



**LUNDS**  
UNIVERSITET

Institutionen för psykologi  
Psykologprogrammet

## **A Scoping Review of Tools to Assess Psychosocial Stress in Humanitarian Aid Workers**

**Anna Rodríguez Bolin & Lea Whitmer Jacobsson**

Psykologexamensuppsats 2022

Handledare: Sean Perrin, Danilo Garcia

## **Abstract**

This study presents a scoping review of tools to assess psychosocial stress in humanitarian aid workers, with a particular focus on the third version of the Copenhagen Psychosocial Questionnaire (COPSOQ III), and an overview of interventions to address work-related stress in this population. The databases Lubsearch and PsycInfo were searched for journal publications reporting on the validity of the COPSOQ as well as assessments or interventions for humanitarian aid workers experiencing work-related stress. Articles that met the aims were included in the review. The scoping review yielded four articles for each respective research question. The results showed acceptable psychometrics for the COPSOQ with some exceptions, as well as limited alternative assessment tools, and few studies detailing interventions for humanitarian aid workers. Further validation studies of assessment tools for work-related stress in humanitarian aid workers is warranted, as well-controlled trials of interventions designed to reduce such stress.

*Keywords: COPSOQ III, scoping review, humanitarian aid work, validity, assessments, interventions*

## **Acknowledgments**

We would like to thank our supervisors Danilo Garcia and Sean Perrin for believing in our ideas and encouraging and supporting us throughout the process. To our beloved families, partners, and friends- thank you for all the emotional and practical support throughout our studies. A special appreciation is directed towards the pug Winston, thank you for comforting and making us laugh at the office <3

## **“A Scoping Review of Tools to Assess Psychosocial Stress in Humanitarian Aid Workers”**

When crises such as wars or natural disasters occur one often has a very clear idea of who the affected parties are. However, there is also an often-forgotten category of people who also suffer the consequences of these events. Humanitarian aid workers work to help those affected by conflicts or crises, often work under extreme conditions and are at risk to develop psychological problems in their work. It is therefore of utmost importance that the organizations that employ aid workers have the tools and the knowledge to evaluate and study the psychological demands and resources of these employees in order to be able to prevent as much of the work-related stress as possible.

Work-related stress can be defined as an individual’s reactions to his or her work environment that indicates a poor relationship between the individual’s abilities to cope and the demands of the work environment (Jamal & Baba, 2000). These reactions can occur when the person is presented with ill-matched work demands that can be described as quantitative (amount of work, time pressure), cognitive (difficulty of work), emotional (empathy required) or physical (dynamic or static loads) (Lal & Singh, 2015). Work-related stress can affect employee satisfaction, work productivity, family roles and functioning as well as increase rates of absenteeism (Carod-Artal & Vazquez-Cabrera, 2013). The condition can also have a plethora of health effects such as mortality, cardiovascular diseases, musculoskeletal disorders and different manifestations of mental illness (Gilbert-Ouimet et al., 2014; Hauke et al., 2011; Rugulies et al., 2017; Taouk et al., 2020; Theorell et al., 2016).

The purpose of this scoping review is to evaluate the Copenhagen Psychosocial Questionnaire to determine if it is appropriate to be used by international aid organizations as well as investigate its psychometric qualities and how well it can measure stress in humanitarian aid workers. This study will also attempt to review what other measuring tools have been used previously to evaluate work-related stress in humanitarian aid workers to place

the COPSOQ in an existing context.

### **Theory and Earlier research on Stress at Workplaces**

Studies examining the prevalence of work-related stress tend to focus on specific groups of workers, in specific countries, for example healthcare professionals in Sweden. This is also true of studies of humanitarian aid workers (HAW). Several studies have been carried out, and overall these find that the stressful and/or traumatic experiences HAWs face have been linked to conditions such as: depression, anxiety, burnout, heavy drinking, secondary traumatic stress, and posttraumatic stress disorder (Ager et al., 2012; Connorton et al., 2012; Eriksson et al., 2001; Jachens et al., 2016, 2019; Jones et al., 2006; Lopes Cardozo et al., 2013).

The psychological consequences from constant work-related stress are represented in problems such as exhaustion, anxiety, depression and burnout (ILO, 2016). Burn-out is one of the more commonly discussed occupational hazards from work-related stress and is recognized as a global concern and challenge to organizational functioning and individual health (Carod-Artal & Vazquez-Cabrera, 2013). In 2019 The World Health Organization (WHO) declared burnout as an “occupational phenomenon” in International Classification of Diseases 11th revision (ICD-11) (World Health Organization, 2019).

Burnout is described as a condition that emerges as a delayed response to chronic interpersonal stressors at work (Leiter & Maslach, 2016). The most common symptoms of burnout are emotional exhaustion (the state of being emotionally drained), cynicism, depersonalization (the loss of compassion and concern) and low personal accomplishments (Maslach & Leiter, 2016; Woo et al., 2020). This symptomatic cluster of work-stress has been most frequently observed in human-centered professions such as: human services, healthcare and education. This is thought to be largely because of the need for constant emotional and personal contact (Maslach & Leiter, 2016). In the largest study conducted to date of burnout in humanitarian workers (n=1,980), Jachens et al. (2019) found that, when using the The Maslach

Burnout Inventory – Human Services Survey (MBI-HSS) (Maslach, Jackson, and Leiter, 1996), 32% of humanitarian aid workers were at risk of emotional exhaustion, 43% of decreased personal accomplishments and 10% of depersonalization (Jachens et al., 2019).

### **Measuring Work-Related Stress**

There are several ways of studying work-related stress. An accurate method is crucial to understanding stress and potential risk factors as well as to designing meaningful ways of prevention and interventions. Historically, a “risk assessment approach”- an evaluation of how employees may be exposed to potential stressors at work (e.g., work overload, problems with the work climate), has commonly been used when measuring work-related stress (Cox, 1998).

The most frequent way of carrying out risk assessments is through self-reporting questionnaires, meaning for the employee to rate their individual exposure to stressors (Mackay et al., 2004). The result is thought to indicate an employee's risk of negative behavioral and health outcomes (Rick & Briner, 2000). Once the main stressors are identified within an organization suitable stress management intervention should be implemented (Cox, 1998). The risk assessment approach has been criticized for not regarding the workers' subjective experience of work-related stress. Measurements of general perceptions of stress could be considered as meaningful when studying occupational stress (Rick & Briner, 2000). Another limitation could be that questionnaires might leave out items that are representative of relevant stressors, the tools effectiveness depends on if all relevant dimensions are included (Marcatto et al., 2021). Commonly used assessment tools are presented below in two categories, with: 1. Tests that measure stressors (for examples see Table 1) and 2. Tests that measure stress as an experience (for examples see Table 2).

**Table 1***Tests that measure stressors*

Test name	Reference	Factors	Example items	Population
Work Stress Questionnaire (WSQ)	(Frantz & Holmgren, 2019)	<ol style="list-style-type: none"> <li>1. Indistinct organization and conflicts</li> <li>2. Individual demands and commitment</li> <li>3. Influence at work</li> <li>4. Work to leisure time interference</li> </ol>	<ol style="list-style-type: none"> <li>1. Are there any conflicts at work?</li> <li>2. Do you often get engaged in your work?</li> <li>3. Can you decide on your work pace?</li> <li>4. Do you think about work after your working-day?</li> </ol>	Male workers (N: 41) 18–64 years, Sweden.
Job Content Questionnaire (JCQ)	(Karasek et al., 1998)	<ol style="list-style-type: none"> <li>1. Decision latitude</li> <li>2. Psychological demands</li> <li>3. Social support</li> <li>4. Physical demands</li> <li>5. Job insecurity</li> </ol>	<ol style="list-style-type: none"> <li>1. The job involves creativity</li> <li>2. The job allows me to take own decisions</li> <li>3. Enough time to get the job done</li> <li>4. Awkward head and arm positions</li> <li>5. Supervisor good organizer</li> </ol>	10,288 men and 6,313 women from 6 studies conducted in 4 countries (USA, Canada, Netherlands and Japan).
Health and Safety Executive Management Standards Indicator Tool (HSE)	(Marcatto et al., 2014)	<ol style="list-style-type: none"> <li>1. Demands</li> <li>2. Control</li> <li>3. Support</li> <li>4. Relationships</li> <li>5. Role</li> <li>6. Change</li> </ol>	<ol style="list-style-type: none"> <li>1. I am clear what is expected of me at work</li> <li>2. I can decide when to take a break</li> <li>3. I am subject to bullying at work</li> </ol>	Municipality employees (N: 760), Italy.
INAIL's checklist for the assessment of risks associated with work-related stress	(Barbaranelli et al., 2018)	<ol style="list-style-type: none"> <li>1. Sentinel events</li> <li>2. Work content factors</li> <li>3. Work context factors</li> </ol>	<ol style="list-style-type: none"> <li>1. I am subject to personal harassment in the form of unkind words or behavior</li> <li>2. I have unachievable deadlines</li> <li>3. Relationships at work are strained</li> </ol>	5,301 homogenous groups within 1,631 organizations.

**Table 2***Tests that measure stress as an experience*

Test name	Reference	Factors	Example items	Population
The Perceived Stress Scale (PSS)	(Nordin & Nordin, 2013)	1. Unpredictable life events 2. Uncontrollable life events 3. Overloading life events	During the last month, how often have you: 1. Been upset about something that happened completely unexpectedly? 2. Felt that you were unable to control the important things in your life? 3. Felt you were in control?	3,406 individuals, 18 to 79 years. Random sample from the municipal register in Västerbotten, Sweden.
Perceived occupational stress scale	(Marcato et al., 2021)	1. Health complaints 2. Demands 3. Control 4. Manager's support 5. Peer support 6. Relationships 7. Role 8. Change	1. My work is stressful 2. Thinking about my work makes me feel tense 3. My work has negative effects on my health	Heterogeneous population of 1805 workers in Italy.
Effort-Reward Imbalance Questionnaire (ERIQ)	(Siegrist et al., 2004)	1. Perceived effort 2. Perceived reward 3. Coping characteristics	1. I am often pressured to work overtime. 2. I receive the respect I deserve from my colleagues. 3. When I get home, I can easily relax and 'switch off' work.	Working men and women in Belgium, France, Sweden, UK and Germany (N: 18,963).

**The Copenhagen Psychosocial Questionnaire (COPSOQ)**

The COPSOQ is an instrument for research as well as assessing psychosocial conditions and health promotion at workplaces. It was developed by Tage S. Kristensen and Vilhelm Borg at the Danish National Research Center for the Working Environment (1995-2007). Since 2007 its continued development and adaptation to labor market changes and scientific progress has been coordinated by the International COPSOQ Network (<http://www.copsoq-network.org>).

The COPSOQ developers say on their website that it is highly referenced and available in 25 languages which allows international comparisons. The questionnaire is based on the most prominent work environment theories and most relevant psychosocial domains such as: demand-control-social support, effort-rewards, job demands-resources, work-family conflict, social capital, vitamin, socio-technical (<http://www.copsoq-network.org>). The COPSOQ network describes it as a generic tool that can be used for any type of profession, in any industry and for any sized organization. It is beneficial to be able to apply the same psychosocial metric across



different sectors and to provide the same standard of risk assessment for workplaces (www.copsoq-network.org).

