



MONASH  
University

PSYCHOSOCIAL SAFETY AT WORK:  
DEVELOPMENT AND VALIDATION OF MEASURES  
OF ATTITUDES TOWARDS BULLYING  
AND UNSAFE BEHAVIOURS

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## TO CITE THIS REPORT

Cooper, B., Shea, T., Donohue, R., & De Cieri, H. (2021). *Psychosocial Safety at Work: Development and Validation of Measures of Attitudes Towards Bullying and Unsafe Behaviours*. Monash Business School, Monash University: Caulfield East, VIC, Australia.

## ACKNOWLEDGEMENTS

We gratefully acknowledge the generous support provided by WorkSafe Victoria and the Institute for Safety, Compensation and Recovery Research (ISCRR) for the research. We also acknowledge research assistance provided by Robin Baker, Monash University.

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## LIST OF DEFINITIONS

Several terms used in this report may be unfamiliar to some readers. We have provided a list below.

Term	Definition
Abusive supervision	“Subordinates’ perceptions of the extent to which their supervisors engage in the sustained display of hostile verbal and non-verbal behaviours, excluding physical contact.” (Tepper, 2000, p. 178).
Attitude	An attitude is a “psychological tendency to evaluate an object with some degree of favour or disfavour” (Eagly & Chaiken, 1993, p. 1). An attitude has also been defined as an “association of positive or negative valence with a social object, a physical object, or an abstract concept.” (Greenwald & Lai, 2020, p. 420).
Bullying	“A situation in which one or more persons systematically and over a long period of time perceive themselves to be on the receiving end of negative treatment on the part of one or more persons, in a situation in which the person(s) exposed to the treatment has difficulty in defending themselves against this treatment.” (Matthiesen & Einarsen, 2007, p. 735).
Psychosocial safety	“Psychosocial safety relates to freedom from psychological and social risk or harm.” (Dollard & Bakker, 2010, p. 580).
Psychosocial safety climate	Psychosocial safety climate “is defined as policies, practices, and procedures for the protection of worker psychological health and safety” (Dollard & Bakker, 2010, p. 580).
Supervisor support	“The degree to which supervisors value their [employee] contributions and care about their well-being” (Rhoades & Eisenberger, 2002, p. 700).
Supervisor psychological health support	According to Butts et al (2013) a specific type of supervisor support involving the discussion of psychological or mental health issues that are bothering employees or causing them to feel upset.

## EXECUTIVE SUMMARY

### Background and aims

In recent years, psychosocial safety has become an important issue for regulators, employers, and employees which has led WorkSafe Victoria to place more emphasis and a greater focus on a holistic “prevention first” approach to workplace mental health. Psychosocial safety relates to freedom from psychological and social risk or harm (Dollard & Bakker, 2010, p. 580). There are many psychosocial hazards in the workplace that can cause harm. Many of these hazards emanate from the quality of social interactions and relationships at work. In the present study, we focus primarily on bullying as it is an especially detrimental negative workplace behaviour (Nielsen & Einarsen, 2018).

This research project is based on the core proposition that attitude change is foundational for positive and sustained behavioural change. In order to develop interventions to change worker attitudes towards negative behaviours, such as workplace bullying, research is necessary to identify and develop measures of these attitudes. However, we know little about the attitudes of those individuals who engage in negative behaviours at work such as bullying. This gap in our understanding is further complicated by the fact that there are few brief, reliable and valid tools to gauge attitudes towards workplace bullying and related negative behaviours, such as abusive supervision, that are suitable for a “pulse check” survey.

Not only are there few studies on attitudes towards bullying and other negative behaviours at work, but past research has shown that attitudes are not always adequately assessed through conventional self-report (also called explicit) measures. Attitudes may be implicit and therefore not open to introspective access or people may conceal their attitudes in order to present themselves positively. A novel aspect of the current study was that we investigated measures of implicit and explicit attitudes towards bullying.

The quality of the work environment is also important in promoting psychosocial safety. There is evidence that psychosocial safety hazards can be prevented and/or mitigated by a positive psychosocial safety climate at work and by other factors such as supportive leadership and supervision (Dollard et al., 2017). WorkSafe Victoria’s Psychological Health Programs team has identified attitudes towards psychological and mental health as an important part of a supportive work environment. Hence, we validated brief measures of supportive experiences and perceptions of the work environment, including:

- psychosocial safety climate,
- supervisor support, and
- attitudes towards mental health.

The aims of this project were to:

- develop and validate a brief suite of tools that can be used as a “pulse check” to measure: (a) explicit and implicit measures of attitudes towards bullying, (b) bullying behaviour and abusive supervision, and (c) perceptions of the work environment;
- develop an understanding of the relationship between attitudes towards bullying and the perpetration of bullying; and
- establish norms for attitudes, experiences and behaviours for benchmarking and monitoring workplace progress over time.

### Research method

To further these aims we conducted a 10-minute anonymous online survey during March and April 2021 with a sample of 1,000 currently employed adults from the State of Victoria, that we obtained via an online panel.

## Key findings

We conducted an extensive validation process for all measures used in this study. This included an initial validation process where we confirmed the psychometric properties of the nine-item Negative Acts Questionnaire (NAQ-S: Notelaers et al., 2019) designed to assess the experience of bullying. We then developed and validated measures based on the NAQ-S that were designed to tap attitudes towards bullying and perceptions of co-workers' attitudes towards bullying. In addition, we validated a brief behavioural measure of abusive supervision as it is a closely related construct to workplace bullying and involves exposure to hostile actions in a hierarchical context (Tepper, 2007). We confirmed that these measures had robust psychometric properties. Following this, we evaluated the psychometric properties of four ultra-short versions of these bullying measures (i.e., NAQ-4), which were also shown to have robust psychometric properties and were strongly related to their longer nine-item counterparts. Finally, our validation process also included several brief measures of the work environment including psychosocial safety climate and supervisor support, and we confirmed that these measures also have robust psychometric properties.

In addition to the validation of these measures, this report also provides initial norms for both the longer version of these measures and their short form equivalents, which can be used as benchmarks for future use. It is noteworthy that the average scores on psychosocial safety climate were modest and suggestive of room for improvement across the board. On average, respondents reported positive attitudes towards mental health in the workplace.

This study found that bullying is a common negative behaviour in Victorian workplaces, with 40% of respondents being exposed to some degree of bullying, 1 in 5 (20%) experiencing regular bullying, and close to 1 in 10 (8%) experiencing severe bullying at work. Correlational analysis indicated that attitudes towards bullying were strongly related to bullying behaviours, with more permissive attitudes towards bullying being associated with the perpetration of negative acts or bullying behaviour in the workplace. This finding was confirmed in our regression analyses, where having more permissive attitudes towards bullying was the strongest predictor of the perpetration of bullying, with little contribution from the work environment.

## Recommendations

We recommend use of the brief measures validated in this study as a “pulse check” survey within workplaces and across industries. Our validated attitudinal measures may have value for tracking large-scale behavioural change interventions at a workplace, industry, or population level.

This brief suite of tools can be used to help WorkSafe Victoria:

- identify workplaces and industries where negative attitudes and behaviours may place employees at risk of psychosocial harm and injury, and
- monitor the outcomes of attitude-based interventions to improve psychosocial safety and return-to-work outcomes.

Based on our findings we recommend that future assessments and interventions consider:

- the importance of measuring explicit attitudes, that is, people's subjectively expressed attitudes, revealed when asked directly how they feel about bullying or other negative behaviours at work;
- incorporating implicit measures, such as the implicit association test, as part of a comprehensive package, to obtain a more complete assessment of attitudes, especially in workplaces with a persistently high unexplained prevalence of bullying and other negative behaviours; and
- interventions that promote positive attitude and behavioural change in an inclusive, non-stigmatizing and respectful manner.

We conclude that attitude change is an important issue that needs to be addressed in order to reduce the likelihood of workplace bullying. Interventions to reduce favourable attitudes towards bullying and their acceptability in the workplace should be a high priority.

## Next steps

Leading from this research we recommend WorkSafe Victoria:

- undertake a review of the literature to identify evidence-based attitude and behavioural change interventions to promote psychosocial safety in Victorian workplaces,
- conduct a feasibility study to examine the implementation of this brief suite of tools in workplaces, and
- conduct further longitudinal research to track attitudes and negative behaviours at work and their impact on WorkCover claims and return-to-work outcomes.

### Summary of Key Findings

#### **Bullying is a common negative behaviour in Victorian workplaces**

- 40% of respondents in this survey reported being exposed to some degree of bullying,
- 1 in 5 (20%) of respondents reported that they had experienced regular bullying, and
- 8% of respondents reported experiencing severe bullying at work on a weekly or daily basis.

#### **Attitudes lead to behaviours such that**

- more permissive attitudes towards bullying were associated with the perpetration of negative behaviours such as bullying in the workplace.
- attitudes towards bullying were substantially more impactful on the perpetration of bullying compared to other supportive elements in the workplace environment such as psychosocial safety climate and supervisor support.
- attitudinal change is an important issue that needs to be addressed to help reduce the likelihood of workplace bullying.

#### **We have developed and validated an assessment package that can be used as a**

- “pulse check” of attitudes and behaviours within workplaces to identify the risk of psychosocial harm, and
- to monitor the outcomes of attitude-based interventions to improve health and safety and return-to-work outcomes.

## 1 INTRODUCTION

In recent years, WorkSafe Victoria has become increasingly focused on a holistic “prevention first” approach to averting mental injury and promoting workplace mental health. Increasingly, psychosocial safety is an important issue for regulators, employers, and employees. Following Dollard and Bakker (2010), psychosocial safety is defined as freedom from psychological and social risk or harm. There are many psychosocial hazards in the workplace that can cause harm. Many of these hazards emanate from the quality of social interactions and relationships at work. In the present study, we focus primarily on bullying as it is an especially detrimental negative workplace behaviour (Nielsen & Einarsen, 2018). Central to all negative behaviours are elements of harm and threat. Hence, following Zhong and Robinson (2021) we use the term negative behaviour as an umbrella term to reflect the myriad of harmful behaviours people may engage in at work.

This research project is based on the core proposition that attitude change is foundational for positive and sustained behavioural change. As Vukelić et al. (2019, p. 1887) have noted: “the idea of toleration and acceptance of workplace bullying is well known in workplace bullying literature but has not been extensively researched”. To our knowledge, there are no comprehensive studies in Australia on attitudes towards psychosocial safety at work. Yet attitudes have been recognised as the most distinctive and indispensable concept in understanding, predicting, and changing behaviour (Allport, 1935; Bohner & Dickel, 2011).

There is general agreement that an attitude represents an overall positive or negative evaluation of an entity (object, person, behaviour) (Azjen, 2003; Greenwald & Lai, 2020). One influential definition is that an attitude is a “psychological tendency to evaluate an object with some degree of favour or disfavour” (Eagly & Chaiken, 1993, p. 1). Put simply, then, attitudes are our likes and dislikes.

Ultimately, the aim of attitude-based interventions is to bring about behavioural change. Attitudes are important for the prediction of behaviour as people tend to act, when given the opportunity, on their attitudes and feelings. Attitudes are socially acquired and can be changed through experience, but strongly held attitudes are relatively stable over time and can be resistant to persuasion. Yet attitude change is critical as attempts to change behaviour are unlikely to be enduring and consistent across contexts in the absence of attitudinal change (Azjen, 2001).

To change attitudes towards negative behaviours, such as workplace bullying, research is necessary to identify and measure those attitudes. There are very few studies on attitudes towards psychosocial safety at work (see Power et al., 2013 for a notable exception in the study of bullying). Hence, we know little about the attitudes of those individuals who engage in negative behaviours such as bullying. This gap in our understanding is further complicated by the fact that there are few brief, reliable and valid tools to gauge psychosocial safety attitudes in the workplace that are suitable for a “pulse check” survey.

It is important to note that a focus on attitudes does not ignore the impact of the wider work environment on behaviour, for example the impact of work stressors such as role overload (Van den Brande et al., 2016). The two are not mutually exclusive. At the heart of bullying and other negative behaviours are poor psychosocial safety, permissive workplace norms regarding negative behaviours, and inappropriate managerial and co-worker behaviours. Attitudes are at the core of all these issues. There is also evidence that psychosocial safety hazards can be prevented and/or mitigated by a positive psychosocial safety climate within the organization and by other factors such as supportive leadership and supervision (Dollard et al., 2017). Again, all these phenomena are, in some part, attitudinal in nature. In light of some evidence that bullying behaviour is both an antecedent and outcome of work stressors such as role overload, we argue attitudes provide the logical starting point for investigation of the complex interplay between the person and the work environment (Nielsen & Einarsen, 2018).

