire in general practice: a comparison between three scoring methods. *Comprehensive Psychiatry*, *34*(3), 198-205.

Pienaar, J., De Witte, H., Hellgren, J., & Sverke, M. (2013). The cognitive/affective distinction of job insecurity: Validation and differential relations. *Southern African Business Review, 17*(2), 1-22.

Reise, S. P., Waller, N. G., & Comrey, A. L. (2000). Factor analysis and scale revision. *Psychological Assessment, 12*(3), 287–297.

Reisel, W.D., & Banai, M. (2002). Comparison of a Multidimensional and a Global Measure of Job Insecurity: Predicting Job Attitudes and Work Behaviors. *Psychological Reports, 90*(3), 913-922.

Shoss, M.K. (2017). Job Insecurity: An Integrative Review and Agenda for Future Research. *Journal of Management, 43*(6), 1911-1939. *Applied Psychology, 51*(1), 23-42.

Sverke, M., & Hellgren, J. (2002). The Nature of Job Insecurity: Understanding Employment Uncertainty on the Brink of a New Millennium.

Sverke, M., Hellgren, J., & Näswall, K. (2002). No security: A meta-analysis and review of job insecurity and its consequences. *Journal of Occupational Health Psychology, 7*(3), 242-264.

Sverke, M., Hellgren, J., Näswall, K., Chirumbolo, A., De Witte, H. & Goslinga, S. (2004). *Job insecurity and union membership: European unions in the wake of flexible production*. Brussels: P.I.E.-Peter Lang.

Sverke, M., Låstad, Hellgren, J., Richter, A., & Näswall, K. (2019). A Meta-Analysis of Job Insecurity and Employee Performance: Testing Temporal Aspects, Rating Source, Welfare Regime, and Union Density as Moderators. *International Journal of Environmental Research and public Health, 16*(14), 2536.

Sjöberg, A., & Sverke, M. (2000). The interactive effect of job involvement and organizational commitment on job turnover revisited: A note on the mediating role of turnover intention. *Scandinavian Journal of Psychology, 41*(3), 247-252.

Spitzer, R.L., Kroenke, K., Williams, J.B., & Patient Health Questionnaire Primary Care Study Group. (1999). Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. *The Journal of the American Medical Association, 282*(18), 1737-1744.

Tabachnick, B. G., & Dan Fidel, L. S. (2007). *Using Multivariate Statistics*. Boston, MA: Person Education Inc.

Turner, N.E. (1998). The effect of common variance and structure pattern on random data eigenvalues: Implications for the accuracy of parallel analysis. *Educational and Psychological Measurement, 58*(4), 541-568.

Vander Elst, T., De Witte, H., & De Cuyper, N. (2014). The Job Insecurity Scale: A psychometric evaluation across five European countries. *European Journal of Work and Organizational Psychology, 23*(3), 364-380,

Van Wyk, M., & Pienaar, J. (2008). Towards a research agenda for job insecurity in South Africa. *Southern African Business Review, 12*(2), 49-86.

Vandenberg, R.J., & Lance, C.E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, *3*(1), 4-69.

Vander Elst, T., De Witte, H., & De Cuyper, N. (2014). The Job Insecurity Scale: A psychometric evaluation across five European countries. *European Journal of Work and Organizational Psychology*, *23*(3), 364-380.

Appendix

The Multidimensional Job Insecurity Questionnaire							
Italiano							
Completamente falso per me		Moderatamente falso per me	Né vero né falso	Moderatamente vero per me	Completamente vero per me		
1		2	3	4	5		
1	Temo di perdere il mio lavoro			1	2	3	4	5
2	Ritengo che la mia organizzazione avrà bisogno delle mie competenze anche in futuro			1	2	3	4	5
3	Credo che perderò il mio lavoro			1	2	3	4	5
4	Mi preoccupa il fatto che il mio stipendio non aumenterà adeguatamente in futuro			1	2	3	4	5
5	Ho paura di essere licenziato			1	2	3	4	5
6	Penso che nella mia organizzazione il mio contributo sarà sempre meno fondamentale			1	2	3	4	5
7	C'è la concreta possibilità che il mio lavoro sia in pericolo			1	2	3	4	5
8	Mi sento tranquillo sulle prospettive di carriera all'interno della mia organizzazione (R)			1	2	3	4	5
9	Sono preoccupato di non riuscire a mantenere il mio posto di lavoro			1	2	3	4	5
10	Credo che in futuro la mia organizzazione possa assicurarmi un lavoro con incarichi stimolanti (R)			1	2	3	4	5
11	Penso che possano licenziarmi in un prossimo futuro			1	2	3	4	5
12	Ho paura che in futuro, nella mia organizzazione, io finisca a svolgere mansioni poco interessanti			1	2	3	4	5
13	Non temo che il mio posto di lavoro sia a rischio (R)			1	2	3	4	5
14	Penso che in futuro le opportunità di carriera nella mia organizzazione non siano favorevoli			1	2	3	4	5
15	La probabilità che possa diventare disoccupato in futuro è alta			1	2	3	4	5
16	Temo che all'interno dell'organizzazione il mio ruolo lavorativo diventi sempre meno importante			1	2	3	4	5
17	Ho il timore di diventare disoccupato in futuro			1	2	3	4	5
18	Lo sviluppo della mia retribuzione in questa organizzazione non è per niente promettente			1	2	3	4	5
19	Sono sicuro di poter conservare il mio lavoro (R)			1	2	3	4	5
20	Ho paura che la mia organizzazione non avrà più bisogno delle mie capacità*			1	2	3	4	5

Note. *Item deleted; (R) = Reverse scored item.

The Multidimensional Job Insecurity Questionnaire							
English							
Completely false for me	Moderately false for me	Neither false nor true	Moderately true for me	Completely true for me			
1	2	3	4	5			
1	I fear to lose my job	1	2	3	4	5
2	I assume that my organization will need my capacities also in the future	1	2	3	4	5
3	I think I will lose my job	1	2	3	4	5
4	I worry that my salary will not adequately increase in the future	1	2	3	4	5
5	I am afraid I will get fired	1	2	3	4	5
6	I think that in my organization my contribution will be less and less decisive	1	2	3	4	5
7	There is a serious possibility that my job is at risk	1	2	3	4	5
8	I feel confident about the career opportunities in my organization (R)	1	2	3	4	5
9	I am worried about not being able to keep my job	1	2	3	4	5
10	I believe that in the future my organization will ensure me a job with stimulating tasks (R)	1	2	3	4	5
11	I think I might get fired in the next future	1	2	3	4	5
12	I fear that I will end to carry out uninteresting tasks in my organization	1	2	3	4	5
13	I don't fear that my job is at risk (R)	1	2	3	4	5
14	I think that the career opportunities in my organization will not be favorable	1	2	3	4	5
15	The probability that I will become unemployed is high	1	2	3	4	5
16	I worry that within my organization my job role will be less and less important	1	2	3	4	5
17	I fear to became unemployed in the next future	1	2	3	4	5
18	The grow of my salary in my organization is not promising at all	1	2	3	4	5
19	I am sure I can keep my job (R)	1	2	3	4	5
20	I fear that my organization will not need my competencies anymore*	1	2	3	4	5

Note. *Item deleted; (R) = Reverse scored item.