Because there is no standard for exposures to psychosocial risk factors, comparing the results from the COPSOQ to general population reference values is an appropriate way to identify the significance of the exposures. Repeated administrations of the survey will allow a workplace to benchmark their psychosocial risk prevention performance and to follow their progress (www.copsoq-network.org).

### ***International and national versions***

COPSOQ International is responsible for reaching consensus regarding dimensions, definitions, criteria and items for the use of COPSOQ in order to ensure longitudinal and international comparability. The COPSOQ network recognizes a “national COPSOQ team” who validates and adapts the test to a version specific version for different countries and languages. National versions may differ in structure since the country-specific team decides upon test length, specific national conditions and criteria for the use of short and medium length versions according to the specific context. A general criteria for all COPSOQ tests is that all 32 core items must be included (see Appendix) since the core dimensions cover the most relevant psychosocial dimensions (www.copsoq-network.org).

### ***Structure***

COPSOQ has been developed since its initial format, the changes are mainly based on experiences from practical implementation, changes in labor market and theoretical development (www.copsoq-network.org). COPSOQ III is the latest version, designed to enable flexible adaptation to national and industrial contexts without affecting international comparisons or comparisons over time (Burr et al., 2019). International COPSOQ III is composed of items labeled as core, middle and long by the COPSOQ International Network. National versions can be adapted from this structure following the criteria: 1. core items must be included, 2. core

items must never stand alone, 3. items labeled as middle/ long must be added to the structure. There are three possible lengths the COPSOQ can take. The short versions of COPSOQ must include all core items as well and items labeled as middle or long. The middle versions of COPSOQ must include all core items, as many items as possible labeled as middle as well as relevant items labeled as long. The long version of COPSOQ must include all core items, as many items as possible labeled as middle and as many items as possible labeled as long relevant in the national context ([www.copsoq-network.org](http://www.copsoq-network.org)).

### ***Use***

Short and middle versions of COPSOQ are intended for organizational development purposes and risk assessment but can also be used for research purposes if desired. The long version of COPSOQ is primarily intended for research purposes and for providing additional options for national adaptations. National versions are suggested to be validated by the COPSOQ Network. Each country should develop singular versions of short, middle and long versions of COPSOQ ([www.copsoq-network.org](http://www.copsoq-network.org)).

### ***Guidelines***

According to the COPSOQ developers, certain guidelines need to be adhered to for correct use of the tool ([www.copsoq-network.org](http://www.copsoq-network.org)). Firstly, COPSOQ needs to be adjusted to the context of the specific country and the questionnaire must then be validated. It should only be administered with the full agreement and participation of all workplace parties. A strict observation of anonymity and data confidentiality must be employed. The national COPSOQ version must be respected. There are also soft guidelines that practitioners are encouraged to follow regarding using the questionnaire in organizations. These can be found on the international COPSOQ website ([www.copsoq-network.org](http://www.copsoq-network.org)).

## **Interventions to Reduce Work-Related Stress.**

Work-related stress impacts the individual as well as the organization and can be a major impediment to efficient functioning and thus identifying and supporting workers experiencing high levels of stress is important at both the individual and organizational level (Restrepo & Lemos, 2021). Stress-management interventions (SMIs) can be divided into primary, secondary, and tertiary SMIs (Lamontagne et al., 2007). Primary SMIs can be described as organizational interventions aimed at reducing stressful work demands (e.g. job redesign, work flexibility or change in organizational culture), secondary SMIs are interventions that help employees cope with stress (e.g. wellness programs, stress management training, social events) and tertiary SMIs are therapeutic interventions that aim to help employees who already show symptoms of illness from work-related stress (e.g. counseling, rehabilitation sessions) (Lamontagne et al., 2007).

Restrepo and Lemos (2021) conducted a systematic review to gather the state of the art of work-related stress interventions and identified 29 studies. The types of interventions found included aromatherapy, bibliotherapy, cognitive-behavioral therapy (CBT), exercise/physical activity, alternative medicine, mindfulness, technology-based interventions, stress management interventions (SMI) and sensory interventions. The authors divided the outcomes of the interventions into: stress and burnout, emotional symptoms and quality of life, coping strategies, mindfulness, self-compassion, self-esteem, self-transcendence and self-acceptance, work performance and work-place wellbeing as well as health. The results suggest that many interventions proved effective regarding work-related stress, however most of the successes were seen in regard to mindfulness-based interventions. Stress reduction programs, bibliotherapy, mindfulness, multisensory interventions and aerobic exercise were also seen as successful interventions (Restrepo & Lemos, 2021).

## **Humanitarian aid workers.**

Some occupational groups are more vulnerable to work-related stress and its consequences

than others. One such group is *humanitarian aid workers* (Turner et al., 2021). Humanitarian aid workers (HAWs) are a diverse group of international or national staff working to protect civilians, provide food, education, health services, water and shelter to vulnerable populations during crisis and conflict situations (Stoddard et al., 2019; Tassell & Flett, 2007).

HAWs tend to experience higher stress levels than the general work population due to unique and demanding characteristics of the profession (Jachens et al., 2019; McCall & Salama, 1999; McFarlane, 2004; Young and Pakenham, 2021). HAWs are often exposed to chronic, assignment-related stress that other professionals are not, such as the immense needs and vulnerabilities of the targeted recipients and the lack of resources that typically exists (Holtz et al., 2002). HAWs also experience organizational stressors such as heavy workloads, work conflicts, inadequate and insufficient management and support, high deployment frequency and perceived inequity (Cardozo et al., 2005; Dubravka et al., 2016; Eriksson et al., 2009). There is frequently a lack of protective factors such as the psychological and social support from friends and family (Eriksson et al., 2009).

HAWs also experience psycho-traumatic events that most professions are spared from, such as witnessing life-threatening events or experiencing physical and sexual violence (De Jong et al., 2021). The amount of attacks on HAWs has been increasing and 2019 saw the highest number of casualties (Cardozo & Salama, 2002; Stoddard, 2020). Male HAWs are more than three times more vulnerable to attacks, but females more often report sexual violence (Gritti, 2015; Stoddard et al., 2019). However, interestingly HAWs themselves do not consider traumatic experiences as being key stressors (Young et al., 2018).

With 274 million people estimated needing humanitarian assistance in 2022 the need for functioning organizations and healthy professionals has never been greater (OCHA, 2021). Despite this large need the research on work-stress assessment and interventions for this population is lacking. The research that exists has mainly focused on traumatic stressors and a more medical

model involving PTSD to understand work stress in HAWs (Jachens et al., 2018). Although this holds parts of the puzzle, it limits the full understanding of the issue and the field may benefit from a psychosocial risk assessment tool that deals with more current psychosocial, work-environment models (Jachens, 2019). In terms of interventions for work-related stress a growing literature base suggests that management and organizational support such as training, employee engagement evaluation, surveillance and health promotion and protection are of utmost importance for the well-being of HAWs (Ehrenreich & Elliot, 2004; Jachens, Houdmont, & Thomas, 2018; McCormack & Ell, 2017; Sorensen et al., 2013).

### **Aims.**

It is widely recognized that work-related stress is a significant health/mental health issue and that HAWs are a high-risk group. Among the tools available to organizations to screen workers for difficulties arising from work-related stress is the COPSOQ, a tool which may also help guide workplace strategies for supporting at-risk workers. This thesis aims to investigate whether the COPSOQ is an appropriate tool for humanitarian aid organizations in monitoring and reducing work-related stress among HAWs around the world. It attempts to do this by summarizing the best available evidence about the validity, reliability and factorial structure of the COPSOQ III. We also aim to summarize the available evidence on assessments and interventions methods of work-related stress in HAWs. Finally, we wish to discuss how the COPSOQ III has and could be used and how it may need to be supplemented with other measures to be applied in humanitarian aid organizations, as part of an intervention study.

This review aims to answer the research questions: “*What is known from the existing literature about the validity of COPSOQ III in terms of assessing work-related stress?*” and “*What is known from the existing literature about the available assessments and intervention methods of work-related stress in humanitarian aid workers?*”.

## **Method**

### **Design**

Scoping reviews are useful when mapping relevant studies in a specific field of interest and when examining the research range and extent (Arksey & O'Malley, 2005).

This review was conducted using the following steps: 1) identifying the research question: 2) identifying relevant studies: 3) study selection: 4) charting the data: and 5) summarizing and reporting the results (Khalil et al. 2016).

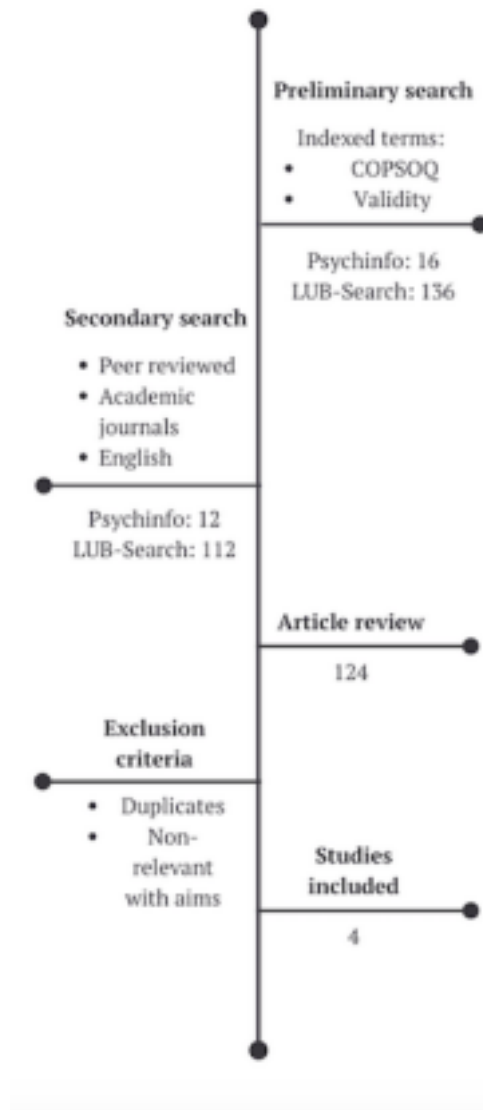
### **Search strategy**

#### **Research question 1.**

A preliminary search was performed in PsycInfo and LUB-Search to identify the indexed terms. Two indexed terms were identified: *COPSOQ* and *validity*. The primary search resulted in 16 articles in Psycinfo and 136 in LUB-Search. The secondary search was limited to peer reviewed, academic journals in English and this resulted in 12 articles in Psycinfo and 112 in LUB-Search. The oldest article in both databases was from 2004 upon which no limitation of publication year was placed due to limited available data. A total of 124 articles were reviewed. After duplicates and non-relevant articles with respect to the aims were excluded, 20 articles remained. Of these, only four were about the COPSOQ III and deemed relevant. These were included in the review and can be seen in the tables below.