Past research on attitudes has largely relied on self-report measures such as Likert-type rating scales or questionnaires. These measures are also called direct or “explicit” measures as people are asked directly about their attitudes (Fazio & Olson, 2003). Explicit measures of attitudes are relatively strong predictors of behaviour (Ajzen, 2001). However, we know that attitudes are not always adequately assessed through self-report measures. The assumption behind self-report measures is that people are both willing and able to report their attitudes. For example, people may try to conceal certain attitudes (e.g., a favourable attitude towards bullying) in order to present themselves in a positive light. It is also possible that some attitudes may be unconscious and therefore not open to introspective access by the individual. For example, attitudes towards bullying and other negative behaviours may be subject to unconscious influences and biases – to date, this possibility has not been examined in the literature. However, there is support for the idea of unconscious bias in other areas such as racism, sexism and in some studies on violence (e.g., Ziegert & Hanges, 2005).

To address the shortcoming of self-report measures, implicit (also called indirect) measures have been developed to assess attitudes people are unwilling, or even unable to report (Fazio & Olson, 2003; Nosek, 2007). An implicit measure is one where respondents are unaware of what the measure is assessing. This is in contrast to an explicit measure, such as a questionnaire, in which respondents are presumably aware that a report on an attitude is being requested (Fazio & Olson, 2003). Being based on speed of response (i.e., reaction time measured in milliseconds), indirect measures such as the Implicit Association Test (IAT) are especially useful for measuring attitudes towards socially sensitive behaviours such as bullying, where people may be reluctant to disclose their attitudes. A large body of evidence has shown that implicit measures predict a wide variety of behaviours (Greenwald et al., 2009). Hence, a novel aspect of the present study was to measure both explicit and implicit attitudes towards bullying. We are not aware of any study that has attempted this in the workplace context.

In this study we primarily focused on developing and validating a set of brief measures of:

- explicit and implicit attitudes towards bullying,
- the experience of bullying, and
- perpetration of bullying.

In addition, we validated a brief behavioural measure of abusive supervision as it is a closely related construct to workplace bullying and involves exposure to hostile actions in a hierarchical context (Tepper, 2007).

Finally, we validated brief measures of supportive experiences and perceptions of the work environment, including:

- psychosocial safety climate,
- supervisor support, and
- attitudes towards mental health.

Psychosocial safety climate “is defined as policies, practices, and procedures for the protection of worker psychological health and safety” (Dollard & Bakker, 2010, p. 580). Being largely determined by the attitudes and behaviours of senior management within organizations, psychosocial safety climate has been described as a distal causal factor, a “cause of the causes” of workplace bullying (Dollard et al., 2017). Hence, we also examined a more immediate or proximal cause of psychosocial safety attitudes and behaviours, namely supervisor support. Supervisor support is central to Eisenberger’s influential Organizational Support Theory (OST). According to OST, employees form general attitudes to the extent to which their immediate supervisor values their contributions and cares about their well-being (Rhoades & Eisenberger, 2002). Finally, an important part of a supportive environment are positive attitudes towards psychological and mental health. Hence, we measured attitudes towards mental health as an indicator of the overall “health” of the work environment.

## 1.1 Aims of this report

The aims of this project were to:

- develop and validate a brief suite of tools that can be used as a “pulse check” to measure: (a) explicit and implicit measures of attitudes towards bullying, (b) bullying behaviour and abusive supervision, and (c) perceptions of the work environment;
- develop an understanding of the relationship between attitudes towards bullying and the perpetration of bullying; and
- establish norms for attitudes, experiences, and behaviours for benchmarking and monitoring workplace progress over time.

## 2 RESEARCH METHOD

### 2.1 Sample and procedure

This report is based on a sample of 1,000 currently employed adults in the State of Victoria obtained via an online panel. The survey was conducted during March and April 2021 and respondents were recruited via an anonymous online survey. Self-report (explicit) measures of attitudes and behaviours were administered via a 10-minute survey and implicit measures were delivered using MinnoJS – a Java program for reaction time assessments and embedded into the survey.

The sample size has excellent power<sup>1</sup> for scale validation and a margin of error of 3% on percentage point estimates at the desired 95% level of confidence.

This project was approved by Monash University's Human Research Ethics Committee, and all respondents were assured of confidentiality and anonymity.

### 2.2 Survey measures and rationale

As noted in the introduction, the survey included a series of measures of:

- characteristics of the respondents and their jobs,
- explicit and implicit attitudes towards bullying,
- attitudes, experiences, and behaviours at work, and
- supportive experiences and perceptions of the work environment.

#### 2.2.1 Respondents and their work

The survey captured information regarding respondents' gender (i.e., male, female, non-binary, prefer not to say) and age group. Respondents were also asked about their work including employee status (i.e., full-time, part-time, casual, or contractor), job tenure, type of occupation (e.g., manager, professional, technician or trade worker), supervisor status (yes, no) and the industry they worked in (e.g., Arts and Recreation, Construction).

#### 2.2.2 Negative behaviours at work

#### Experience of bullying

In most studies, the experience of bullying has been assessed in one of two main ways: 1) the respondents' overall report of being exposed to bullying (the self-labelling method); and 2) the respondents' perceptions of being exposed to a range of negative behaviours indicative of bullying (the behavioural experience method). In the self-labelling approach, respondents are typically asked a single-item question about whether or not they have been bullied over a given period of time, usually with a face-valid definition of bullying provided before asking the question. In the behavioural experience method respondents are asked to report how frequently they have experienced different negative behaviours that are indicative of bullying within a given time period.

In the present study, we used both self-labelling and behavioural experience measures to capture the experience of workplace bullying. The 22-item Negative Acts Questionnaire (NAQ-R: Einarsen et al., 2009), and its reduced 9-item version (NAQ-S: Notelaers et al., 2019) are the most commonly used behavioural experience measures of workplace bullying and both versions have very good psychometric properties. In the present study we used the NAQ-S as it is a brief measure suitable for a "pulse check" survey of bullying behaviours at work.

The NAQ-S contains nine behavioural items that are indicative of bullying and respondents are asked to report how often they experience each of these behaviours at work in the past six months. A higher score indicates that survey respondents are more likely to have experienced bullying on a regular basis.

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<sup>1</sup> Statistical power is the probability that your study will correctly reject the null hypothesis (i.e., that there is no relationship between variables) and correctly support your hypothesis if a relationship is present.

All items were measured on a 5-point frequency scale (never, now and then, monthly, weekly and daily). A sample item from this measure is “*Over the last six months, how often have you been subjected to ... repeated reminders of your errors or mistakes*”. This measure has been widely used in many studies and has strong evidence in support of its reliability and validity.

We also examined the utility of a 4-item ultra-short measure of experienced bullying that was developed by Simons et al. (2011) using a subset of the original 22-item NAQ-R. The four items of the NAQ-4 are:

Over the last six months, how often have you been subjected to:

- someone withholding information which affects your performance,
- being excluded by people at work,
- being given an unmanageable workload, and
- being humiliated or ridiculed in connection with your work.

Respondents were also asked about the experience of bullying using a single item measure developed by Notelaers et al. (2019). Respondents were provided with a definition of bullying and asked if they had been subjected to workplace bullying over the last six months, which was measured on a 5-point scale (never, rarely, now and then, several times per week and almost daily). Following the work of Notelaers et al. (2019), respondents were provided with the following definition of bullying before answering the question:

*Workplace bullying is repeated, unreasonable behaviour directed towards a worker or a group of workers that creates a risk to health and safety. We do not refer to a one-off incident as bullying.*

Next, they were asked about the source(s) of the bullying using the following perpetration source categories: supervisor or manager, co-worker or another person.

### Perpetration of bullying

Based on the measure developed by De Cuyper et al. (2009), the perpetration of bullying was measured using the same nine items of the NAQ-S but reworded using an active formulation to reflect the perpetration of bullying. A higher score indicates that respondents are more likely to have perpetrated bullying on a regular basis. Consistent with the experience of bullying measure described above, all items on the perpetration of bullying scale were measured on a 5-point frequency scale (never, now and then, monthly, weekly and daily). A sample item from this measure is “*Over the last six months, how often have you ... repeatedly reminding another person of their errors or mistakes*”. We also validated an ultra-short measure for the perpetration of bullying that complements the 4-item experience of bullying measure developed by Simons et al. (2011) described above:

Over the last six months, how often have you engaged in the following behaviours at work:

- withholding information which affects another person’s performance,
- excluding another person at work,
- giving someone an unmanageable workload, and
- humiliating or ridiculing someone in connection with their work.

## Abusive supervision

We measured abusive supervision with a brief scale developed and validated by Mitchell and Ambrose (2007), based on the work of Tepper (2000). We included a measure of abusive supervision as it is a closely related construct to workplace bullying and shares a similar nomological network (Tepper, 2007). The measure of abusive supervision contains five items that measure respondents' experiences of actively hostile behaviours from their supervisor (i.e., displays of hostile verbal and non-verbal behaviours, excluding physical contact). A higher score indicates that respondents experience greater levels of abusive supervision. All items were measured on a 5-point scale (strongly disagree, disagree, neither agree nor disagree, agree and strongly agree). A sample item from this measure is *"My supervisor puts me down in front of others"*.

### 2.2.3 Explicit (self-report) attitudes towards bullying

Respondents were asked about their attitudes at work including their attitudes towards bullying and their perceptions regarding their colleagues' attitudes towards bullying. These explicit measures are designed to elicit respondent attitudes, beliefs and feelings through a series of statements (items) that represent each construct included in the survey.

#### Attitudes towards bullying (self)

Following the work of Power et al. (2013) we measured attitudes towards bullying using the nine items from the NAQ-S that represent negative behaviours at work. Respondents were asked to report how acceptable they found each of these nine behaviours. A higher score indicates that respondents are more likely to agree that bullying behaviours are acceptable at work. All items were measured on a 5-point scale (completely unacceptable, unacceptable, neither acceptable nor unacceptable, acceptable and completely acceptable). Sample items from this measure can be seen in Table 1 below. We also validated an ultra-short version of this attitudes towards bullying measure that mirrors the 4-item behavioural measure developed by Simons et al. (2011) described above.

#### Attitudes towards bullying (other)

The perception of other people's attitudes towards bullying at work measure contains the same nine items included in the attitudes towards bullying (self) measure above. However, in this measure, respondents were asked to report how acceptable they thought most other people at their workplace find each of these behaviours. A similar approach to measuring acceptability of bullying by co-workers was used by Vukelić et al (2019). All items were measured on a 5-point scale (completely unacceptable, unacceptable, neither acceptable nor unacceptable, acceptable and completely acceptable). A higher score indicates that respondents are more likely to agree that their co-workers find bullying behaviours acceptable at work. Sample items from this measure can be seen in Table 1 below. We also validated an ultra-short form version of this attitudes towards bullying measure that mirrors the 4-item behavioural measure developed by Simons et al. (2011) described above.

TABLE 1: SAMPLE ITEMS FOR ATTITUDES TOWARDS BULLYING

Source of attitude & stem	Example statements
<b>Attitudes towards bullying (self)</b>	
Please tell us how acceptable you find ...	spreading gossip and rumours about others. people being shouted at.
<b>Attitudes towards bullying (other)</b>	
Please tell us how acceptable you think most other people at your work find ...	excluding people at work. persistent criticism of an individual's work and effort.

#### 2.2.4 Implicit measure of attitudes towards bullying

To measure implicit attitudes, we used the well-known computer-based implicit association test (IAT: Greenwald et al., 1998), which is the most widely used implicit measure. Rather than asking people to directly self-report their attitudes, the IAT relies on the speed of response to different stimuli to indirectly assess attitudes. The IAT is a computer-based categorization task that measures the relative speed (response latency) with which people are able to make associations between items (words or pictures) representing different concepts (categories). In the IAT respondents are asked to pair four concepts (e.g., music vs sport, pleasant vs unpleasant). The more closely the concepts are associated, the easier (i.e., faster) it is to respond to them as a single unit (e.g., music and pleasant). The underlying assumption of the IAT is that if two concepts are highly associated, the sorting task will be easier and faster for the respondent. The resulting response latencies or reaction times (measured in milliseconds) are used as an indication of the strength of associations between the concepts. A wealth of evidence shows that the IAT is reliable and that scores on IAT attitude measures can predict a wide range of behavioural outcomes (see Greenwald et al., 2009 for a review).