**Figure 1**

*Search strategy research question 1*



**Table 3***Studies validating COPSOQ III*

Author	Year	Title	Origin	Purpose	Research method	Target population
Teresa P. Cotrim, Pedro Bess-Haja, Anabela Pereira, Cláudia Fernandes, Rai Azevedo, Sarmali Antunes, Joaquim S. Pinto, Flávio Kanazawa, Isabel Sousa, Elisabeth Brito and Carlos F. Silva.	2022	"The Portuguese Third Version of the Copenhagen Psychosocial Questionnaire: Preliminary Validation Studies of the Middle Version among Municipal and Healthcare Workers"	Portugal	Present preliminary validation studies of the COPSOQ III-Portuguese middle version.	A cross-sectional study viewing the cross-cultural adaption of COPSOQ III to Portugal, ensuring the contents and face validity and performing field-testing in order to reduce the number of items and to obtain insight into the data structure, through classic test theory and item response theory approaches.	Employees in healthcare and municipality settings. Qualitative study (N: 29). Quantitative study (N: 659).
Hans-Joachim Lincke, Martin Vornstein, Alexandra Lindner, Inga Noll, Nicola Hilberle, Arzine Haug and Matthias Nübling.	2021	"COPSOQ III in Germany: validation of a standard instrument to measure psychosocial factors at work"	Germany	Validation of the German version of COPSOQ III.	Usual requirements of a validation study (defined by DIN EN ISO 1007-3) were used to explore the measurement qualities of the German version of COPSOQ III.	250,000 participants who were surveyed with the tool in Germany.
Hanne Berthelsen, Hugo Westerlund, Gunnar Bergström and Hermann Barr.	2020	"Validation of the Copenhagen Psychosocial Questionnaire Version III and Establishment of Benchmarks for Psychosocial Risk Management in Sweden".	Sweden	Establishing criteria and standards for the psychosocial working environment.	Internal consistency reliability was evaluated as well as the effects of sex, work sector and blue/white-collar work. Population benchmarks and mean scores for major occupational groups were computed based on weighted data.	Random sample of 2847 employees in Sweden aged 25–65 years. Convenience sample of 1818 non-managerial employees at 51 workplaces.
Sergio A. Usache, Luis Montoro, Francisco Alonso and Juan C. Pastor.	2019	Psychosocial Work Factors, Job Stress and Strain at the Wheel: Validation of the Copenhagen Psychosocial Questionnaire (COPSOQ) in Professional Drivers	Spain	The purpose of this study was to obtain a complete description of the validation of measurement applied to psychosocial factors at work in professional drivers, using the Enterprise version (2018) of COPSOQ-III.	The data was collected from 726 Spanish professional drivers, and the analyses were conducted using CFA, obtaining basic psychometric properties and an optimized structure for the instrument applied to active transport workers.	726 professional Spanish drivers.

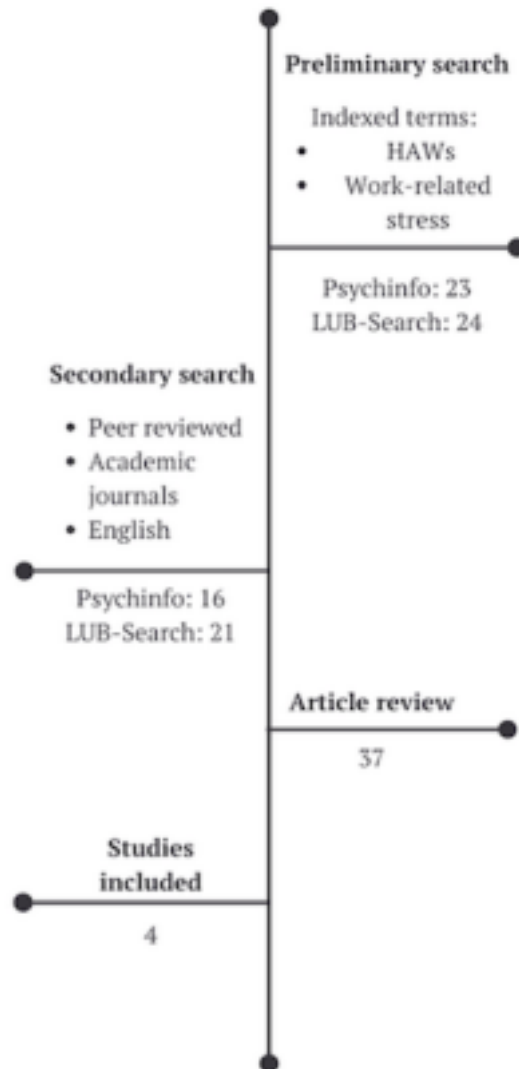
**Research question 2.**

A preliminary search was performed in PsychInfo and LUB-Search to identify the indexed terms. We identified two indexed terms: humanitarian aid workers and work-related stress. The primary search resulted in 23 articles in Psycinfo and 24 in Lubsearch. The secondary search was limited to peer reviewed, academic journals in English and this resulted in 16 articles in Psycinfo and 21 in Lubsearch. Due to the limited amount of publications in this scope we refrained from excluding older articles. These 37 articles were reviewed and ultimately only four were selected because of their relevance in regard to interventions and assessments.



**Figure 2**

*Search strategy research question 2*



**Table 4***Studies on assessments and interventions in relation to work related stress in HAWs*

Author	Title	Origin	Purpose	Research method	Target population
Penelope Curling & Kathleen B. Simmons	Stress and staff support strategies for international aid work	135 different countries	To explore a variety of stressors affecting humanitarian aid workers operating in an increasingly challenging environment and review structures for aid workers support as well as review the effectiveness of a range of organizational staff support strategies, including a peer helper program.	The results of respondent self-evaluations relating to key sources of stress in humanitarian aid work were analyzed and included an analysis of results by subgroup comparing staff operating in humanitarian emergencies and those working in head quarter environments, male and female, national and international staff.	4000 national and international aid workers
Norihito Noguchi, Satoshi Inoue, Chiyo Shimano and Koichi Shinchi	Development and validation of the Humanitarian Aid Difficulty Scale for Japanese healthcare workers	Japan	To develop and validate the Humanitarian Aid Difficulty Scale (HADS), which assesses the difficulties faced by health care workers performing humanitarian aid.	First, an item pool was generated based on literature and expert reviews. The scale was then tested in a pilot study. Reliability and validity were confirmed through EPA and CFA and Cronbach's alpha.	322 healthcare workers with previous experience with one or more medical humanitarian aid efforts in affected areas overseas
Felician Thayalraj Francis, Ananda Galappi & Guus van deVeer	Developing a responsive model of staff care beyond individual stress management: a case study	Sri-Lanka	To help local NGOs improve staff care in regard to stress.	An assessment of the sources of stress as well as the forms of staff care existent in eight NGOs was performed. Stress management training was then offered to two or three staff members from each of the eight NGOs. These then trained their staff. Finally, a follow up was conducted four months later and the organizations were asked to share successes and challenges.	Staff workers in Sri-Lankan NGOs.
Cynthia B. Eriksson, Jeff P. Bjorck, Linnea C. Larson, Sherry M. Walling, Gary A. Trice, John Pawcett, Alexis D. Abernethy and David W. Foy	Social support, organizational support and religious support in relation to burnout in expatriate humanitarian aid workers	44 different countries	To investigate the relationships among social, organizational and God support variables with the outcome of burnout as measured by the Maslach Burnout Inventory Scale.	The participants completed an interview assessing perceived social support, support from their organization, support from God and job burnout. These were then analyzed.	111 middle managers from 34 different countries working for a large, faith based, international, humanitarian aid agency.

## Results

### Research question 1.

Four studies were finally included to summarize the available validity, reliability and factorial structure of the COPSQ III. These studies and what they analyzed are presented below.

**Table 5**

*Validity, reliability and factorial structure of COSPOQ III*

Author	Year	Title	Origin	Purpose	Research method	Target population
Teresa P. Cotrim, Pedro Bens-Haja, Anabela Pereira, Cláudia Fernandes, Rui Azevedo, Sarmal Antunes, Joaquim S. Pinto, Flávio Karuzawa, Isabel Souto, Elisabeth Brito and Carlos F. Silva.	2022	"The Portuguese Third Version of the Copenhagen Psychosocial Questionnaire: Preliminary Validation Studies of the Middle Version among Municipal and Healthcare Workers"	Portugal	Present preliminary validation studies of the COPSQ III-Portuguese middle version.	A cross-sectional study viewing the cross-cultural adaption of COPSQ III to Portugal, ensuring the contents and face validity and performing field-testing in order to reduce the number of items and to obtain insight into the data structure, through classic test theory and item response theory approaches.	Employees in healthcare and municipality settings. Qualitative study (N: 29). Quantitative study (N: 659).
Hans-Joachim Lincke, Martin Vornstein, Alexandra Lindner, Inga Noll, Nicola Häberle, Ariane Haug and Matthias Nübling.	2021	"COPSQ III in Germany: validation of a standard instrument to measure psychosocial factors at work"	Germany	Validation of the German version of COPSQ III.	Usual requirements of a validation study (defined by DIN EN ISO 1007-3) were used to explore the measurement qualities of the German version of COPSQ III.	250,000 participants who were surveyed with the tool in Germany.
Hanne Berthelsen, Hugo Westerlund, Gunnar Bergström and Hermann Burr.	2020	"Validation of the Copenhagen Psychosocial Questionnaire Version III and Establishment of Benchmarks for Psychosocial Risk Management in Sweden"	Sweden	Establishing criteria and standards for the psychosocial working environment.	Internal consistency reliability was evaluated as well as the effects of sex, work sector and blue/white-collar work. Population benchmarks and mean scores for major occupational groups were computed based on weighted data.	Random sample of 2847 employees in Sweden aged 25–65 years. Convenience sample of 1818 non-managerial employees at 51 workplaces.
Sergio A. Useche, Luis Montoro, Francisco Alonso and Juan C. Pastor.	2019	Psychosocial Work Factors, Job Stress and Strain at the Wheel: Validation of the Copenhagen Psychosocial Questionnaire (COPSQ) in Professional Drivers	Spain	The purpose of this study was to obtain a complete description of the validation of measurement applied to psychosocial factors at work in professional drivers, using the Enterprise version (2018) of COPSQ-III.	The data was collected from 726 Spanish professional drivers, and the analyses were conducted using CFA, obtaining basic psychometric properties and an optimized structure for the instrument applied to active transport workers.	726 professional Spanish drivers.

### Factorial structure

Three out of the four selected studies analyzed the factorial structure of the questionnaire. These studies all used exploratory factor analysis (EFA) and two out of three included confirmatory factor analysis (CFA) (Cotrim et al. 2022; Lincke et al. 2021; Useche et al. 2019). Cotrim et al. (2022) attempted to trim the questionnaire in regard to items to better fit the Portuguese population. To confirm that the elimination of certain items would not compromise

the factorial validity the trimmed and untrimmed versions of the reduced subscales were submitted to an exploratory and confirmatory factor analysis. The results from the EFA (factorial weights, variances, and complexity) and CFA (factorial weights, AVE and goodness of fit indexes) indicated that the decision to trim the questionnaire was supported. Higher loadings, AVEs and better goodness of fit indexes were found on the trimmed subscales than non-trimmed (Cotrim et al., 2022).

Useche et al. (2019) aimed to validate the Standard Enterprise Version -updated for the year 2018- of the COPSOQ-III (Nübling et al., 2018) for Spanish professional drivers. The full questionnaire has a total of 75 items divided into five factors. A first EFA indicated that the scale could be adjusted to five dimensions with acceptable factor loadings and a relatively high correspondence with the items originally composing the theorized factors or dimensions. Two competitive CFAs were conducted, one on the original five root factor structure (demands: job insecurity: influence and development: interpersonal relationships: leadership: and strain) and the other one on a two factor structure, grouping the five factors into two, adverse/risky psychosocial features of the job (factors 1: demands, job insecurity, and strain) and protective/non-protective aspects at work (factors 2: influence and development, and 3: interpersonal relationships and leadership). Neither one reasonably fitted the data although the five-factor model was much better (Useche et al., 2019). With that in mind the authors cleared the scale by excluding those items which reported obvious psychometric issues in the measurement of their respective constructs, including those items with factorial loadings under 0.50. The new five-factor structure for the outstanding 52 items was tested. This modified and simplified model fitted the data considerably well and when compared to a two-factor solution with these same items, the five-factor structure still presents a much better fit.

Lincke et al. (2021) aimed to validate the German version of the COPSOQ III (2019) following the requirements defined by DIN EN ISO 10075-3. The sample consisted of 257,236

participants from 49 different occupational groups throughout Germany. Two EFAs were conducted separately, one on (psychosocial) work factors and the other on effects in conformity with the generalized model of cause and effect. EFA on 24 psychosocial work factors explained 56.2% of the total variance. EFA on 7 effects, where two components were extracted, explained 61.3% of the total variance. An acceptable model should explain half of the total variance or more and the proportion of factors to scores should be no less than 3:1 (Lincke et al., 2021). The results were satisfactory.

### **Reliability**

The term internal consistency, or internal reliability, are interchangeable terms that in general refer to statistical metrics that estimate the extent to which a test measures what is supposed to measure (Tang et al., 2014). Internal reliability was estimated in all of the selected studies (Berthelsen et al., 2020; Cotrim et al. 2022; Lincke et al. 2021; Useche et al. 2019). using (among others) Cronbach's alpha ( $\alpha$ ) as the metric, and where  $\alpha \geq 0.7$  is generally accepted to suggest that the measure has acceptable levels of internal reliability (Tang et al., 2014).

Berthelsen et al. (2020) analyzed internal consistency reliability of the Swedish standard version of the COPSOQ III with Cronbach's alpha for scales with three or more items and Spearman-Brown Coefficient for two-item scales. The results showed an internal consistency reliability of above 0.70 for all scales except for Quality in Work which generated a result of 0.69.

Cotrim et al. (2022) submitted all subscales of the COPSOQ III Portuguese middle version to a reliability analysis. Because of the decision to reduce the number of items an "if item deleted" analysis was carried out to eliminate the items that affected the overall reliability of each factor. Internal consistency was analyzed with Ordinal Cronbach's alpha based on a polychoric correlation matrix. Raw alpha and raw omega values were also included to allow comparisons with other countries that use these as measures of reliability. The reliability

coefficients showed that most dimensions remained the same but that “Possibilities for Development”, “Control over Working Time”, “Vertical Trust”, “Work-Life Conflict” and “Job Satisfaction” registered improvements in the reliability coefficients with the elimination of items.

Useche et al. (2019) used alpha coefficients ( $\alpha$ ), and the composite reliability index (CRI) to assess internal reliability. The results showed that all alpha estimates were above 0.7. 0.919 for Demands: 0.854 for Influence and development: 0.911 for Interpersonal relationships and leadership: 0.852 for Job insecurity: and 0.901 for Strain. The CRI had good reliability for the latent constructs, Demands was 0.983: Influence and development was 0.970: Interpersonal relationships and leadership was 0.984: Job insecurity was 0.981 and Strain – effects and outcomes was 0.989.

Lincke et al. (2021) calculated Cronbach’s  $\alpha$  in order to describe the test's internal consistency: 28 of 31 scales showed a good or even very good reliability (eg. “Quality of Leadership” ( $\alpha=0.91$ ), “Work Engagement” ( $\alpha=0.86$ ) and “Work Privacy Conflicts” ( $\alpha=0.92$ )) in relation to Cronbach’s  $\alpha$ . Three scales presented a low degree of reliability (“Dissolution” ( $\alpha=0.60$ ), “Degrees of Freedom” ( $\alpha=0.53$ ), and “Feedback” ( $\alpha=0.58$ )).

## **Validity**

Several types of validity were investigated in the selected studies, including construct validity, content validity, face validity, convergent validity and internal validity (Berthelsen et al., 2020; Cotrim et al. 2022; Lincke et al. 2021; Useche et al. 2019).

Cotrim et al. (2022) analyzed face and content validity of the COPSOQ III Portuguese middle version qualitatively. Face validity refers to the extent a test appears to measure what it is intended to (Johnson, 2013) and content validity refers to the degree to which an instrument is relevant and representative of the construct which it is meant to measure (Rusticus, 2014). The authors employed a “think aloud method” to ensure the content validity and to assess face

validity. Participants completed the questionnaire and were, afterwards, asked to comment on appropriateness, comprehensibility, relevance, and ambiguity of the items, problems with response categories and to give their own interpretation of the different terms. After this a content analysis and qualitative analysis was carried out by seven experts to implement the relevant changes. The results from this analysis resulted in minor re-wording to improve face validity and content validity to further make the assessment tool fit the Portuguese culture and working contexts and to ensure the appropriate and accurate interpretation of the items by every subject, regardless of the academic background, work experience, gender or age.

Berthelsen et al. (2020) used bivariate Pearson correlations between scales for a national sample of employees (individual level) and a convenience sample of workplaces (individual and workplace level) to evaluate construct validity. Construct validity refers to the extent to which the measurement tests the hypothesis it is measuring as well as how well the scores predict what they are meant to (Ginty et al., 2013). The authors concluded that the strength and direction of correlations supported the construct validity of the scales (Berthelsen et al., 2020). The authors also noticed the similarity of correlation to other scales and the strength of the inter-correlation between the scales “Stress” and “Burn-out” (between 0.79 to 0.83) identifies a need for clarification if they are separate constructs.

Useche et al. (2019) used the General Health Questionnaire (GHQ-12; Goldberg, 1992), which is based on similar theoretical considerations as the COPSQ, to evaluate convergent validity. Convergent validity refers to how closely the scale is related to other measurements and variables of the same construct (Krabbe, 2017). The GHQ-12 assesses symptoms that have caused the respondent psychological distress during the previous month. To evaluate convergent validity the correlation coefficients found between each one of the scores of the five resulting dimensions of COPSQ and the psychological distress indicator provided by Goldberg’s GHQ-12 were used. Following the hypothesized directions of the Pearson correlation coefficients,

positive and significant correlations were found between psychological distress and factors (Strain:  $\sigma = 0.646$ ), (Job Insecurity:  $\sigma = 0.265$ ), and (Demands:  $\sigma = 0.491$ ).

Lincke et al. (2021) expressed that content validity is not always a matter of statistics and instead the certitude that items and scales really are chosen wisely and cover what they are meant to cover. They report that content validity of the COPSOQ III is assured by literature and expert knowledge through the international network's principles. However, they presented internal validity in terms of correlation coefficients (Pearson's  $r$ ). Values up to (0.1) are interpreted as negligible, (0.29) as weak, (0.49) as moderate and (0.5) as strong correlations (Lincke et al., 2021). Out of 465 correlations, 318 cases (68.4%) showed weak correlation, 125 cases (26.9%) moderate correlation, and 22 cases (4.7%) strong correlation. Strong correlations between work factors and effects can quite reasonably be explained, for example high ratings on "Quantitative Demands" could lead to the person having to spend much energy at work which could lead to lack of energy in the weekends, also described as "Work Privacy Conflicts" (Lincke et al., 2021).

### **Usability**

Lincke et al. (2021) described the online version and the paper-pencil-version as accessible and easily found on the German national network website. The paper-pencil-version could be returned by mail. The average time to fill out the questionnaire was 24 minutes and, in a section, (text-field) asking for practicability included in all German surveys, the survey was usually said to be easy to fill out and simple to understand.

In the validation of the Portuguese middle version Cotrim et al. (2022) reported that their participants found the questionnaire was too long which was feared to be a factor compromising its completion. The Portuguese middle version included 76 items. There was also a concern that the questionnaire did not accurately represent the different organizational models that have resulted from the COVID-pandemic, that people can either work from home or the office.



## **Research question 2.**

Four studies were finally included to summarize previously used assessments and interventions implemented in humanitarian aid organizations in relation to employees' working environment. Protective factors were also discussed. These studies and what they analyzed are presented below.

### **Assessments**

Three of the selected four articles analyzed methods to assess work-related stress and similar difficulties faced by humanitarian aid workers (Curling and Simmons, 2010; Eriksson et al., 2009; Noguchi et al., 2016).

Curling and Simmons (2010) aimed to identify the most prevalent work stressors in humanitarian aid staff through a 66-question survey. A list of 11 common stressors experienced by humanitarian staff was composed through consultations, informal interviews and group discussions with a representative cross-section of national and international staff in both headquarters and emergency duty stations. These stressors were identified as: working hours, workload, ability to achieve work goals and objectives, status of employment contract, relationship with supervisor, relationship with colleagues, private circumstances (family, financial, health, etc.), the political, economic and/or social situation in the country presently working, being, or fear of becoming, infected with HIV, the effects of HIV/AIDS on friends/family/community, and overall level of stress. The survey totaled 66 questions with eight matrix questions using non-comparative scales and seven demographic questions that were optional. The responses were on a five level Likert-scale of the respondent's level of stress at their current assignment. Respondents were also asked to assess if and with what frequency they experienced 10 common symptoms of emotional, physical and psychological stress during the past month as well as identify how much they relied on eight negative and positive coping mechanisms. Anonymity of the survey was ensured by an independent, external organization

administering the survey and this was emphasized in the survey introduction. 3668 staff members from 135 countries completed the survey. No statistical analysis was done regarding the survey.

Noguchi et al. (2016) also aimed to assess difficulties faced by humanitarian aid workers, specifically Japanese healthcare workers performing humanitarian aid. The authors developed and attempted to validate the Humanitarian Aid Difficulty Scale (HADS). A multi-method approach, combining quantitative and qualitative data collection was used. The assessment was developed in three stages, an item pool based on expert reviews and literature was generated, after which the scale was tested in a pilot study, finally a main study was conducted. The HADS consists of five factors (health status, culture and customs, cooperation, infrastructure and supplies and equipment). For each 23 items, contestants were asked “To what degree do you feel you were exposed to each condition over the entire course of your most recent deployment in humanitarian aid?”. Response was asked to be given on a five-point scale from 1 (strongly disagree) to 5 (strongly agree). Examples of items could be “I was concerned about my family and job”, “I found I had trouble with supplies and equipment” and “I had no team members who could give me good advice”. EFA, CFA and Cronbach’s alpha were used to determine validity and reliability. Total variance explained was 60.7%, Cronbach’s alpha was (0.87). Validity was supported by CFA and reliability of the five factors was reported as acceptable.

Finally, Eriksson et al. (2009) attempted to assess how burnout was related to social support, organizational support and the perception of support from the divine/ God among 111 humanitarian aid workers, with 34 different countries of origin within a faith-based organization. Perceived social support was assessed using the Social Provisions Scale (Cutrona, 1989; Cutrona & Russell, 1987), organizational support using questions identifying organizational resilience factors in HAWs (Friedman et al., 2003; Smith et al., 1996) and perception of support from God using a validated measure of overall religious support (Fiala et al., 2002). The assessments were

administered by human resource administrators within the organization. Maslach Burnout Inventory- Human Services Survey, operationalizing work-related burnout into three constructs (decrease of emotional resources/ emotional exhaustion, detachment from work and people being served manifested in depersonalization and a reduced sense of one's own accomplishment) was used as a theoretical framework (Eriksson et al., 2009). The test scales had acceptable levels of internal reliability: Emotional Exhaustion ( $\alpha = 0.88$ ), Depersonalization ( $\alpha = 0.77$ ) and Reduced sense of one's own accomplishment ( $\alpha = 0.75$ ).