In this study we use the Brief Implicit Association Test (BIAT). The BIAT is a shortened version of a standard IAT designed for rapid administration yet still maintains acceptable psychometric properties (Sriram & Greenwald, 2009). Unlike the standard IAT, the BIAT focuses participants on just two of the four categories in each block (i.e., the other two categories and their items in each block are non-focal). This procedure is designed to reduce error variation by focusing participants on just two categories of interest. For example, in an attitude BIAT a block consisting of two focal categories (e.g., music and pleasant) might be followed by a block with two focal categories (e.g., sport and pleasant). Full details of the BIAT can be found in Sriram and Greenwald (2009). Participants sort the words according to the displayed categories as quickly as possible. This process takes about five minutes to complete, making it ideal for the survey environment.<sup>2</sup>

The BIAT significantly reduces administration time compared to the standard IAT. This shortened procedure significantly minimises participant time burden and fatigue. With the BIAT, at the beginning of each of the two blocks, participants are shown two focal category labels (e.g., “music” and “pleasant”) on the computer screen together with their respective stimulus items and they are instructed to “keep them in mind.” During the test, the relevant focal category labels (e.g., “music” and “pleasant”) remain visible at the top of the screen. Items (words or pictures) are then randomly presented, one at a time, on the computer screen and the participant’s task is to categorise them (assign them to a focal category) as quickly as possible. Specifically, in each trial participants are asked to press a response key (e.g., “K”) if an item belongs to either of the two focal categories and press another key (e.g., “D”) if it belonged to neither category (non-focal). The reaction-times (response latencies) for each trial are recorded by the software program.

Stimuli for the attitudes towards bullying BIAT were drawn from an earlier pilot study that was funded by Monash Business School. These stimuli were derived from extensive review of the literature on workplace bullying and content validated by a panel of subject matter experts with expertise in workplace aggression and mental health. Preliminary evidence shows that the attitudes towards bullying BIAT is predictive of engaging in bullying behaviour, above and beyond self-reported attitudes towards bullying. Using this BIAT in the current project provided an opportunity to further validate this measure with a larger and broader sample of employees.

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<sup>2</sup> Interested readers may wish to visit the Project Implicit website to trial an implicit attitude test themselves. This website contains implicit attitude tests for demonstration purposes on a number of topics (e.g., gender, race, weight) and is at <https://implicit.harvard.edu/implicit/australia/takeatest.html>

Table 2 below displays the stimulus words for the Brief IAT.

TABLE 2: STIMULUS WORDS FOR THE BRIEF IAT

Categories	Example stimulus words
Brief IAT - Attitudes towards bullying	
Bullying (focal)	Threatening, degrading, humiliating, intimidating, abusing, harassing
Positive/like (focal)	Like, enjoy, pleasure, favourite

### 2.2.5 Work environment

Survey respondents were also asked about their work environment. These measures included psychological safety climate, supervisor support, supervisor psychological health support and attitudes towards mental health in the workplace. These measures are described in detail below.

#### Psychosocial safety climate (PSC)

We measured psychosocial safety climate (PSC) using the scale developed by Dollard and colleagues. The PSC contains 12 items that measure respondents' views of the extent to which stress is prevented and psychological health is supported by management (Hall et al., 2010). All items were measured on a 5-point scale (strongly disagree, disagree, neither agree nor disagree, agree and strongly agree). A higher score on the PSC indicates greater perceived psychosocial safety in the workplace. A sample item from PSC is "*Senior management clearly considers the psychological health of employees to be of great importance*". The PSC has been used extensively in prior studies and has attained strong evidence in support of its reliability and validity.

We also validated a 4-item short-form version of the PSC developed by Dollard and Bakker (2010) and Escartín et al. (2021) that uses a subset of items from the full version including:

- senior management shows support for stress prevention through involvement and commitment,
- my contributions to resolving occupational health and safety concerns in the organization are listened to,
- participation and consultation in psychological health and safety occurs with employees, unions and health and safety representatives in my workplace, and
- in my organization, the prevention of stress involves all levels of the organization.

#### Supervisor support

Supervisor support was measured with four items that capture employees' perceptions of the level of support provided to them by their immediate supervisor (Rhoades et al., 2001). All items were measured on a 5-point scale (strongly disagree, disagree, neither agree nor disagree, agree and strongly agree). A higher score indicates that respondents experience greater support from their supervisor. A sample item from the measure of supervisor support is "*My supervisor cares about my opinions*". This measure has been widely used in prior workplace studies and has strong evidence in support of its reliability and validity.

#### Supervisor psychological health support

The measure of supervisor psychological health support contains four items that measure employees' perceptions of the level of psychological health support received from their immediate supervisor (Butts et al., 2013). All items were measured on a 5-point scale (strongly disagree, disagree, neither agree nor disagree, agree and strongly agree). Higher scores indicate that respondents experience greater psychological health support from their supervisor. A sample item from the measure of supervisor psychological health support is "*My supervisor and I discuss things at work that I find stressful*". The study by Butts et al. (2013) indicates that the supervisor psychological health support measure has good initial psychometric properties.

## Attitudes towards mental health

An important part of a supportive work environment are attitudes towards psychological and mental health. In this study we measured fear and avoidance attitudes towards people with a mental health issue as an indicator of the “health” of the work environment. Our attitude towards mental health measure is adapted from a longer measure of attitudes towards people with a mental health condition developed and initially validated by Kenny et al. (2018). A higher score on this 7-item scale indicates that respondents are more likely to report negative attitudes in terms of fear and avoidance of people with a mental health issue. The seven items were measured on a 5-point scale (strongly disagree, disagree, neither agree nor disagree, agree and strongly agree). A sample item from this measure is *“It is best to avoid people who have a mental health issue”*.

### 2.3 Statistical analysis

The latent structure of the full and short form measures was examined in SPSS 27.0 (IBM Corp, 2020) with exploratory factor analysis, using principal axis factoring as the extraction method. A good solution requires a minimum of 50% explanatory variance, good communalities (ideally >0.6), and that each factor should be represented by at least three items, with each item displaying significant loadings (>0.4) on only one factor (Tabachnick & Fidell, 2000). In the exploratory factor analysis, we randomly assigned each participant into one of two groups so that the latent structure of the NAQ-S and the NAQ-4 measures were examined in different subsets of the sample.

Correlational analysis was conducted to examine the validity of the measures, whereby the pattern of correlations observed between the measures provided evidence of construct and criterion validity. Finally, a hierarchical regression analysis was conducted where we examined the relative influence of demographic variables, attitudes towards bullying and the work environment in predicting the likelihood of perpetrating bullying behaviour.

### 3 RESULTS

#### Highlights

##### The majority of respondents were:

- female (61%) and generally less than 35 years of age (67%),
- employed full time (56%) and had been working in their current position for 10 years or less (84%),
- 50% worked in managerial and professional positions, and
- employed in a wide range of industries such as retail trade, accommodation and food services, health care and social assistance and education and training.

#### 3.1 Characteristics of respondents

As shown in Figure 1 below, more than half of the respondents in this survey were female and less than one percent reported being non-binary or preferred not to disclose their gender.

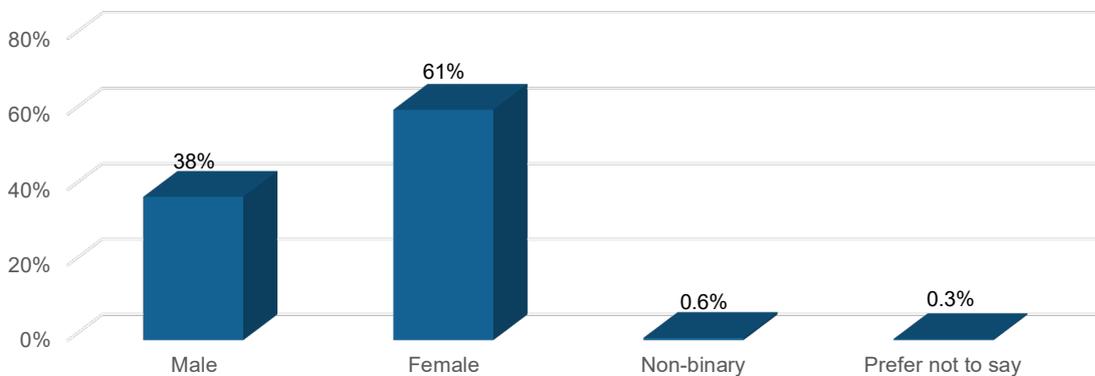


FIGURE 1: GENDER

Figure 2 below displays the distribution of age for the respondents in the sample. Two-thirds of the respondents were aged 35 years or less.

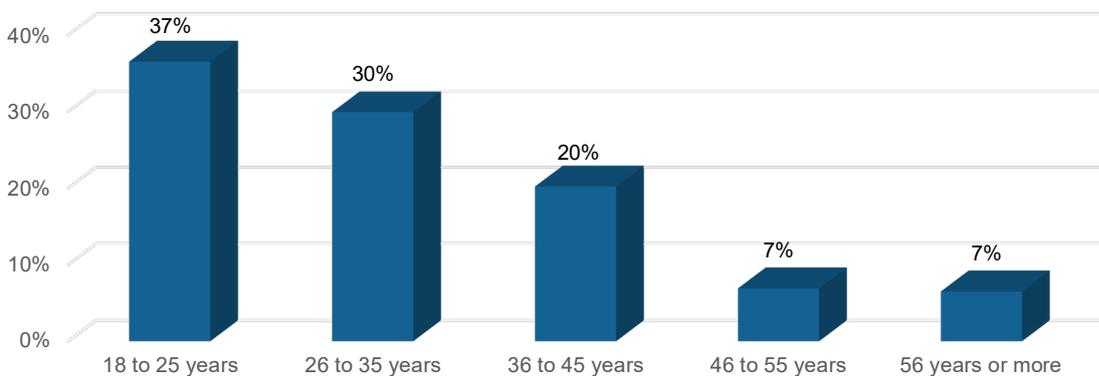


FIGURE 2: AGE

Figure 3 below displays the employee status of respondents in the sample. Most of the respondents reported being employed full-time or part-time.

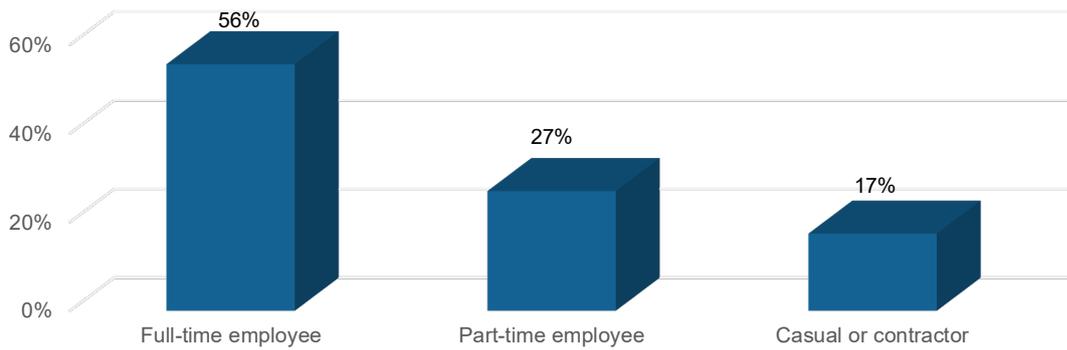


FIGURE 3: EMPLOYEE STATUS

Figure 4 displays the distribution of job tenure of respondents. Most respondents reported that they had been working in their current job for 10 years or less.

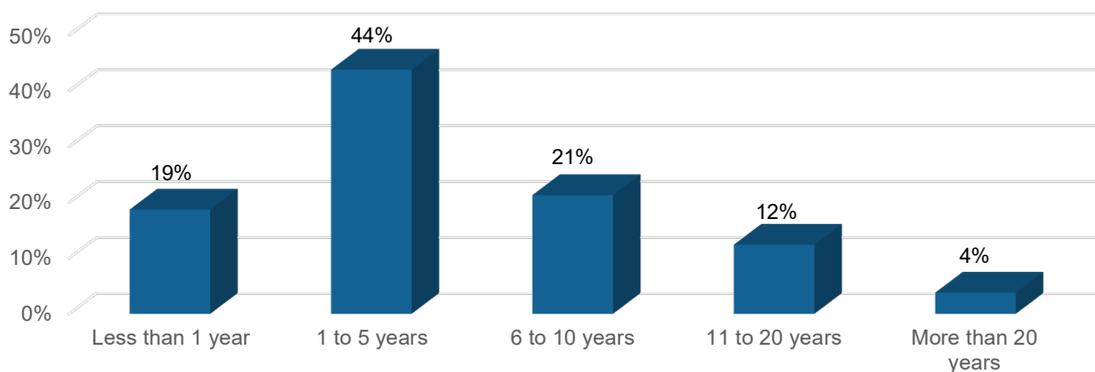


FIGURE 4: JOB TENURE

Figure 5 displays the occupational groups for respondents, nearly one-third of the respondents reported being a manager. Other dominant occupational groups were professionals, sales workers and clerical or administrative workers.