### **Interventions and protective factors**

Three of the selected four articles identified interventions to assist humanitarian aid workers with work-related stress (Curling and Simmons, 2010; Eriksson et al., 2009; Francis et al. 2012). Curling and Simmons (2010) aimed to understand coping mechanisms and to evaluate the utility and use of support services in a large sample of staff working for an international aid organization. Respondents were asked to rate the usefulness of different staff support services including social activities, information on stress, stress management workshops, organizational staff counselors and peer helpers. Peer helpers are members of a work group that have been trained to assist and support colleagues affected by stress and crises. Social activities were rated as helpful by 84% of respondents, access to information on managing stress and trauma reactions on the organization's intranet was rated helpful by 78%, stress management workshops 77%, access to a staff counselor 64% and peer helpers 64%. Additionally, analysis of these data by type of duty station showed that respondents in emergency duty stations placed an even greater value on the usefulness of these staff support services than those working in headquarters.

Francis et al. (2012) aimed to develop a responsive model of staff care beyond individual stress management. The procedure to help develop staff care was as follows: first an assessment was conducted to identify the sources of stress and the forms of staff care existent in each of the eight Sri-Lankan NGOs investigated. Then, stress management training was offered to two or

three staff members from each humanitarian organization. This was referred to as a training of trainers (ToT) event and the expected outcome was that these staff members would, at the end, train remaining staff at their respective organizations. These participants or trainers gave an overview of the results of the assessment and introduced three concepts describing the ingredients of staff care: monitoring, staff support, and training.

Then they discussed four important questions that should be considered while making an action plan: “Which steps do you want to take?”, “What resources will be needed?”, “Who will be responsible for carrying out each of the steps?” and “What is the time schedule?”. After this, the participants worked constructively to create action plans for improving staff care in each of the participating organizations. The follow up four months later showed small but significant successes in improving staff care such as: training courses every three months with topics such as nonviolent communication and stress management, project proposals were discussed during weekly meetings with field workers, so that discrepancies between the output promised to the donors and the needs of the beneficiaries could be addressed to minimize stress and that staff care activities and costs were included as part of each project proposal and budget. Finally, participants were asked to discuss the challenges of trying to implement the action and challenges mentioned included: a lack of interest, or rigidity, in some managers: an initial lack of motivation among colleagues: and a lack of local resources. The authors concluded that there is a need for tailored and responsive interventions to support humanitarian workers, and that rapid assessment of sources of stress can help guide support for workers and organizations in implementing practical action plans (Francis et al., 2012).

Eriksson et al. (2009) aimed to understand factors that may assist humanitarian organizations in preventing burnout among their staff. Assessments were carried out regarding perceived social support, organizational support, perceived support from God and burnout syndrome. The three support variables all related to the three burnout subscales, except for God

support and personal accomplishment that pointed in the expected direction but was non-significant. Social support showed a positive correlation to personal accomplishment and organizational support while it had a negative correlation to depersonalization and emotional exhaustion. Organizational support was correlated to a decrease in depersonalization and emotional exhaustion but also to more God support. God support correlated to more personal accomplishment and to less depersonalization and emotional exhaustion. The correlational results indicated that all types of support offer resources in stressful difficulties HAWs may be exposed to (Eriksson et al., 2009).

### **Discussion**

This scoping review features an overview of studies validating different versions of the COPSOQ III in differing contexts. It also gives an overview of the relevant, studied assessments and interventions of work-related stress of humanitarian aid workers. It is evident from the review that frequent updating and adaptations to specific workplace and national contexts are required when using any version of the COPSOQ and that this could especially be the case when using it for humanitarian aid organizations.

Very little research has been done on humanitarian aid workers in general and especially in regard to assessments for work-related stress. This review offers an introduction to the field as well as an evaluation of the COPSOQ in the context of humanitarian aid work. With the field of humanitarian aid work expanding due to the needs of the world, it is of importance that the scientific world follows. The assessments and interventions implemented should be empirically backed to ensure the best available care for these important professionals.

A strength of the COPSOQ is its many validation studies in many, different countries. However, because of the COPSOQ's modifiable and adaptable nature each study only shows the questionnaire's capacity in the local context of that country and the specific professional group acting as respondents (<https://www.copsoq-network.org/>). However, one can make inferences that

its ability to be adapted to so many different contexts while still holding good psychometric qualities is indicative of further successes.

Three out of the four selected studies analyzed the factorial structure of the questionnaire using exploratory factor analysis (EFA) and two out of three included confirmatory factor analysis (CFA) (Cotrim et al. 2022; Lincke et al. 2021; Useche et al. 2019). Criteria for an acceptable model is for half of the total variance or more to be explained and for the proportion of factors to scores to be no less than 3:1. Results on factorial structure presented in the analyzed studies were satisfactory. Lincke et al. (2021) conducted two EFAs separately in conformity with the generalized model of cause and effect (one on psychosocial work factors and the other on effects). This division in performing structural analysis corresponds well with the definition of work-related stress by Jamal and Baba (2000).

The studies assessed reliability using the most commonly used measure for internal consistency (Cronbach's alpha) (Berthelsen et al., 2020; Cotrim et al. 2022; Lincke et al. 2021; Useche et al. 2019). All the studies reported Cronbach's alpha coefficients of higher than 0.70, indicating acceptable internal reliability with only a few scales as exceptions within each version. Cotrim et al. (2022) registered improvements in the reliability coefficients with the elimination of items that affected the overall reliability of each factor. This observation could be of significance when adapting COPSOQ to national and industrial contexts. Elimination of items should not affect comparisons over time or affect international comparisons (Burr et al., 2019).

The studies included in the review tested several different forms of validity such as: construct validity, content validity, face validity, convergent validity and internal validity (Berthelsen et al., 2020; Cotrim et al. 2022; Lincke et al. 2021; Useche et al. 2019). Both Lincke et al. (2021) and Cotrim et al. (2022) relied on qualitative measures of content validity, referencing the international COPSOQ committee's procedure to determine items. Cotrim et al. (2022) did their own qualitative analysis and finally reworded some items to improve content

validity. This is of relevance when it pertains to the specific COPSOQ validations as one might need to reword items to better fit the cultural context (<http://www.copsoqnetwork.org>). Another interesting finding is that Berthelsen et al. (2020), in evaluating construct validity, found a strength of the inter-correlation between the scales “Stress” and “Burn-out”. This can be understood in the similarities between the phenomena and their interlinkage in descriptions and symptoms (ILO, 2016).

Assessments and interventions for work-related stress in humanitarian aid workers is a largely unresearched topic. The articles included in the review assessed work stressors, burnout symptoms and general difficulties and no tools used were similar to the COPSOQ. Two of the assessment tools were statistically validated, one being the Maslach Burnout Inventory-Human Services Survey that has been validated in previous literature (Eriksson et al. 2009). The limitation of this scale is that it only measures dimensions of burnout. Although this seems to be a relevant difficulty facing the humanitarian field it neglects the additional stressors, symptoms and problems experienced (Maslach, Jackson, and Leiter, 1996; Jachens et al., 2019). The Humanitarian Aid Difficulty Scale (HADS) reported good psychometrics and only has 23 items, indicating it could be helpful regarding efficiency (Nuguchi et al., 2016). A specific instrument for humanitarian aid workers is interesting because of the assignment and context related stressors and even traumatic experiences this professional group faces (Cardozo et al., 2005; Cardozo and Salama, 2002; Dubravka et al., 2016; Eriksson et al., 2009; Holtz et al., 2002; Stoddard, 2020).

Results from the identified interventions to assist humanitarian aid workers with work-related stress can be related to the Stress-Management-Interventions (SMIs) categorized by Lamontagne et al. (2007). Primary SMIs were shown to be helpful in the study conducted by Francis et al. (2012) (eg. project proposals were discussed during weekly meetings with field workers'). Secondary SMIs proved significant effects in the studies by Curling and Simmons

(2010) (eg. social activities and information on stress and trauma), Francis et al. (2012) (eg. stress management training courses), and Eriksson et al. (2009) (eg. social support). Results on tertiary SMIs were not reported in any of the studies. Challenges related to the interventions reported were lack of motivation among managers/colleagues and a lack of local resources.

While the COPSOQ III has been used in a variety of different work contexts internationally, it remains unclear whether the measure is feasible for use in a humanitarian aid context, including “front-line” situations. Practitioners, participants and researchers have expressed a shared wish for shorter questionnaires. Fewer items could possibly affect the validity and reliability of the scale. However, the identified studies that have chosen to reduce item length on longer scales have obtained acceptable levels of internal consistency/reliability for the reduced-item scales (Berthelsen et al., 2020; Cotrim et al., 2022). Interestingly, Lincke et al. (2021) made use of an online version of the German COPSOQ III and it was reported that it was perceived as easy to fill out and easy to understand. This could be taken into consideration when formatting a COPSOQ III version for humanitarian aid workers.

### **Limitations and future research**

This scoping review presents a limited number of studies on assessments and interventions in relation to work-related stress in HAWs. The limited number of studies could be explained because of the chosen index terms in the search. Future scoping reviews could preferably add broader indexed terms to increase the possibility of identifying a greater number of relevant studies. However, this field is a very under-researched field, and it is unclear if there is much more to be found without changing the premise of the research questions.

Alternative research methods could be considered regarding studying assessment tools for work-related stress among HAWs. One alternative for future studies could be to compare or contrast different screening tools in a more systematic way. This could provide additional information of the comparative usefulness of various screening tools as opposed to the more



descriptive information this review offered.

Additionally, a validation study of COPSOQ III in relation to the specific population of HAWs could and should be pursued in future research to assess its usefulness for the population. This scoping review aimed to provide a theoretical foundation to understand if this validation study would be beneficial as they require vast amounts of resources.

Humanitarian aid workers face difficulties not existent for other professional groups and because of this the COPSOQ III might not be sufficient in its applicability for the studied population. This review did not have the resources to fully assess these complexities regarding the population's needs and specifically what parts of the COPSOQ III are helpful and which parts need to be substituted for alternatives. This is a fact the authors are aware of and heavily suggest for future research. It would be interesting to conduct qualitative interviews regarding the perceived stressors for HAWs and the perception of the existing and implemented assessment tools. This might give an indication as to what the current assessment tools succeed with and what is missing to further design a suitable tool.

The reviewed assessment tools differ in makeup and nature and can be argued to assess different aspects of the phenomenon work-related stress. This creates a problem in comparisons between assessment tools. Yet another suggestion for further research would therefore be to conduct a study with more similar assessment tools. Realistically though, this might prove difficult as the COPSOQ differs a great deal from other tools as well as the research questions' specificity in studying humanitarian aid workers. However, as more research is done possibilities for increased specificity and more reasonable comparisons will arise.