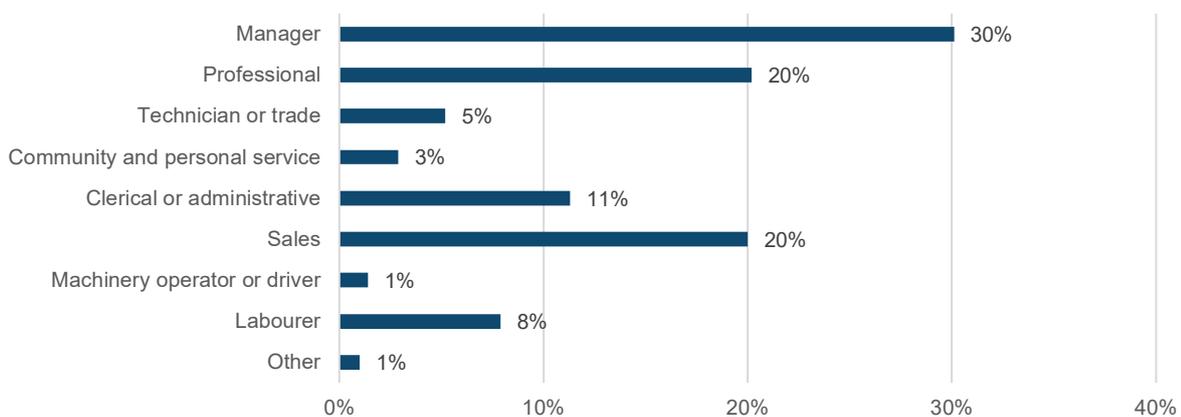


FIGURE 5: OCCUPATION

Figure 6 shows the industry in which respondents were employed. A substantial percentage of respondents were from the retail trade sector, accommodation and food services, health care and social assistance, and education and training. The financial and insurance services and manufacturing industries were also well represented in the sample and these industry sectors are environments where bullying typically predominates.

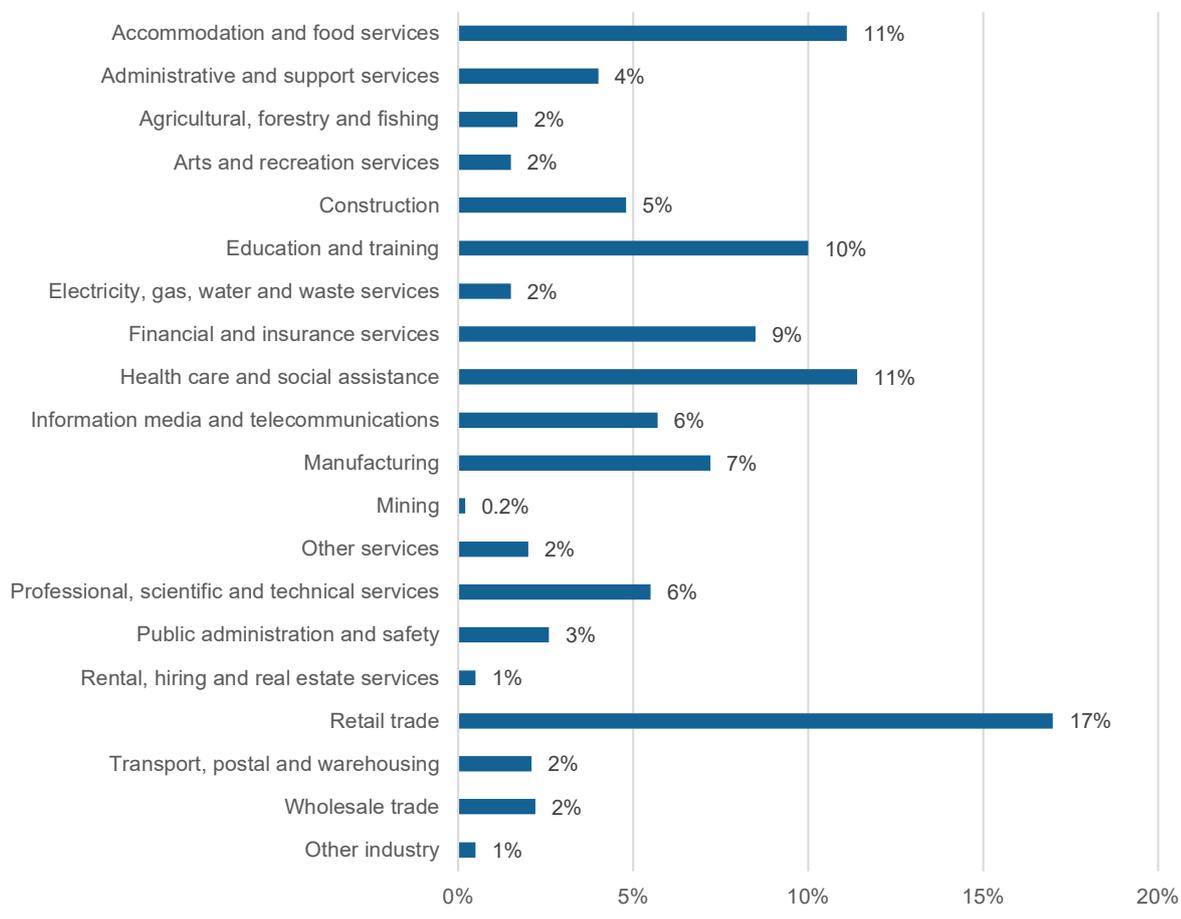


FIGURE 6: INDUSTRY

## 3.2 Validation of survey measures

### 3.2.1 Full-length measures of attitudes and behaviours

#### Highlights

The validation process conducted on the full-length measures of attitudes and behaviours reveals that the

- five measures of attitudes and behaviours validated in this project all displayed robust psychometric properties with clean factor structures, good explanatory variance and excellent internal consistency reliability; and
- the items of each attitude or behaviour measure were good exemplars for their respective measures.

#### Attitudes towards bullying

The measures of attitudes towards bullying (self and other) were subjected to exploratory factor analysis to examine their latent structure, that is, how well the individual items represent their respective underlying constructs. The analyses showed that each of these measures:

- were comprised of one factor (unidimensional),
- had very good explanatory variance (>50%), and
- had excellent internal consistency reliability ( $\alpha > .90$ ).

At the individual scale level, each item within the measures were:

- well correlated with their underlying factors, as shown by high factor loadings (>.5), indicating that they were good exemplar items for their respective measures of bullying attitudes, and had high communalities (>.40) indicating that the items make a substantial contribution to their measure.

Specific details of these analyses are summarised in Table 3 below.

TABLE 3: LATENT STRUCTURE OF THE ATTITUDES TOWARDS BULLYING MEASURES

Measure	Factor loading	Communality	% variance	Reliability
<b>Attitudes towards bullying (self)</b>			68.8%	$\alpha = .95$
• people being shouted at	.88	.77		
• insulting or offensive remarks made about people	.86	.74		
• spreading gossip and rumours about others	.86	.74		
• individuals facing a hostile reaction when they approach	.84	.70		
• people being the subject of excessive teasing or sarcasm	.84	.70		
• someone withholding information which affects an individual's performance	.83	.69		
• excluding people at work	.82	.66		
• persistent criticism of an individual's work and effort	.81	.65		
• repeated reminders of a person's errors or mistakes	.74	.55		
<b>Attitudes towards bullying (other)</b>			69.7%	$\alpha = .95$
• insulting or offensive remarks made about people	.87	.76		
• individuals facing a hostile reaction when they approach	.86	.74		
• persistent criticism of an individual's work and effort	.85	.72		
• spreading gossip and rumours about others	.84	.70		
• people being the subject of excessive teasing or sarcasm	.83	.69		
• repeated reminders of a person's errors or mistakes	.82	.68		
• people being shouted at	.82	.67		
• excluding people at work	.82	.67		
• someone withholding information which affects an individual's performance	.80	.64		

## Experience and perpetration of bullying

The full-length measures of the experience of bullying and perpetration of bullying were subjected to exploratory factor analysis to examine their latent structure and to examine how well the individual items represented their respective measures of bullying.

In these analyses, we also included the measure of abusive supervision. The analyses showed that each of these measures:

- were comprised of one factor,
- had very good explanatory variance (>50%), and
- demonstrated excellent internal consistency reliability ( $\alpha > .90$ ).

At the individual scale level, each item was found to:

- be well correlated with their underlying factors, as shown by high factor loadings (>.5), indicating that they were good exemplar items for their respective measures of bullying and abusive supervision, and
- have high communalities (>.40) indicating that the items made a substantial contribution to their respective measures.

Specific details of these analyses are summarised in Table 4 below.

TABLE 4: LATENT STRUCTURE OF THE BULLYING MEASURES AND ABUSIVE SUPERVISION

Measure	Factor loadings	Communalities	% variance	Reliability
<b>Experience of bullying (NAQ-S)</b>			60.3%	$\alpha = .93$
● persistent criticism of your work and performance	.83	.69		
● having insulting or offensive remarks made about you	.81	.66		
● being excluded by people at work	.80	.63		
● being the subject of excessive teasing and sarcasm	.79	.62		
● facing a hostile reaction when you approach others	.78	.60		
● repeated reminders of your errors or mistakes	.77	.59		
● being shouted at	.75	.57		
● spreading gossip and rumours about you	.73	.54		
● someone withholding information which affects your performance	.73	.53		
<b>Perpetration of bullying (NAQ-S)</b>			72.2%	$\alpha = .96$
● engaging in excessive teasing or sarcasm to another person	.88	.78		
● persistently criticising another person's work and performance	.87	.76		
● making insulting or offensive remarks about another person (i.e., habits, background, attitude, or private life)	.86	.74		
● excluding another person at work	.85	.72		
● withholding information which affects another person's performance	.85	.72		
● shouting at another person	.85	.71		
● giving a hostile reaction when another person approaches you	.84	.71		
● repeatedly reminding another person of their errors or mistakes	.84	.70		
● spreading gossip and rumours about another person	.81	.66		
<b>Abusive supervision</b>			78.2%	$\alpha = .95$
● my supervisor makes negative comments about me to others	.90	.82		
● my supervisor puts me down in front of others	.90	.81		
● my supervisor tells me I am incompetent	.89	.79		
● my supervisor tells me my thoughts or feelings are stupid	.88	.78		
● my supervisor ridicules me	.85	.72		

### 3.2.2 Ultra-short measures of attitudes and behaviours

#### Highlights

##### The validation process conducted on the ultra-short measures reveals that the

- four ultra-short measures of attitudes and behaviours validated in this project all displayed robust psychometric properties with clean factor structures, good explanatory variance and excellent internal consistency reliability.
- items of each attitude or behaviour measure were good exemplars for their respective measures.
- ultra-short form measures were highly correlated with their respective full-length counterparts.

The above measures of attitudes and experience/perpetration of bullying behaviours were also validated as ultra-short-form scales (based on the NAQ-4 described earlier):

- attitudes towards bullying (self),
- attitudes towards bullying (other),
- experience of bullying, and
- perpetration of bullying.

Each of these measures were subjected to exploratory factor analysis to examine their latent structure and how well the individual items represent their respective measures. The analyses showed that all four ultra-short-form measures:

- were single factor measures,
- had very good explanatory variance (>50%), and
- possessed excellent internal consistency reliability.

At the individual scale level, each item in the four ultra-short-form measures were:

- well correlated with their underlying factors, as shown by high factor loadings (>.5), indicating that they were good exemplar items for their respective measures of bullying, and
- had high communalities (>.40) indicating that the items make a substantial contribution to their respective measures.

These analyses are summarised in Table 5 below.

TABLE 5: ATTITUDES AND BEHAVIOUR MEASURES - SHORT-FORMS

Measure	Factor loading	Communalities	% variance	Reliability
Attitudes towards bullying (self)			69.6%	$\alpha = .90$
● excluding people at work	.91	.83		
● people being humiliated or ridiculed in connection with their work	.88	.77		
● people being exposed to an unmanageable workload	.81	.65		
● someone withholding information which affects an individual's performance	.73	.53		
Attitudes towards bullying (other)			70.0%	$\alpha = .90$
● excluding people at work	.89	.80		
● people being humiliated or ridiculed in connection with their work	.85	.72		
● people being exposed to an unmanageable workload	.82	.67		
● someone withholding information which affects an individual's performance	.78	.61		
Experience of bullying			56.0%	$\alpha = .83$
● being humiliated or ridiculed in connection with your work	.81	.66		
● being excluded by people at work	.78	.61		
● someone withholding information which affects your performance	.72	.51		
● being given an unmanageable workload	.67	.45		
Engaged in bullying			76.4%	$\alpha = .93$
● humiliating or ridiculing someone in connection with their work	.90	.80		
● withholding information which affects another person's performance	.88	.78		
● excluding another person at work	.86	.74		
● giving someone an unmanageable workload	.86	.73		

### 3.2.3 Relationships between the full-length measures and their short-form versions

The pattern of correlations among the measures in Table 6 below shows that the ultra-short (four item) measures of bullying were highly correlated with their respective full-length (nine item) counterparts, indicating that they can be used in place of the full-length measures where constraining survey length is important.