## **Implications for Humanitarian Aid Organizations**

As a consequence of the scoping review, some possibilities for using the COPSOQ III to screen and support humanitarian aid personnel can be considered. Firstly, because of the structure of the questionnaire, these organizations will need to format and validate their own version of the COPSOQ III for their diverse population. It might prove difficult to create a relevant tool because of the different cultural, national, and professional backgrounds existing within the organization as well as the varying countries in which the questionnaire will be used. As evident from the review, the COPSOQ is typically molded to fit a certain population and used nationally. The heterogenous nature of many large, international aid organizations might present a challenge for this procedure. Still, there are positive aspects of the COPSOQ III as a potential tool to support humanitarian staff. For example, a strength of the COPSOQ is that it offers an array of subscales and domains that might adequately cover the range of potential stressors that might be observed in this workforce, for example the scales titled Physical Violence, Burn out, Organizational Justice, Work Life, Conflict, Predictability, Social support from supervisors and Social support from colleagues. However, there are aspects of the humanitarian aid worker's professional life that are quite specific, and this review indicates that the COPSOQ III might not be developed with these experiences in mind. It would be this review's suggestion that international aid organizations should consider validating the COPSOQ III for use but in a modified format dependent on the needs of the population. It is also important to note that the COPSOQ requires an amount of resources that might not be readily available for strained organizations and, if this is the case, to take this into consideration for the usability aspect.

## **Conclusions**

HAWs are exposed to very high levels of work-related stress that can impact their health and work capacity. International aid organizations like the UNHCR need reliable tools for screening employees for stress related difficulties which could potentially be used to measure

outcomes in any organization providing support programs. Several different measures are available for measuring work-related stress, but this review has mainly focused on the reliability and validity data for the COPSOQ III. The measure appears to be internally consistent and valid but further validation studies involving HAWs are needed as well as studies of interventions to reduce the impact of work-related stress within this population. A number of potentially effective stress reduction interventions have been developed but as yet there have been no studies evaluating their efficacy in HAWs.

## References

- Ager A., Pasha E., Yu G., Duke T., Eriksson C., Cardozo B. L. (2012). Stress, mental health, and burnout in national humanitarian aid workers in Gulu, Northern Uganda. *Journal of Traumatic Stress, 25*, 713–720. 10.1002/jts.21764
- Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International journal of social research methodology, 8*(1), 19-32.
- Cardozo, B. L., & Salama, P. (2002). Mental health of humanitarian aid workers in complex emergencies. In Y. Danieli (Ed.), *Sharing the front line and the back hills: International protectors and providers: Peacekeepers, humanitarian aid workers and the media in the midst of crisis* (pp. 242–255). Baywood Publishing Co.
- Cardozo, B. L., Holtz, T. H., Kaiser, R., Gotway, C. A., Ghitis, F., Toomey, E., & Salama, P. (2005). The mental health of expatriate and Kosovar Albanian humanitarian aid workers. *Disasters, 29*(2), 152-170.
- Carod-Artal, F. J., & Vázquez-Cabrera, C. (2013). Burnout syndrome in an international setting. In *Burnout for experts* (pp. 15-35). Springer, Boston, MA.
- Connorton E., Perry M. J., Hemenway D., Miller M. (2012). Humanitarian relief workers and trauma-related mental illness. *Epidemiologic Reviews, 34*, 145–155.  
10.1093/epirev/mxr026  
COPSOQ International Network. COPSOQ International Network for scientific research and risk assessment with the Copenhagen Psychosocial Questionnaire (COPSOQ).  
<http://www.copsoq-network.org/>.
- Cox, T. (1998). Work related stress: From environmental exposure to ill health. In R. H. McCaig & M. Harrington (Eds.), *The changing nature of occupational health* (pp. 137–159). HSE Books.

Marcatto, F., Di Blas, L., Luis, O., Festa, S., & Ferrante, D. (2021). The Perceived Occupational Stress Scale: A brief tool for measuring workers' perceptions of stress at work. *European Journal of Psychological Assessment*.

<https://doi-org.ludwig.lub.lu.se/10.1027/1015-5759/a000677>

Cox, T., Griffiths, A., & Rial-Gonzalez, E. (2000). Work-related stress. *Office for Official Publications of the European Communities, Luxembourg*.

Restrepo, J., & Lemos, M. (2021). Addressing psychosocial work-related stress interventions: A systematic review. *Work*, (Preprint), 1-10.

Lincke, H.-J., Vomstein, M., Lindner, A., Nolle, I., Häberle, N., Haug, A., & Nübling, M. (2021). Copsoq III in Germany: Validation of a standard instrument to measure psychosocial factors at work. *Journal of Occupational Medicine and Toxicology*, 16(1). <https://doi.org/10.1186/s12995-021-00331-1>

Cox, T., Griffiths, A., & Rial-Gonzalez, E. (2000). Work-related stress. *Office for Official Publications of the European Communities, Luxembourg*.

Curling, P., & Simmons, K. B. (2010). Stress and staff support strategies for international aid work. *Intervention*, 8(2), 93–105. <https://doi.org/10.1097/wtf.0b013e32833c1e8f>

Cutrona, C. E. (1989). Ratings of social support by adolescents and adult informants: degree of correspondence and prediction of depressive symptoms. *Journal of personality and social psychology*, 57(4), 723.

Cutrona, C. E., & Russell, D. W. (1987). The provisions of social relationships and adaptation to stress. *Advances in personal relationships*, 1(1), 37-67.

De Jong, K., Martinmäki, S. E., Te Brake, H., Haagen, J., & Kleber, R. J. (2021). Mental and physical health of international humanitarian aid workers on short-term assignments: Findings from a prospective cohort study. *Social science & medicine* (1982), 285,

114268. <https://doi.org/10.1016/j.socscimed.2021.114268>

Dollard, M., Skinner, N., Tuckey, M. R., & Bailey, T. (2007). National surveillance of psychosocial risk factors in the workplace: An international overview. *Work & Stress*, 21(1), 1-29.

Dubravka, S., Thomas, R., Jachens, L. and Mihalca, L. (2016) *Staff Well-Being and Mental Health in UNHCR*. Geneva: United Nations High Commissioner for Refugees. <http://www.unhcr.org/56e2dfa09.pdf>.

Ehrenreich, J. H., & Elliot, T. L. (2004). Managing stress in humanitarian aid workers: A survey of humanitarian aid agencies' psychosocial training and support of staff. *Peace and Conflict*, 10(1), 53-66.

Eriksson, C. B., Bjorck, J. P., Larson, L. C., Walling, S. M., Trice, G. A., Fawcett, J., ... & Foy, D. W. (2009). Social support, organisational support, and religious support in relation to burnout in expatriate humanitarian aid workers. *Mental Health, Religion and Culture*, 12(7), 671-686.

Fiala, W. E., Bjorck, J. P., & Gorsuch, R. (2002). The religious support scale: Construction, validation, and cross-validation. *American Journal of Community Psychology*, 30(6), 761-786.

Francis, F. T., Galappatti, A., & van der Veer, G. (2012). Developing a responsive model of Staff Care Beyond Individual Stress Management. *Intervention*, 10(1), 74–78.  
<https://doi.org/10.1097/wtf.0b013e328351bc4b>

Gilbert-Ouimet, M., Trudel, X., Brisson, C., Milot, A., & Vézina, M. (2014). Adverse effects of psychosocial work factors on blood pressure: systematic review of studies on demand-control-support and effort-reward imbalance models. *Scandinavian journal of*

*work, environment & health*, 109-132.

Theorell, T., Jood, K., Järholm, L. S., Vingård, E., Perk, J., Östergren, P. O., & Hall, C. (2016). A systematic review of studies in the contributions of the work environment to ischaemic heart disease development. *The European Journal of Public Health*, 26(3), 470-477.

Ginty A.T. (2013) Construct Validity. In: Gellman M.D., Turner J.R. (eds) *Encyclopedia of Behavioral Medicine*. Springer, New York, NY.

[https://doi.org/10.1007/978-1-4419-1005-9\\_861](https://doi.org/10.1007/978-1-4419-1005-9_861)

American Psychological Association. (2012). *Stress in America: Our Health at Risk*. American Psychological Association. Retrieved from

<https://www-apa-org.ludwig.lub.lu.se/news/press/releases/stress/2011/final-2011.pdf>

Gritti, A. (2015). Building aid workers' resilience: why a gendered approach is needed. *Gender & Development*, 23(3), 449-462.

Hauke, A., Flintrop, J., Brun, E., & Rugulies, R. (2011). The impact of work-related psychosocial stressors on the onset of musculoskeletal disorders in specific body regions: A review and meta-analysis of 54 longitudinal studies. *Work & Stress*, 25(3), 243-256.

Holtz, T. H., Salama, P., Cardozo, B. L., & Gotway, C. A. (2002). Mental health status of human rights workers, Kosovo, June 2000. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 15(5), 389-395.

International Labor Organization (2016). *Workplace Stress: A Collective Challenge*; International Labor Office. Genève, Switzerland. ISBN 978-92-2-130641-2.

Jachens L., Houdmont J., Thomas R. (2016). Effort–reward imbalance and heavy alcohol consumption among humanitarian aid workers. *Journal of Studies on Alcohol and Drugs*, 77(6), 904–913. 10.15288/jsad.2016.77.904

- Jachens, L. (2019). Humanitarian Aid Workers' Mental Health and Duty of Care. *Europe's Journal of Psychology*, 15(4), 650–655. <https://doi-org.ludwig.lub.lu.se/10.5964/ejop.v15i4.2221>
- Jachens, L., Houdmont, J., & Thomas, R. (2018). Work-related stress in a humanitarian context: A qualitative investigation. *Disasters*, 42(4), 619–634. <https://doi.org/10.1111/disa.12278>
- Jachens, L., Houdmont, J., & Thomas, R. (2019). Effort-reward imbalance and burnout among humanitarian aid workers. *Disasters*, 43(1), 67–87. <https://doi.org/10.1111/disa.12288>
- Jamal, M., & Baba, V. V. (2000). Job stress and burnout among Canadian managers and nurses: an empirical examination. *Canadian journal of public health = Revue canadienne de sante publique*, 91(6), 454–458. <https://doi.org/10.1007/BF03404828>
- Johnson, E. (2013) Face Validity. In: Volkmar F.R. (eds) *Encyclopedia of Autism Spectrum Disorders*. Springer, New York, NY. [https://doi.org/10.1007/978-1-4419-1698-3\\_308](https://doi.org/10.1007/978-1-4419-1698-3_308)
- Jones B., Müller J., Maercker A. (2006). Trauma and posttraumatic reactions in German development aid workers: prevalences and relationship to social acknowledgement. *The International Journal of Social Psychiatry*, 52(2), 91–100. 10.1177/0020764006061248
- Khalil, H., Peters, M., Godfrey, C. M., McInerney, P., Soares, C. B., & Parker, D. (2016). An evidence-based approach to scoping reviews. *Worldviews on Evidence-Based Nursing*, 13(2), 118-123.
- Krabbe, P. F. M. (2017). *The measurement of Health and health status: Concepts, methods and application from a multidisciplinary perspective*. Elsevier/Academic Press.
- Lal, R. S., & Singh, A. P. (2015). Employee's work stress: Review and presenting a comprehensive model. *Journal of Psychosocial Research*, 10(2), 409.