TABLE 6: CORRELATIONAL ANALYSIS BETWEEN FULL AND SHORT-FORM MEASURES

Short-form measure	Attitudes towards bullying (S)	Attitudes towards bullying (O)	Engaged in bullying	Experience of bullying
Attitudes towards bullying (self)	<b>.95**</b>	.73**	.72**	.59**
Attitudes towards bullying (other)	.71**	<b>.94**</b>	.61**	.60**
Engaged in bullying	.71**	.59**	<b>.96**</b>	.73**
Experience of bullying	.54**	.60**	.70**	<b>.91**</b>

\* $p < .05$ , \*\* $p < .01$

### 3.2.4 Work environment

#### Highlights

##### The validation process conducted on the work environment measures reveals that the

- measures of the work environment validated in this project displayed robust psychometric properties with clean factor structures, good explanatory variance and excellent internal consistency reliability;
- the short form version of the psychosocial safety climate measure had equivalent psychometric properties to its long form counterpart; and
- the PSC-4 and PSC-12 were well correlated.

The measures for both supervisor support and supervisor psychological health support were validated by subjecting their items to exploratory factor analysis to examine their latent structures and how well the individual items represent their respective measures. Note that one item from the original version of the supervisor support scale, *my supervisor shows very little concern for me*, did not load significantly so was not included in this revised scale. These analyses are summarised in Table 7 below and show that these measures:

- were both single factor measures,
- had good explanatory variance (>50%), and
- possessed excellent internal consistency reliability.

TABLE 7: LATENT STRUCTURE OF SUPERVISOR SUPPORT MEASURES

Measure	Factor loading	Communalities	% variance	Reliability
<b>Supervisor support</b>			71.5%	$\alpha = .88$
• my supervisor cares about my opinions	.84	.71		
• my supervisor really cares about my wellbeing	.86	.74		
• my supervisor strongly considers my goals and values	.80	.69		
<b>Supervisor psychological health support</b>			67.8%	$\alpha = .89$
• my supervisor and I discuss things at work that I find stressful	.80	.64		
• my supervisor and I discuss things that are bothering me or causing me to feel upset	.84	.71		
• my supervisor and I discuss my concerns about my psychological well-being	.84	.71		
• my supervisor and I discuss ways to improve my psychological well-being	.80	.65		

The measure of attitudes towards mental health was also subjected to exploratory factor analysis to examine its latent structure and how well the individual items represent the underlying factor. These analyses are summarised in Table 8 below and show that this measure:

- had two factors that were well correlated ( $r = 0.46$ ) so items can be summed to a single score,
- had good explanatory variance (= 64%), and
- had very good internal consistency reliability ( $\alpha = .84$ ).

TABLE 8: LATENT STRUCTURE OF THE ATTITUDES TOWARDS MENTAL HEALTH MEASURE

	Factor 1	Factor 2	Communalities
● I would feel relaxed if I had to talk to someone who has a mental health issue	0.86		0.69
● I would be just as happy to invite a person with a mental health issue into my home as I would anyone else	0.77		0.60
● I am not scared of people with a mental health issue	0.76		0.66
● In general, it is easy to interact with someone who has a mental health issue	0.70		0.48
● It is best to avoid people who have a mental health issue		0.92	0.75
● I would feel unsafe being around someone who has a mental health issue		0.85	0.83
● I would find it hard to talk to someone who has a mental illness		0.68	0.46

Finally, the items from the full-length (PSC-12) and short form (PSC-4) versions of the psychosocial safety climate measure were subjected to exploratory factor analysis to examine their latent structure and how well the individual items represent the underlying factor for each version. The analysis showed that both these measures:

- were comprised of a single factor,
- had very good explanatory variance (>50%), and
- possessed excellent internal consistency reliability.

The short-form measure of psychosocial safety climate was also highly correlated with its corresponding 12-item measure ( $r = .97, p < .001$ ). Specific details of these analyses are summarised in Table 9 below.

TABLE 9: LATENT STRUCTURE OF THE PSYCHOSOCIAL SAFETY CLIMATE MEASURES

Measure	Factor loadings	Communalities	% variance	Reliability
Full measure (PSC-12)			66.8%	$\alpha = .95$
● senior management considers employee psychological health to be as important as productivity	.85	.72		
● senior management clearly considers the psychological health of employees to be of great importance	.85	.71		
● psychological well-being of staff is a priority for this organization	.83	.70		
● there is good communication here about psychological safety issues which affect me	.83	.70		
● senior management shows support for stress prevention through involvement and commitment	.83	.70		
● senior management acts decisively when a concern about an employee's psychological status is	.83	.69		
● in my workplace senior management acts quickly to correct problems/issues that affect employees	.83	.68		
● employees are encouraged to become involved in psychological safety and health matters	.81	.66		
● information about workplace psychological well-being is always brought to my attention by my manager/supervisor	.81	.65		
● in my organization, the prevention of stress involves all levels of the organization	.80	.64		
● participation and consultation in psychological health and safety occurs with employees, unions and health and safety representatives in my workplace	.78	.61		
● my contributions to resolving occupational health and safety concerns in the organization are listened to	.76	.58		
Short form (PSC-4)			64.9%	$\alpha = .88$
● senior management shows support for stress prevention through involvement and commitment	.61	.78		
● my contributions to resolving occupational health and safety concerns in the organization are listened to	.63	.80		
● participation and consultation in psychological health and safety occurs with employees, unions and health and safety representatives in my workplace	.70	.84		
● in my organization, the prevention of stress involves all levels of the organization	.64	.80		

### 3.3 Norms for attitudes, behaviours and experiences at work

#### Highlights

This project provides norms for the attitudes, behaviours and experiences at work which reveal that

- mean scores for the NAQ-4 and NAQ-S versions were roughly equivalent.
- respondents rated their own attitudes towards bullying as less permissive compared to the attitudes of their colleagues.
- mean scores on the measure of attitudes towards mental health indicate that respondents had positive attitudes towards mental health in the workplace.

#### 3.3.1 Attitudes and behaviours

Mean scores for the explicit measures of attitudes towards bullying at work were relatively low (suggesting an unfavourable attitude to bullying) and indeed respondents perceived that their own attitudes towards bullying were less permissive when compared with the perceived attitudes of their colleagues.

As shown in Figure 7, the mean scores for the NAQ-4 and NAQ-S measures were roughly equivalent. This provides additional support for the use of the ultra-short (4-item) measures in circumstances where use of the longer measures is not practical.

For greater detail on these measures, we have provided norms in the form of both percentiles and mean scores in Appendix 1.

In interpreting these norms, Notelaers et al. (2019) found that a mean score of approximately 3 or more on the NAQ-S suggests a “severe” level of bullying (which corresponds to the “monthly” response category). An examination of the percentiles in Appendix 1 shows that about 10% of the respondents in our sample scored 3 or higher, suggesting these people experience severe bullying. Overall, 15% of the sample scored 2 or more but less than 3, a level which Notelaers et al. (2019) broadly describe as “occasional” bullying.

It is also noteworthy that men held more positive attitudes (scale means 2.2 vs. 1.6) and were slightly more likely to engage in bullying than others (scale means 1.8 vs. 1.4). For greater details on demographic differences see Tables 14 and Table 15 in Appendix 1.

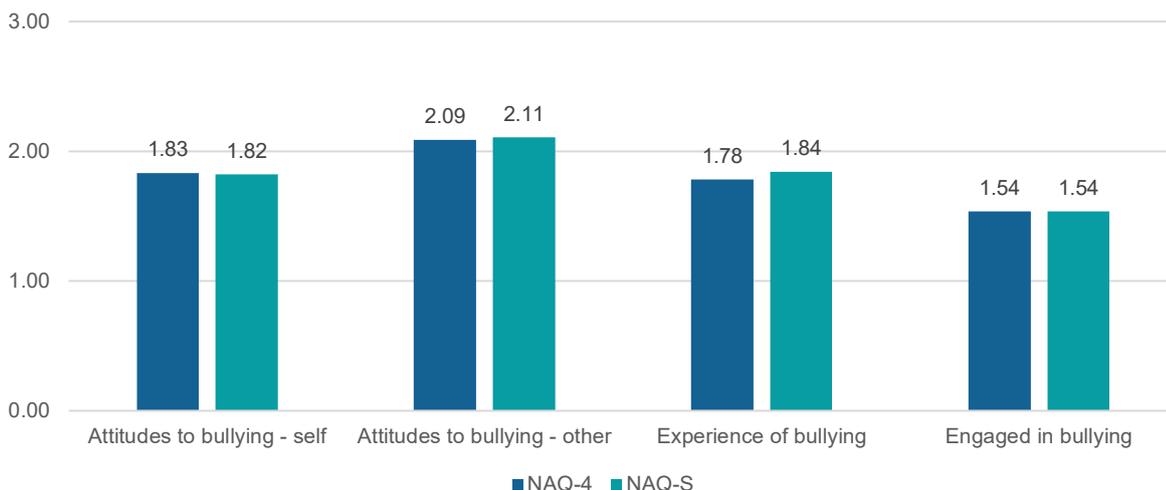


FIGURE 7: COMPARING MEAN SCORES FOR NAQ-4 AND NAQ-S MEASURES

### 3.3.2 Work environment

Figure 8 below displays the mean scores for the work environment measures. The mean scores on the PSC-12 and PSC-4 are comparable to those obtained in other studies (e.g., Dollard & Bakker, 2010; McLinton, et al., 2018). These average scores for the PSC suggest a modest level of perceived psychosocial safety climate that has room for improvement.

Respondents also reported modest levels of supervisor support and supervisor psychological health support, with mean scores just over the scale midpoint.

On average, respondents reported positive attitudes towards mental health in the workplace, with mean scores below the scale midpoint (note a higher score indicates a negative or stigmatising attitude). It is noteworthy that men held more negative attitudes towards mental health (scale means 2.7 vs. 2.1) than others.

Detailed norms for the work environment measures are reported in Table 16 in Appendix 1.

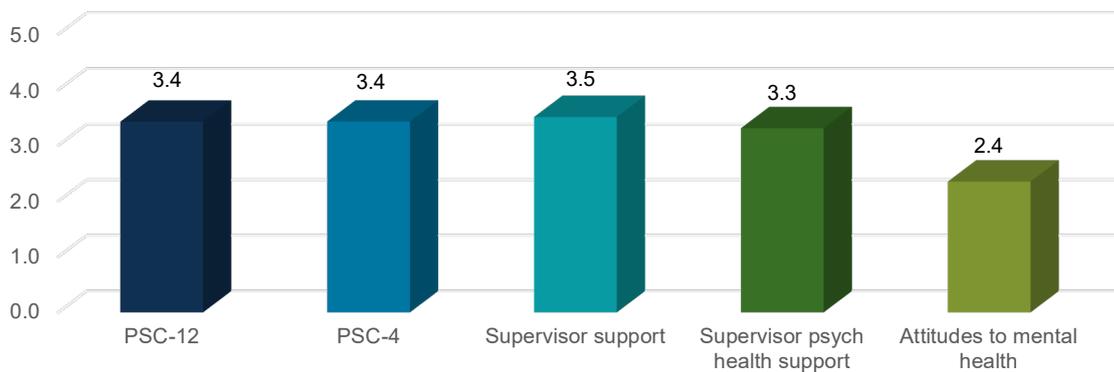


FIGURE 8: NORMS FOR WORK ENVIRONMENT MEASURES

### 3.3.3 Prevalence of bullying using a self-labelling measure

The following charts show the experience of bullying using a cut-off recommended by Einarsen and Skogstad (1996) and Notelaers and Einarsen (2013). This criterion for bullying includes respondents who reported experiencing bullying now and then, several times per week or almost daily but not those who reported that they were rarely bullied over the past six months. Figure 9 shows that 40% of respondents reported some level of bullying at work in the past six months and 20% reported that they had experienced regular bullying (now and then or more frequently) in the past six months. Overall, 8% of respondents reported severe bullying, experiencing bullying on a weekly or daily basis.