- Lamontagne, A. D., Keegel, T., Louie, A. M., Ostry, A., & Landsbergis, P. A. (2007). A systematic review of the job-stress intervention evaluation literature, 1990–2005. *International journal of occupational and environmental health, 13*(3), 268-280.
- Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: advancing the methodology. *Implementation science, 5*(1), 1-9.
- Lopes Cardozo B., Sivilli T. I., Crawford C., Scholte W. F., Petit P., Ghitis F., et al. Eriksson C. (2013). Factors affecting mental health of local staff working in the Vanni region, Sri Lanka. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*, 581. 10.1037/a0030969
- Marcatto, F., Di Blas, L., Luis, O., Festa, S., & Ferrante, D. (2021). The Perceived Occupational Stress Scale: A brief tool for measuring workers' perceptions of stress at work. *European Journal of Psychological Assessment.*
- Maslach, C., & Leiter, M. P. (2016). Understanding the burnout experience: recent research and its implications for psychiatry. *World psychiatry, 15*(2), 103-111.
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *MBI: Maslach burnout inventory*. Palo Alto, CA: Consulting Psychologists Press.
- McCall, M., & Salama, P. (1999). Selection, training, and support of relief workers: an occupational health issue. *BMJ, 318*(7176), 113-116.
- McCormack, L., & Ell, L. (2017). Complex psychosocial distress postdeployment in veterans: Reintegration identity disruption and challenged moral integrity. *Traumatology, 23*(3), 240.
- McFarlane, C. A. (2004). Risks Associated with the Psychological Adjustment of Humanitarian Aid Workers. *Australasian Journal of Disaster and Trauma Studies.*

Cotrim, T. P., Bem-Haja, P., Pereira, A., Fernandes, C., Azevedo, R., Antunes, S., Pinto, J. S., Kanazawa, F., Souto, I., Brito, E., & Silva, C. F. (2022). The Portuguese third version of the Copenhagen Psychosocial Questionnaire: Preliminary Validation Studies of the middle version among municipal and healthcare workers. *International Journal of Environmental Research and Public Health*, *19*(3), 1167.

<https://doi.org/10.3390/ijerph19031167>

Noguchi, N., Inoue, S., Shimano, C., & Shinchi, K. (2016). Development and validation of the Humanitarian Aid Difficulty Scale for Japanese healthcare workers. *Nursing & Health Sciences*, *18*(4), 442-449.

Nübling, M., Vomstein, M., Haug, A., Nolle, I., Llorens, C., Burr, H., et al. (2018). *COPSOQ 3: International Development and German Standard Version*. Freiburg: Freiburger Forschungsstelle für Arbeitswissenschaften GmbH.

OCHA. (2022). *Global Humanitarian Overview 2022*. OCHA. Retrieved from <https://reliefweb.int/sites/reliefweb.int/files/resources/Global%20Humanitarian%20Overview%202022.pdf>

Restrepo, J., & Lemos, M. (2021). Addressing psychosocial work-related stress interventions: A systematic review. *Work (Reading, Mass.)*, *70*(1), 53–62.

<https://doi.org/10.3233/WOR-213577>

Rick, J., & Briner, R. B. (2000). Psychosocial risk assessment: problems and prospects.

*Occupational medicine (Oxford, England)*, *50*(5), 310–314.

<https://doi.org/10.1093/occmed/50.5.310>

Rugulies, R., Aust, B., & Madsen, I. E. (2017). Effort–reward imbalance at work and risk of depressive disorders. A systematic review and meta-analysis of prospective cohort studies.

*Scandinavian journal of work, environment & health*, 294-306.

Rusticus, S. (2014) Content Validity. In: Michalos A.C. (eds) *Encyclopedia of Quality of*

Life and Well-Being Research. Springer, Dordrecht.

[https://doi.org/10.1007/978-94-007-0753-5\\_553](https://doi.org/10.1007/978-94-007-0753-5_553)

Sorensen G., McLellan D., Dennerlein J. T., Pronk N. P., Allen J. D., Boden L. I., et al. Wagner G. R. (2013). Integration of health protection and health promotion: rationale, indicators, and metrics. *Journal of Occupational and Environmental Medicine*, 55(12), S12–S18.  
10.1097/JOM.0000000000000032

Stoddard, A. (2020). Today's Wars and the Challenge to Humanitarian Neutrality. In *Necessary Risks* (pp. 21-44). Palgrave Macmillan, Cham.

Stoddard, A., Harvey, P., Czwaro, M., & Breckenridge, M. (2019). Aid Worker Security Report 2019, Speakable: addressing sexual violence and gender-based risk in humanitarian aid. *Humanitarian Outcomes*, June.

Burr, H., Berthelsen, H., Moncada, S., Nübling, M., Dupret, E., Demiral, Y., Oudyk, J., Kristensen, T. S., Llorens, C., Navarro, A., Lincke, H.-J., Bocéréan, C., Sahan, C., Smith, P., & Pohrt, A. (2019). The third version of the Copenhagen Psychosocial Questionnaire. *Safety and Health at Work*, 10(4), 482–503.  
<https://doi.org/10.1016/j.shaw.2019.10.002>

Jachens, L., Houdmont, J., & Thomas, R. (2019). Effort–reward imbalance and burnout among humanitarian aid workers. *Disasters*, 43(1), 67-87.

Stoddard, A., Harvey, P., Czwaro, M., & Breckenridge, M. (2019). Aid Worker Security Report 2019, Speakable: addressing sexual violence and gender-based risk in humanitarian aid. *Humanitarian Outcomes*, June.

Tang, Wei & Cui, Ying & Babenko, Oksana. (2014). Internal consistency: Do we really know what it is and how to assess it?. *Journal of Psychology and Behavioral Science*. 2. 205-220

Taouk, Y., Spittal, M. J., LaMontagne, A. D., & Milner, A. J. (2020). Psychosocial work stressors and risk of all-cause and coronary heart disease mortality: A systematic review and meta-analysis. *Scandinavian Journal of Work, Environment & Health*, 46(1), 19-31.

Tassell, N., & Flett, R. (2007). Obsessive passion as an explanation for burnout: An alternative theoretical perspective applied to humanitarian work. *The Australian journal of rehabilitation counselling*, 13(2), 101-114.

Turner, C. R., Bosch, D., & Nolty, A. A. (2021). Self-efficacy and humanitarian aid workers. *Journal of International Humanitarian Action*, 6(1), 1-12.

United Nations High Commissioner for Refugees. (n.d.). *About Us*. UNHCR. Retrieved from <https://www.>

unhcr.org/about-us.html

Useche, S. A., Montoro, L., Alonso, F., & Pastor, J. C. (2019). Psychosocial work factors, job stress and strain at the wheel: Validation of the copenhagen psychosocial questionnaire (COPSOQ) in professional drivers. *Frontiers in Psychology, 10*. <https://doi.org/10.3389/fpsyg.2019.01531>

Woo, T., Ho, R., Tang, A., & Tam, W. (2020). Global prevalence of burnout symptoms among nurses: A systematic review and meta-analysis. *Journal of psychiatric research, 123*, 9–20. <https://doi.org/10.1016/j.jpsychires.2019.12.015>

World Health Organization. (2019) *Burnout an “occupational phenomenon”*: *International Classification of Diseases*. World Health Organization. [https://www.who.int/mental\\_health/evidence/burnout/en/](https://www.who.int/mental_health/evidence/burnout/en/)

Young, T. K., Pakenham, K. I., & Norwood, M. F. (2018). Thematic analysis of aid workers’ stressors and coping strategies: work, psychological, lifestyle and social dimensions. *Journal of International Humanitarian Action, 3*(1), 1-16.

Young, T., & Pakenham, K. I. (2021). The mental health of aid workers: risk and protective factors in relation to job context, working conditions, and demographics. *Disasters, 45*(3), 501-526.

Young, T., Pakenham, K. I., Chapman, C. M., & Edwards, M. R. (2021). Predictors of Mental Health in Aid Workers: Meaning, Resilience, and Psychological Flexibility as Personal Resources for Increased Wellbeing and Reduced Distress. *Disasters*.

**Appendix**  
**COPSOQ III International Questionnaire**

Scale	Dimension name	Item name	Level	Question	Response options
Quantitative Demands	QD	QD1	MIDDLE	Is your workload unevenly distributed so it piles up?	1
		QD2	CORE	How often do you not have time to complete all your work tasks?	1
		QD3	CORE	Do you get behind with your work?	1
		QD4	LONG	Do you have enough time for your work tasks?	1R
Work Pace	WP	WP1	CORE	Do you have to work very fast?	1
		WP2	CORE	Do you work at a high pace throughout the day?	2
		WP3	LONG	Is it necessary to keep working at a high pace?	2
Cognitive Demands	CD	CD1	LONG	Do you have to keep your eyes on lots of things while you work?	1
		CD2	LONG	Does your work require that you remember a lot of things?	1
		CD3	LONG	Does your work demand that you are good at coming up with new ideas?	1
		CD4	LONG	Does your work require you to make difficult decisions?	1
Emotional Demands	ED	ED1	MIDDLE	Does your work put you in emotionally disturbing situations?	1
		ED2	CORE	Do you have to deal with other people's personal problems as part of your work?	1
		ED3	CORE	Is your work emotionally demanding?	2
Demands for Hiding Emotions	HE	HE1	LONG	Are you required to treat everyone equally, even if you do not feel like it?	1
		HE2	MIDDLE	Does your work require that you hide your feelings?	2
		HE3	MIDDLE	Are you required to be kind and open towards everyone – regardless of how they behave towards you?	2
		HE4	MIDDLE	Does your work require that you do not state your opinion?	1
Influence at Work	IN	IN1	CORE	Do you have a large degree of influence on the decisions concerning your work?	1
		IN2	LONG	Do you have a say in choosing who you work with?	1
		IN3	MIDDLE	Can you influence the amount of work assigned to you?	1
		IN4	MIDDLE	To what extent does your influence on what you do at work?	1
Scale	Dimension name	Item name	Level	Question	Response options
Variation of Work	VA	VA1	CORE	Can you use your skills or expertise in your work?	2
		VA2	MIDDLE	Does your work give you the opportunity to develop your skills?	2
		VA3	LONG	Is your work varied?	1
		VA4	LONG	Do you have to do the same thing over and over again?	1R
Control over Working time	CT	CT1	MIDDLE	Can you decide when to take a break?	1
		CT2	MIDDLE	Can you take holidays more or less when you wish?	1
		CT3	MIDDLE	Can you leave your work to have a chat with a colleague?	1
		CT4	MIDDLE	If you have some private business is it possible for you to leave your place of work for half an hour without special permission?	1
		CT5	LONG	Do you have to do overtime?	1R
Meaning of Work	MW	MW1	CORE	Is your work meaningful?	2
		MW2	MIDDLE	Do you feel that the work you do is important?	2
Predictability	PR	PR1	CORE	At your place of work, are you informed well in advance concerning for example important decisions, changes or plans for the future?	2
		PR2	CORE	Do you receive all the information you need in order to do your work well?	2
Recognition	RE	RE1	CORE	Is your work recognized and appreciated by the management?	2
		RE2	LONG	Does the management at your workplace respect you?	2
		RE3	LONG	Are you treated fairly at your workplace?	2
Role Clarity	CL	CL1	CORE	Does your work have clear objectives?	2
		CL2	MIDDLE	Do you know exactly which areas are your responsibility?	2
		CL3	MIDDLE	Do you know exactly what is expected of you at work?	2
Role Conflicts	CO	CO2	CORE	Are contradictory demands placed on you at work?	2
		CO3	CORE	Do you sometimes have to do things which ought to have been done in a different way?	2
Illegitimate Tasks	IT	IT1	MIDDLE	Do you sometimes have to do things which seem to be unnecessary?	2
Quality of Leadership	QL	QL_1		To what extent would you say that your immediate superior ...	
		QL1	MIDDLE	- makes sure that the members of staff have good development opportunities?	2R
		QL2	LONG	- gives high priority to job satisfaction?	2R
		QL3	CORE	- is good at work planning?	2R
QL4	CORE	- is good at solving conflicts?	2R		
Social Support from Supervisor	SS	SS1	MIDDLE	How often is your immediate superior willing to listen to your problems at work, if needed?	2R
		SS2	CORE	How often do you get help and support from your immediate superior, if needed?	2R
		SS3	LONG	How often does your immediate superior talk with you about how well you carry out your work?	2R
Social Support from Colleagues	SC	SC1	CORE	How often do you get help and support from your colleagues, if needed?	2R
		SC2	MIDDLE	How often are your colleagues willing to listen to your problems at work, if needed?	2R