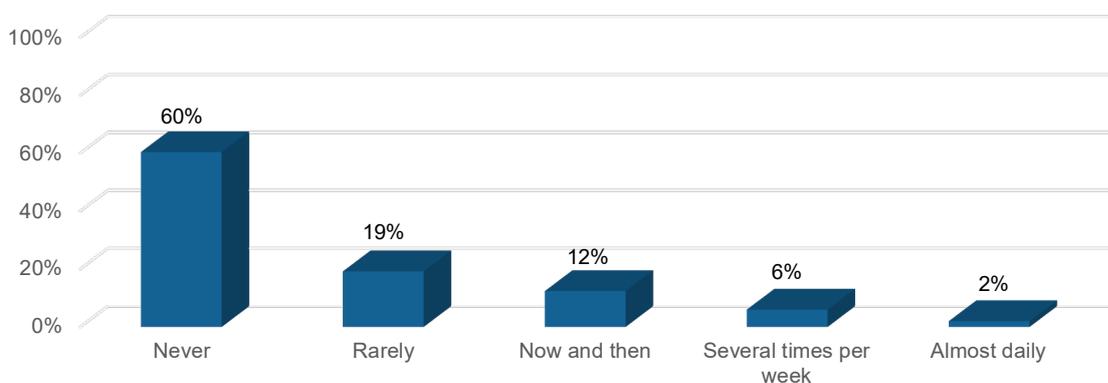


FIGURE 9: FREQUENCY OF BULLYING (SELF LABELLING METHOD)

Figure 10 shows that of those respondents who reported being bullied at work, just over half reported a supervisor or manager as the source. More than half reported being bullied by a co-worker while fewer people reported being bullied by another person who was not a co-worker or supervisor.

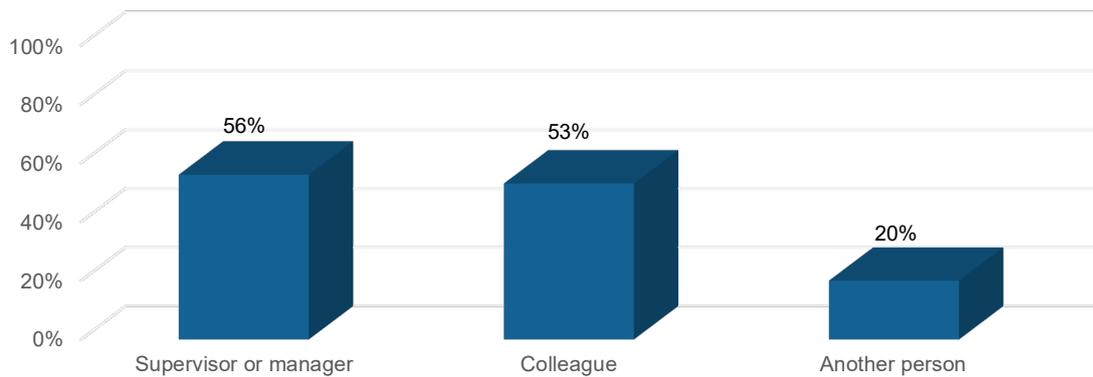


FIGURE 10: SOURCES OF BULLYING (SELF LABELLING METHOD)

Figure 11 below shows that a higher proportion of people with a non-binary gender experienced bullying compared to men who, in turn, experienced slightly more bullying than women. Although the sample consisted of only six people with a non-binary gender, it is noteworthy that one third of these people experienced bullying. We believe that the relatively high proportion of males experiencing bullying is likely due to more males being in supervisory or managerial positions, where aggressive and competitive behaviour is more tolerated. This is borne out by our finding that males reported more permissive attitudes towards bullying.

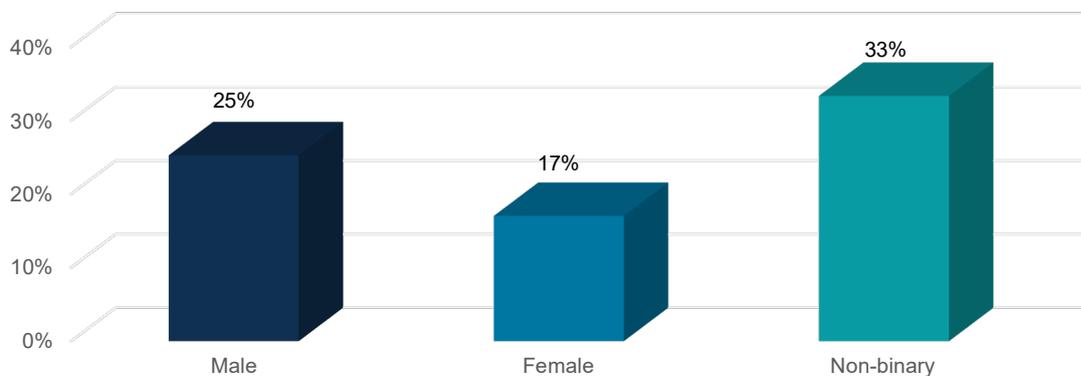


FIGURE 11: EXPERIENCE OF BULLYING BY GENDER

Figure 12 below shows that the industries where a greater percentage of respondents reported the experience of bullying were administration and support services; electricity, gas water and waste services; and information, media, and telecommunications. Note mining was excluded due to small sample size (n =2).

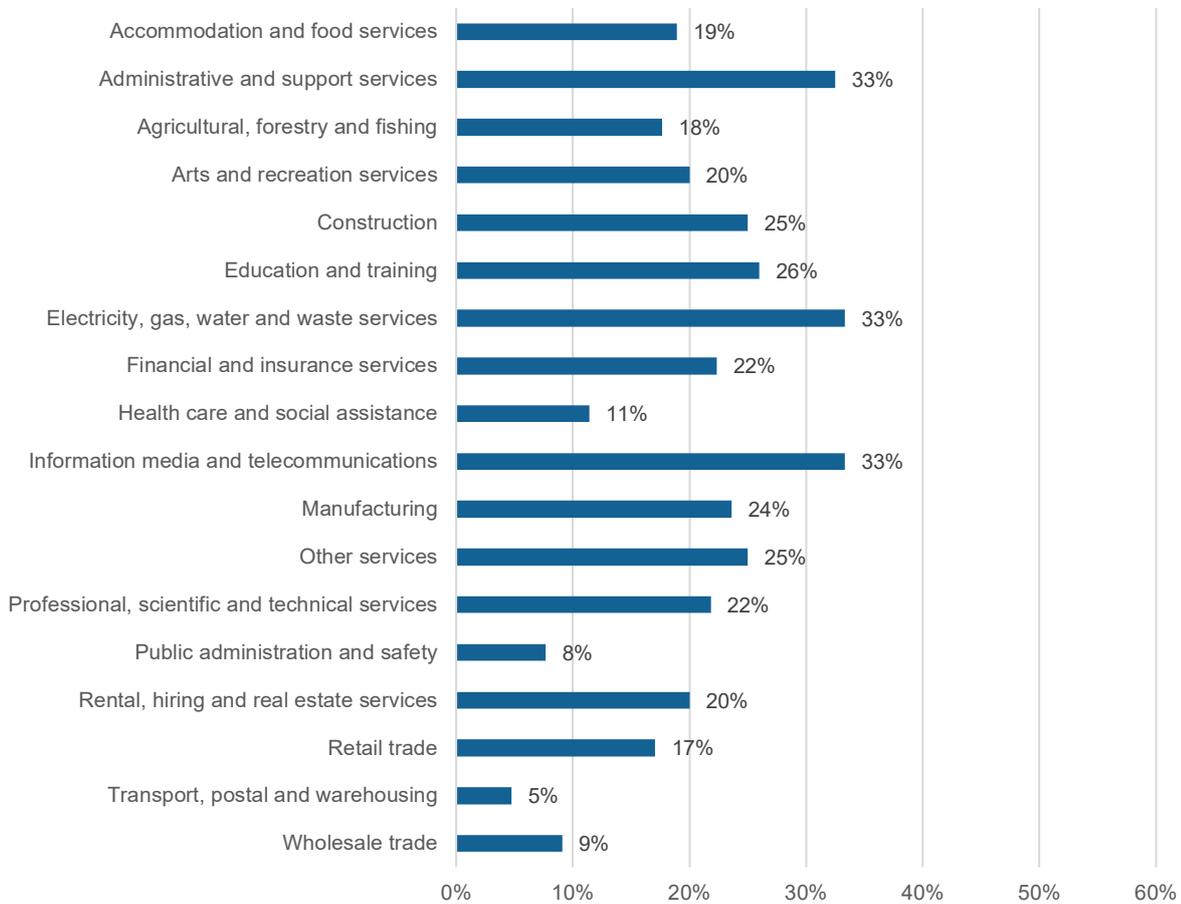


FIGURE 12: EXPERIENCE OF BULLYING BY INDUSTRY

### 3.4 Relationships between attitudes, experience and behaviours

#### 3.4.1 Correlational analysis

##### Highlights

**Our correlational analysis shows that there are several important outcomes with respect to the relationships among attitudes, experiences, and behaviours such that**

- explicitly measured attitudes towards bullying were the strongest correlate of negative behaviours at work, but implicitly measured attitudes towards bullying also played a role;
- better supervisor support reduced the likelihood of being both a target and a perpetrator of negative behaviours at work; and
- a stronger psychosocial safety climate as measured by the PSC-4 and PSC-12 reduced the likelihood of an individual experiencing negative behaviours at work.

**While our analysis shows that there were multiple inputs into the proliferation of negative behaviours at work**

- the most important element is permissive attitudes towards bullying, and
- the limited explained variance of the work environment variables confirms the importance of attitudes in the perpetration of bullying behaviours.

Table 10 below displays the correlations between the measures of implicit and explicit attitudes towards bullying as well as the experience and perpetration of negative behaviours at work. There was a strong positive relationship between both the short-form and full-length explicit measures of attitudes towards bullying and between the perpetration and experience of negative behaviours at work. Those who had more permissive attitudes towards bullying were more likely to be perpetrators of bullying. This pattern of relationships among attitudes towards bullying and the experience and perpetration of negative behaviours at work was the same, irrespective of whether the short-form or full measure is used. Consistent with this analysis, the magnitude of the relationships among the short-form and full measures of attitudes towards bullying and the single item measure for the experience of bullying were the same.

Table 10 also shows that perceptions of one's own attitudes towards bullying (as well as perceptions of other worker's attitudes towards bullying) were strongly related to both engaging in and experiencing bullying. A plausible interpretation for this pattern of correlations is that some workplaces are "permissive" contexts where negative behaviours are internalized, while others are not.

There were weak to moderate negative relationships between supervisor support and the experience and perpetration of negative behaviours at work. Those who experienced higher levels of supervisor support were less likely to experience negative behaviours at work such as bullying or abusive supervision. Similarly, those who experienced higher levels of supervisor support were less likely to be perpetrators of bullying.

The relationships among supervisor psychological health support, psychosocial safety climate and the experience and perpetration of negative behaviours at work were mixed. There were moderate negative correlations among both short and long form measures of psychosocial safety climate and the experience of bullying and abusive supervision. This relationship held, irrespective of whether bullying was measured using the full, short form or the single item measure. Those who experienced a more positive psychosocial safety climate at work were less likely to have experienced bullying or abusive supervision at work. There was no statistically significant relationship between psychosocial safety climate and the perpetration of bullying. There was a statistically significant negative relationship between supervisor psychological health support and the experience of bullying at work.

There was a weak positive correlation between the implicit measure of attitudes towards bullying and the perpetration of bullying.

TABLE 10: RELATIONSHIPS TO NEGATIVE BEHAVIOURS

	Perpetration (full)	Experience (full)	Abusive supervision	Perpetration (short form)	Experience (short form)	Experience (single item)
<b>Explicit measures</b>						
Attitudes towards bullying (self)	.70***	.55***	.51***	.68***	.51***	.40***
Attitudes towards bullying (other)	.54***	.59***	.43***	.51***	.57***	.42***
Supervisor support	-.13***	-.30***	-.42***	-.12***	-.29***	-.27***
Supervisor psychological support	.09**	-.04	-.00	.09**	-.07*	-.07*
Psychosocial safety climate	.04	-.15***	-.12***	.05	-.21***	-.14***
<b>Implicit measures</b>						
Implicit attitudes (bullying)	.12**	.04	.08**	.12**	.02	.06
<b>Short form measures</b>						
Attitudes towards bullying (self)	.67***	.53***	.49***	.66***	.51***	.38***
Attitudes towards bullying (other)	.52***	.55***	.40***	.50***	.58***	.41***
Experience of bullying	.71***	.91***	.52***	.70***	1	.65***
Psychosocial safety climate	.04	-.14***	-.10**	.05	-.20***	-.12***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### 3.4.2 Regression model using the short form measures

We conducted a hierarchical multiple regression to examine the relative impact of demographic characteristics, attitudes towards bullying and work environment on the likelihood that an individual would be a perpetrator of bullying at work. In this regression we used the short-form measures for the bullying variables (NAQ-4) and psychosocial safety climate (PSC-4). Full details of the regression analysis are presented in Table 11 below. We log transformed the dependent variable (perpetration of bullying) to improve normality and linearity.

The first stage of the regression focused on just the demographic variables of gender and age:

- this regression was statistically significant,
- but only explained 4% of the variance in the perpetration of bullying.

In this stage of the regression gender and age were both statistically significant predictors of the likelihood that an individual would be a perpetrator of bullying:

The second stage of the regression added implicit and explicit attitudes towards bullying along with the two demographic variables:

- This stage of the regression was statistically significant, and
- explained 23% of the variance in the perpetration of bullying.

In this stage of the analysis statistically significant predictors for being a perpetrator of bullying were:

- gender,
- age,
- implicit attitudes towards bullying, and
- explicit attitudes towards bullying.

At the third and final stage of the regression, supervisor support, supervisor psychological health support and psychosocial safety climate were added, along with attitudes towards bullying, and the two demographic variables:

- This stage of the regression was statistically significant, and
- explained 23% of the variance in the perpetration of bullying.

In this stage of the regression analysis, statistically significant predictors of being a perpetrator of bullying were:

- gender,
- age,
- implicit attitudes towards bullying,
- explicit attitudes towards bullying, and
- lower levels of supervisor support.

Role overload, supervisor psychological health support and psychosocial safety climate were not statistically significant predictors in the regression.

At the final stage of the regression, perpetrators of bullying were more likely to be male and younger in age. Perpetrators of bullying were also more likely to hold permissive attitudes towards bullying at both an implicit and explicit level, although explicitly measured attitudes towards bullying was the stronger predictor.

The changes in the explanatory variance showed that the most important predictors of being a perpetrator of bullying is having a more permissive attitude to bullying. While explicitly measured attitudes towards bullying was the most important predictor, implicit attitudes towards bullying were also a significant predictor of being a perpetrator of bullying. There was less than a 1% change in explained variance when the work environment variables were added which confirms the importance of attitudes in the perpetration of bullying behaviours.

TABLE 11: HIERARCHICAL LINEAR REGRESSION FOR THE PERPETRATION OF BULLYING

	B	SE	Perpetration of bullying		Significance
			Std Beta	Adj R2	
Stage 1: Demographics					
Constant	<b>0.39***</b>	0.01		.04	$F(2,669) = 15.98, p < .001$
Gender	<b>-0.04***</b>	0.01	-0.23		
Age	<b>-0.01**</b>	0.00	-0.12		
Stage 2: Attitudes towards bullying					
Constant	<b>0.26***</b>	0.01		.23	$F(4,667) = 50.59, p < .001$
Gender	<b>-0.02*</b>	0.01	-0.11		
Age	<b>-0.01**</b>	0.00	-0.09		
Implicit attitudes towards bullying	<b>0.01**</b>	0.00	0.09		
Explicit attitudes towards bullying	<b>0.06***</b>	0.01	0.43		
Stage 3: Work environment					
Constant	<b>0.27***</b>	0.02		.23	$F(8,663) = 26.23, p < .001$
Gender	<b>-0.02**</b>	0.01	-0.12		
Age	<b>-0.01*</b>	0.00	-0.08		
Implicit attitudes towards bullying	<b>0.01**</b>	0.00	0.09		
Explicit attitudes towards bullying	<b>0.06***</b>	0.01	0.43		
Role overload	0.00	0.00	0.05		
Supervisor support	<b>-0.01*</b>	0.00	-0.09		
Supervisor psychological health support	0.00	0.00	0.04		
Psychosocial safety climate	0.00	0.00	0.02		

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , bold denotes significant predictor.

## 4 SUMMARY AND CONCLUSIONS

This report has presented a summary of the key findings from an online panel survey, conducted using a sample of 1,000 adults currently employed in the State of Victoria. The primary purpose of this study was to develop and validate a brief suite of tools that can be used as a “pulse check” to measure psychosocial safety attitudes and related behaviours in the workplace.

### 4.1 Validation of measures

We conducted an extensive validation process for the measures used in this study. Initially, we confirmed the psychometric properties of the nine-item Negative Acts Questionnaire (NAQ-S; Notelaers et al., 2019). Drawing upon the NAQ-S, we included four different versions of the bullying measures, with the wording of the items being revised to capture attitudes towards bullying and the perpetration of bullying in the workplace, in addition to measuring the experience of bullying which is the intent of the original NAQ-S. These four versions were:

- individual attitudes towards bullying,
- perceptions of colleague’s attitudes towards bullying,
- experience of bullying, and
- perpetration of bullying.

In addition to the NAQ-S, we also validated a measure of abusive supervision. Our analysis confirmed that all five measures showed robust psychometric properties that had clean single factor structures with good explanatory variance and excellent internal consistency reliability.

We then evaluated the psychometric properties of four ultra-short versions of the bullying measures (i.e., NAQ-4). This analysis revealed that all four measures had:

- a clean single factor structure with good explanatory variance,
- excellent internal consistency reliability,
- strong correlations with its NAQ-S counterpart, and
- equivalent average scores to the NAQ-S versions.

We confirmed that the ultra-short (4-item) versions of these measures are reliable and valid and can be used in place of the longer NAQ-S based versions. This is particularly useful where a short survey is required to reduce respondent burden and fatigue or for a brief “pulse check” within organizations.

We also examined several measures of the work environment which included:

- psychosocial safety climate (PSC-12),
- psychosocial safety climate (PSC-4),
- supervisor support,
- supervisor psychological health support, and
- attitudes towards mental health.

For this subset of measures our analysis confirms the underlying structure of the psychosocial safety climate scale (PSC-12) and the short version of this measure (PSC-4) developed by Dollard and colleagues (Dollard & Bakker, 2010; Escartín et al., 2021; Hall et al., 2010). The short version had equivalent psychometric properties to its 12-item counterpart. The remaining three measures: supervisor support, supervisor psychological health support and attitudes towards mental health, also demonstrated robust psychometric properties; that is, they had clean factor structures with good explanatory variance and excellent internal consistency reliability.

While the longer versions of the measures used in this study are robust, their short form equivalents comprise a validated suite of tools that can be used to assess attitudes towards bullying, experience of bullying, perpetration of bullying, abusive supervision and indicators of the work environment more efficiently and expediently.

## 4.2 Development of norms

### Highlights

#### Project norms indicate that

- the modest level of perceived psychosocial safety climate in this study shows room for improvement;
- while, on average, respondents reported unfavourable attitudes towards bullying, men held more permissive attitudes and were slightly more likely to engage in bullying than others;
- men held more negative attitudes towards mental health than others; and
- the difference in perceptions of self-versus-other attitudes towards bullying may be explained by the concept of pluralistic ignorance, that is, people may over-estimate other people's attitudes towards a behaviour.

In addition to the validation of these measures, we have also provided initial norms (percentiles and means) for both the longer version of these measures and their short form equivalents, which can be used as benchmarks for future use. It is noteworthy that the mean scores on psychosocial safety climate were modest and comparable to those obtained in other studies (e.g., Dollard & Bakker, 2010; McLinton, et al., 2018), suggestive of room for improvement across the board. It is also interesting to note that, on average, men held more permissive attitudes and were slightly more likely to engage in bullying than others. Men also reported more negative attitudes towards mental health than others.

Our finding that respondents perceived their own attitudes towards bullying as less permissive compared with the attitudes of their colleagues is very much in line with research on “pluralistic ignorance”. In pluralistic ignorance, people may under or over-estimate other people's attitudes towards a behaviour (e.g., to be more or less accepting of bullying) (Miller & McFarland, 1987; Sargant & Newman, 2021). Pluralistic ignorance is important as it may explain why some people engage in a behaviour such as bullying if they believe others in their workplace endorse it, even when their own attitudes are not accepting of the behaviour.

### 4.2.1 Prevalence and demographic composition of bullying

### Highlights

#### Bullying is a common negative behaviour in Victorian workplaces

- using a stringent cut-off, defined as bullying that is experienced every now and then or more frequently, 20% of the respondents were classified as having been bullied - approximately double the average prevalence estimate reported in international research (11%).

#### Using a more common, but less stringent cut-off that includes all acts of bullying

- 40% of respondents in this survey reported being exposed to some degree of bullying,
- About 1 in 10 respondents reported experiencing severe bullying at work on a weekly or daily basis.

Estimates of the prevalence of workplace bullying has varied across studies and has depended on how bullying was operationalised and measured (León-Pérez et al, 2021). To determine a threshold for classifying respondents as bullied or not bullied, we adopted a stringent criterion consistent with the work of Einarsen and colleagues. Following Einarsen and Skogstad (1996) and Notelaers and Einarsen (2013), we used a single item “self-label” measure that classified bullying as having occurred when individuals reported experiencing negative acts *every now and then* or more frequently in the past six months. Using this cut off:

- 20% of the respondents were classified as having been bullied, which is approximately double the average prevalence estimate (11% using the self-labelling method) reported by Nielsen et al. (2010) in their international meta-analysis.

However, when we classify *all* frequency of negative acts experienced over the past six months as bullying (i.e., *rarely* or more frequently) then:

- 40% of respondents in the sample reported bullying, which is consistent with estimates reported in some other Australian studies (e.g., De Cieri et al., 2019; EY Sweeney, 2021; Jimmieson & Bordia, 2016; Rodwell & Demir, 2012), and
- close to 1 in 10 (8%) workers reported experiencing negative acts at work, what we classify as severe bullying, on a weekly or daily basis. This latter estimate is similar to that reported by Jimmieson and Bordia (2016) who found 7% of respondents experienced bullying several times per week or more.

The robustness of the finding on prevalence is confirmed by the very similar picture which emerged using the NAQ. Using the quantitative thresholds provided by Notelaers et al. (2019), 25% of the sample can be described as having experienced bullying and, of these, about 10% experienced severe bullying.

We recommend use of a single-item measure of experienced bullying in a “pulse check” survey. We also recommend using the more stringent threshold of at least “occasional bullying”. However, a more nuanced examination of experienced bullying can be made using the NAQ-S or NAQ-4 (the latter performed equally as well as its longer counterpart), as well as the measure of abusive supervision. Behavioural experience measures such as the NAQ capture a wide range of negative behaviours in the workplace that vary both in terms of severity and frequency. Hence, behavioural experience measures may slightly over-estimate the prevalence of bullying. To address this issue, we have provided norms to assist WorkSafe Victoria in empirically distinguishing infrequent, occasional, and severe bullying.

While respondents from all industries reported being bullied there were some industries where bullying was more likely to be experienced than others. These industries were administrative and support services, electricity, gas, water, and waste, along with information, media, and telecommunications.

An important outcome of this study has been to show the relationship between attitudes towards bullying and bullying behaviours. The pattern of correlations between attitudes and the experience and perpetration of bullying behaviours revealed that more permissive attitudes towards bullying were associated with being a perpetrator of negative acts or bullying behaviour in the workplace. Furthermore, the perception that colleagues have more permissive attitudes towards bullying was also associated with being a perpetrator of bullying, but to a lesser degree. These relationships between attitudes and behaviours were evident irrespective of whether longer or short form measures were used.

Our regression analysis confirmed that more permissive attitudes towards bullying was the main predictor of the perpetration of bullying. In this multivariate analysis, there was little contribution of supervisor support, while supervisor psychological health support and psychosocial safety climate did not significantly contribute to ameliorating the likelihood of being a perpetrator of bullying. One possibility is that psychosocial safety climate is a distal or background factor that may indirectly influence workplace bullying through changes in worker attitudes and norms (Dollard et al., 2017). In support of this, we found a stronger psychosocial safety climate reduced the likelihood of an individual experiencing negative behaviours at work such as bullying.

Moreover, our regression analyses showed that the most important predictor of being a perpetrator of bullying is having a more permissive explicit (self-reported) attitudes towards bullying. While explicitly measured attitudes towards bullying was the strongest predictor, implicitly measured attitudes towards bullying were also a significant predictor of being a perpetrator of bullying. This incremental validity of the implicit measure suggests there may be an element of attitudes towards bullying that people are unwilling, or even are unable disclose (Greenwald et al., 2009; Nosek, 2007). Hence, some form of unconscious bias may be part of the story. A limitation of behavioural self-reports of engaging in bullying is that they may be subject to response biases, including social desirability, which may impact the accuracy of the reports. To some extent, these biases can be minimised in an anonymous survey such as this. It is also the case that social desirability tends to lead to underestimation of effects, due to restriction of variance, thereby resulting in more conservative estimates of bullying from the perspective of perpetrators compared to that of targets (see De Cuyper et al., 2009 for discussion).