Scale	Dimension name	Item name	Level	Question	Response options
Sense of Community at Work	SC	SC1	LONG	How often do your colleagues talk with you about how well you carry out your work?	11
		SC2	CORE	Is there a good atmosphere between you and your colleagues?	11
		SC3	LONG	Is there good co-operation between the colleagues at work?	11
		SC4	MIDDLE	Do you feel part of a community at your place of work?	11
Commitment to the Workplace	CW	CW1	LONG	Do you enjoy telling others about your place of work?	1
		CW2	LONG	Do you feel that your place of work is of great importance to you?	1
		CW3	LONG	Would you recommend other people to apply for a position at your workplace?	1
		CW4	LONG	How often do you consider looking for work elsewhere?	14
		CW5	LONG	Are you proud of being part of this organization?	1
Work Engagement <sup>1</sup>	WE	WE_T		How often do you experience the following?	
		WE1	LONG	At my work, I feel bursting with energy.	1
		WE2	LONG	I am enthusiastic about my job.	1
		WE3	LONG	I am immersed in my work.	1
Job Insecurity	J	J1	CORE	Are you worried about becoming unemployed?	1
		J2	LONG	Are you worried about new technology making you redundant?	1
		J3	CORE	Are you worried about it being difficult for you to find another job if you became unemployed?	1
Insecurity over Working Conditions	WI	WI1	CORE	Are you worried about being transferred to another job against your will?	1
		WI2	LONG	Are you worried about your working tasks being changed against your will?	1
		WI3	MIDDLE	Are you worried about the timetable being changed (shift, weekdays, time to enter and leave ...) against your will?	1
		WI4	MIDDLE	Are you worried about a decrease in your salary (reduction, variable pay being introduced ...)?	1
		WI5	LONG	Are there good prospects in your job?	14
Quality of Work	OW	OW1	LONG	To what extent do you find it possible to perform your work tasks at a satisfactory quality?	1
		OW2	MIDDLE	Are you satisfied with the quality of the work performed at your workplace?	1
Job Satisfaction	JS	JS_T		Regarding your work in general, how pleased are you with	
		JS1	MIDDLE	- your work prospects?	4
		JS2	LONG	- the physical working conditions?	4
		JS3	LONG	- the way your abilities are used?	4
		JS4	CORE	- your job as a whole, everything taken into consideration?	4
JS5	MIDDLE	- your salary?	4		
Work Life Conflict	WP	WP_T		The next five questions concern the ways in which your work affects your private life:	
		WP3	LONG	Are there times when you need to be at work and at home at the same time?	1
Scale	Dimension name	Item name	Level	Question	Response options
		WP1	CORE	Do you feel that your work drains so much of your energy that it has a negative effect on your private life?	1
		WP2	CORE	Do you feel that your work takes so much of your time that it has a negative effect on your private life?	1
		WP3	LONG	The demands of my work interfere with my private and family life?	1
		WP4	LONG	Due to work-related duties, I have to make changes to my plans for private and family activities.	1
(Intro Trust & Justice)				The next questions are not about your own job but about the workplace as a whole.	
Horizontal Trust	TE	TE1	LONG	Do the employees withhold information from each other?	14
		TE2	LONG	Do the employees withhold information from the management?	14
		TE3	MIDDLE	Do the employees in general trust each other?	1
Vertical Trust	TM	TM1	CORE	Does the management trust the employees to do their work well?	1
		TM2	CORE	Can the employees trust the information that comes from the management?	1
		TM3	LONG	Does the management withhold important information from the employees?	14
Organizational Justice	JU	TM4	MIDDLE	Are the employees able to express their views and feelings?	1
		JU1	CORE	Are conflicts resolved in a fair way?	1
		JU2	LONG	Are employees appreciated when they have done a good job?	1
		JU3	LONG	Are all suggestions from employees treated seriously by the management?	1
JU4	CORE	Is the work distributed fairly?	1		
(Intro Negative Acts)				Conflicts and offensive behaviours	
Gossip and Slander	GS	GS1	LONG	Have you been exposed to gossip and slander at your workplace during the last 12 months?	4
		GS2	LONG	if yes, from whom? (You may tick off more than one)	14
Conflicts and Quarrels	CO	CO1	LONG	Have you been involved in quarrels or conflicts at your workplace during the last 12 months?	4
Unpleasant Teasing	UT	UT1	LONG	Have you been exposed to unpleasant teasing at your workplace during the last 12 months?	4
		UT2	LONG	if yes, from whom? (You may tick off more than one)	14
Cyber Bullying	HSM	HSM1	LONG	Have you been exposed to work-related harassment on the social media (e.g. Facebook), by e-mail or text messages during the last 12 months?	4
		HSM2	LONG	if yes, from whom? (You may tick off more than one)	14
Sexual Harassment	SH	SH1	LONG	Have you been exposed to undesired sexual attention at your workplace during the last 12 months?	4
		SH2	LONG	if yes, from whom? (You may tick off more than one)	14
Threats of Violence	TV	TV1	LONG	Have you been exposed to threats of violence at your workplace during the last 12 months?	4
		TV2	LONG	if yes, from whom? (You may tick off more than one)	14
Physical Violence	PV	PV1	LONG	Have you been exposed to physical violence at your workplace during the last 12 months?	4
		PV2	LONG	if yes, from whom? (You may tick off more than one)	14



Bullying	BU	BU1	LONG	Bullying means that a person repeatedly is exposed to unpleasant or degrading treatment, and that the person finds it difficult to defend himself or herself against it. Have you been exposed to bullying at your workplace during the last 12 months?	4
		BU3	LONG	If yes, from whom? (You may tick off more than one)	5§
		BU2	LONG	How often do you feel unjustly criticized, bullied or shown up in front of others by your colleagues or your superior?	10
(Intro Health)				The following questions are about your own health and well-being. Please do not try to distinguish between symptoms that are caused by work and symptoms that are due to other causes. The task is to describe how you are in general. The questions are about your health and well-being during the last four weeks:	
Self Rated Health	GH	GH1	CORE	In general, would you say your health is:	7
		GH2	LONG	If you evaluate the best conceivable state of health at 10 points and the worst at 0 points: how many points do you then give your present state of health?	8
Sleeping Troubles	SL	SL_T	LONG	These questions are about how you have been during the last 4 weeks.	
		SL1	LONG	How often have you slept loudly and restlessly?	8
		SL2	LONG	How often have you found it hard to go to sleep?	8
		SL3	LONG	How often have you woken up too early and not been able to get back to sleep?	8
Burnout	BO	BO_T	LONG	These questions are about how you have been during the last 4 weeks.	
		BO1	LONG	How often have you felt worn out?	8
		BO2	LONG	How often have you been physically exhausted?	8
		BO3	LONG	How often have you been emotionally exhausted?	8
Stress	ST	ST_T	LONG	These questions are about how you have been during the last 4 weeks.	
		ST1	LONG	How often have you had problems relaxing?	8
		ST2	LONG	How often have you been irritable?	8
		ST3	LONG	How often have you been tense?	8
Somatic Stress	SO	SO_T	LONG	These questions are about how you have been during the last 4 weeks.	
		SO1	LONG	How often have you had stomach ache?	8
		SO2	LONG	How often have you had a headache?	8
		SO3	LONG	How often have you had palpitations?	8
Cognitive Stress	CS	CS_T	LONG	These questions are about how you have been during the last 4 weeks.	
		CS1	LONG	How often have you had problems concentrating?	8
		CS2	LONG	How often have you found it difficult to think clearly?	8
		CS3	LONG	How often have you had difficulty in taking decisions?	8
Depressive Symptoms	DS	DS_T	LONG	These questions are about how you have been during the last 4 weeks.	
		DS1	LONG	How often have you felt sad?	8
		DS2	LONG	How often have you lacked self-confidence?	8
		DS3	LONG	How often have you had a bad conscience or felt guilty?	8
Self-Efficacy	SE	SE_T	LONG	How well do these descriptions fit on you as a person?	
		SE1	LONG	I am always able to solve difficult problems, if I try hard enough.	10
		SE2	LONG	If people work against me, I find a way of achieving what I want.	10
		SE3	LONG	It is easy for me to stick to my plans and reach my objectives.	10
		SE4	LONG	I feel confident that I can handle unexpected events.	10
		SE5	LONG	When I have a problem, I can usually find several ways of solving it.	10
		SE6	LONG	Regardless of what happens, I usually manage.	10

Note that CORE items are mandatory in all short, middle and long national versions of COPSOQ. Choice of items for national MIDDLE versions can deviate from the international version listed here.

\*Response options explanation (and values for the scale - each scale is scored in the direction indicated by the scale name): 1: Always (100); Often (75); Sometimes (50); Seldom (25); Never/hardly ever (0)

1R: Always (0); Often (25); Sometimes (50); Seldom (75); Never/hardly ever (100) (Reversed scoring)

2: To a very large extent (100); To a large extent (75); Somewhat (50); To a small extent (25); To a very small extent (0)

2R: To a very large extent (0); To a large extent (25); Somewhat (50); To a small extent (75); To a very small extent (100) (Reversed scoring) 3: Never (0), Seldom (25), Sometimes (50), Often (75), Always (100)

4: Yes, daily; Yes, weekly; Yes, monthly; Yes, a few times; No  
5M: Colleagues, Manager/superior, Subordinates, Clients/customers/patients (Multiple response options) 6: Very satisfied (100), Satisfied (75), Neither/Nor (50), Unsatisfied (25), Very unsatisfied (0)

7: Excellent (100), Very good (75), Good (50), Fair (25), Poor (0)

8: 0, 1, 2, 4, 5, 6, 7, 8, 9, 10

9: All the time (100); A large part of the time (75); Part of the time (50); A small part of the time (25); Not at all (0) 10: Fits perfectly (100); Fits quite well (67); Fits a little bit (33); Does not fit (0)

† Including the response option, if deemed necessary: 'I do not have a supervisor' (coded as missing).

‡ Including the response option, if deemed necessary: 'I do not have colleagues' (coded as missing).

§ Including the response option, if deemed necessary: 'I do not have a superior / colleagues' (coded as missing).

\* Source: Schaufeli WB, Bakker AB, Salanova M. The Measurement of Work Engagement With a Short Questionnaire. Educational and Psychological Measurement. 2006;66:701-16.