### 4.3 Recommendations

We recommend use of the brief measures validated in this study as a “pulse check” survey within workplaces and across industries. This brief suite of tools can be used to help WorkSafe Victoria:

- identify workplaces and industries where negative attitudes and behaviours may place employees at risk of psychosocial harm and injury, and
- monitor the outcomes of attitude-based interventions to improve psychosocial safety and return-to-work outcomes.

Based on our findings we recommend that future assessments and interventions consider:

- the importance of measuring explicit attitudes, that is, people’s subjectively expressed attitudes, revealed when asked directly how they feel about bullying or other negative behaviours at work;
- incorporating implicit measures, such as the implicit association test, as part of a comprehensive package, to obtain a more complete assessment of attitudes, especially in workplaces with a persistently high unexplained prevalence of bullying and other negative behaviours; and
- interventions that promote positive attitude and behavioural change in an inclusive, non-stigmatizing and respectful manner.

It is beyond the scope of this report to recommend specific attitudinal and behavioural change interventions. However, we would suggest that the use of education (to increase awareness), persuasion (using communication to change attitudes), and social norm approaches may have promise. Social norm approaches may be particularly useful to address our finding of pluralistic ignorance, where people may over-estimate other people’s attitudes towards a behaviour (e.g., to be more accepting of bullying).

#### 4.3.1 Next steps

Leading from this research we recommend WorkSafe Victoria:

- undertake a review of the literature to identify evidence-based attitude and behavioural change interventions to promote psychosocial safety in Victorian workplaces,
- conduct a feasibility study to examine the implementation of this brief suite of tools in workplaces, and
- conduct further longitudinal research to track attitudes and negative behaviours at work and their impact on WorkCover claims and return-to-work outcomes.

### 4.4 Concluding comments

We recommend the use of the brief measures validated in the present study as a robust suite of tools that can be used in a “pulse check” survey. Our validated attitudinal measures may have value for tracking large-scale behavioural change interventions at a workplace, industry, or population level. A key insight from the measures validated in this study is that bullying is a common negative behaviour in Victorian workplaces, with 40% exposed to some degree of bullying, 1 in 5 (20%) experiencing regular bullying, and about 1 in 10 experiencing severe bullying at work. Although, on average, respondents did not report strongly favourable attitudes towards bullying, findings from our implicit measure suggests that there may be an element of attitudes towards bullying that people are unwilling to disclose. Our multivariate analyses show that both implicit (indirect) and explicit (self-report) measures of attitudes predicted perpetration of bullying beyond that predicted by the other variables in the study, but the explicit measures were clearly the stronger predictor. Implicit measures such as the IAT are nevertheless useful as part of a comprehensive package to obtain a more complete picture of attitudes, especially in workplaces with a persistently high unexplained prevalence of bullying and other negative behaviours. We conclude that attitude change is an important issue that needs to be addressed in order to reduce the likelihood of workplace bullying. Interventions to reduce positive attitudes towards bullying and their acceptability in the workplace should be a high priority.

## 5 REFERENCES

- Allport, G. (1935). Attitudes. In *A Handbook of Social Psychology*. Edited by C. Murchinson, 789–844. Worcester, MA: Clark University Press.
- Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology*, *52*, 27–58.
- Bohner, G., & Dickel, N. (2011). Attitudes and attitude change. *Annual Review of Psychology*, *62*, 391–417.
- Butts, M. M., Hurst, C. S., & Eby, L. T. (2013). Supervisor health and safety support: Scale development and validation. *The Journal of Applied Management and Entrepreneurship*, *18*(1), 97–108.
- De Cuyper, N., Baillien, E., & De Witte, H. (2009). Job insecurity and workplace bullying among targets and perpetrators: Moderation by employability. *Work and Stress*, *23*, 206–224.
- De Cieri, H., Sheehan, C., Donohue, R., Shea, T., & Cooper, B. (2019). Workplace bullying: an examination of power and perpetrators. *Personnel Review*, *48*(2), 324–341.
- Dollard, M. F., & Bakker, A. B. (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology*, *83*(3), 579–599.
- Dollard, M. F., Dormann, C., Tuckey, M. R., & Escartin, J. (2017). Psychosocial safety climate (PSC) and enacted PSC for workplace bullying and psychological health problem reduction. *European Journal of Work and Organizational Psychology*, *26*(6), 844–857.
- Eagly, A. H., & Chaiken, S. (1993). *The Psychology of Attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich.
- Einarsen, S., Hoel, H., & Notelaers, G. (2009). Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. *Work & Stress*, *23*(1), 24–44.
- Einarsen, S., & Skogstad, A. (1996). Bullying at work: Epidemiological findings in public and private organizations. *European Journal of Work and Organizational Psychology*, *5*, 185–201.
- Escartín, J., Dollard, M., Zapf, D., & Kozlowski, S. W. (2021). Multilevel emotional exhaustion: Psychosocial safety climate and workplace bullying as higher level contextual and individual explanatory factors. *European Journal of Work and Organizational Psychology*. Advance online publication.
- EY Sweeney. (2021). *2020 Mental Health at Work Survey: Technical Report*. EY Sweeney Ref No. 30200.
- Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology*, *54*(1), 297–327.
- Greenwald, A. G., & Lai C. K. (2020). Implicit social cognition. *Annual Review of Psychology*, *71*, 419–445.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, *74*(6), 1464–1480.
- Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology*, *97*(1), 17–41.
- Hall, G. B., Dollard, M. F., & Coward, J. (2010). Psychosocial safety climate: Development of the PSC-12. *International Journal of Stress Management*, *17*(4), 353–383.
- IBM Corp. (2020). *IBM SPSS Statistics for Windows*, Version 27.0. Armonk, NY: IBM Corp.
- Jimmieson, N., & Bordia, P. (2016). *An Assessment of Psychosocial Hazards in the Workplace: Final Report to Partner Organisations*. Retrieved from: [https://www.worksafe.qld.gov.au/\\_\\_data/assets/pdf\\_file/0014/12317/paw-report.pdf](https://www.worksafe.qld.gov.au/__data/assets/pdf_file/0014/12317/paw-report.pdf)
- Kenny, A., Bizumic, B., & Griffiths, K. M. (2018). The Prejudice Towards People with Mental Illness (PPMI) scale: Structure and validity. *BMC Psychiatry*, *18*, Article 293.
- Matthiesen, S., & Einarsen, S. (2007). Perpetrators and targets of bullying at work: Role stress and individual differences. *Violence and Victims*, *22*(6), 735–753.
- McLinton, S. S., Loh, M. Y., Dollard, M. F., Tuckey, M. M., Idris, M. A., & Morton, S. (2018). Benchmarking working conditions for health and safety in the frontline healthcare industry: Perspectives from Australia and Malaysia. *Journal of Advanced Nursing*, *74*(8), 1851–1862.
- Miller, D. T., & McFarland, C. (1987). Pluralistic ignorance: When similarity is interpreted as dissimilarity. *Journal of Personality and Social Psychology*, *53*(2), 298–305.

- Mitchell, M. S., & Ambrose, M. L. (2007). Abusive supervision and workplace deviance and the moderating effects of negative reciprocity beliefs. *Journal of Applied Psychology, 92*(4), 1159–1168.
- Nielsen, M. B., & Einarsen, S. V. (2018). What we know, what we do not know, and what we should and could have known about workplace bullying: An overview of the literature and agenda for future research. *Aggression and Violent Behavior, 42*, 71-83.
- Nielsen, M. B., Matthiesen, S. B., & Einarsen, S. (2010). The impact of methodological moderators on prevalence rates of workplace bullying. A meta-analysis. *Journal of Occupational and Organizational Psychology, 83*(4), 955–979.
- Nosek, B. A. (2007). Implicit–explicit relations. *Current Directions in Psychological Science, 16*(2), 65-69.
- Notelaers, G., & Einarsen, S. (2013). The world turns at 33 and 45: Defining simple cutoff scores for the Negative Acts Questionnaire–Revised in a representative sample. *European Journal of Work and Organizational Psychology, 22*(6), 670-682.
- Notelaers, G., Van der Heijden, B., Hoel, H., & Einarsen, S. (2019). Measuring bullying at work with the short-negative acts questionnaire: Identification of targets and criterion validity. *Work & Stress, 33*(1), 58-75.
- Power, J. L., Brotheridge, C. M., Blenkinsopp, J., Bowes-Sperry, L., Bozionelos, N., Buzády, Z., ... & Madero, S. M. (2013). Acceptability of workplace bullying: A comparative study on six continents. *Journal of Business Research, 66*, 374-380.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology, 87*(4), 698-714.
- Rhoades, L., Eisenberger, R., & Armeli, S. (2001). Affective commitment to the organization: The contribution of perceived organizational support. *Journal of Applied Psychology, 86*, 825-836.
- Rodwell, J., & Demir, D. (2012) Psychological consequences of bullying for hospital and aged care nurses. *International Nursing Review, 59*, 539–546.
- Sargent, R. H., & Newman, L. S. (2021). Pluralistic ignorance research in psychology: A scoping review of topic and method variation and directions for future research. *Review of General Psychology*, doi: 1089268021995168.
- Simons, S. R., Stark, R. B., & DeMarco, R. F. (2011). A new, four-item instrument to measure workplace bullying. *Research in Nursing & Health, 34*(2), 132-140.
- Sriram, N., & Greenwald, A. G. (2009). The brief implicit association test. *Experimental Psychology, 56*(4), 283-294.
- Tabachnick, B. G., & Fidell, L. S. (2000). *Using Multivariate Statistics*. Boston, MA: Allyn and Bacon.
- Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal, 43*, 178–190.
- Tepper, B. J. (2007). Abusive supervision in work organizations: Review synthesis, and research agenda. *Journal of Management, 33*(3), 261–289.
- Van den Brande, W., Baillien, E., De Witte, H., Vander Elst, T., & Godderis, L. (2016). The role of work stressors, coping strategies and coping resources in the process of workplace bullying: A systematic review and development of a comprehensive model. *Aggression and Violent Behavior, 29*, 61–71.
- Vukelić, M., Čizmić, S., & Petrović, I. B. (2019). Acceptance of workplace bullying behaviors and job satisfaction: moderated mediation analysis with coping self-efficacy and exposure to bullying. *Psychological Reports, 122*(5), 1883-1906.
- Zhong, R., & Robinson, S. L. (2021). What happens to bad actors in organizations? A review of actor-centric outcomes of negative behavior. *Journal of Management, 47*(6), 1430–1467.
- Ziegert, J. C., & Hanges, P. J. (2005). Employment discrimination: The role of implicit attitudes, motivation, and a climate for racial bias. *Journal of Applied Psychology, 90*(3), 553-562.

## 6 APPENDICES

### Appendix 1 Norms for measures used in the study

TABLE 12: PERCENTILES FOR MEASURES USED IN THE STUDY

Measure	10 <sup>th</sup> percentile	25 <sup>th</sup> percentile	50 <sup>th</sup> percentile	75 <sup>th</sup> percentile	90 <sup>th</sup> percentile
<b>Negative acts questionnaire (NAQ-S)</b>					
Attitudes towards bullying (self)	1.0	1.2	1.6	2.1	3.1
Attitudes towards bullying (other)	1.0	1.2	1.9	2.8	3.6
Experience of bullying	1.0	1.1	1.4	2.2	3.2
Engaged in bullying	1.0	1.0	1.1	1.7	3.0
<b>Negative acts questionnaire (NAQ-4)</b>					
Attitudes towards bullying (self)	1.0	1.2	1.6	2.1	3.1
Attitudes towards bullying (other)	1.0	1.2	1.9	2.8	3.6
Experience of bullying	1.0	1.1	1.4	2.2	3.2
Engaged in bullying	1.0	1.0	1.1	1.7	3.0
<b>Other negative experiences at work</b>					
Abusive supervision	1.0	1.0	2.0	3.0	4.0
<b>Work environment</b>					
Psychosocial safety climate (PSC-12)	2.0	2.8	3.6	4.1	4.6
Psychosocial safety climate (PSC-4)	2.0	3.0	3.5	4.0	4.5
Supervisor support	2.3	3.0	4.0	4.3	5.0
Supervisor psychological health support	2.0	2.8	3.5	4.0	4.5
Attitudes towards mental health	1.1	1.7	2.4	3.0	3.3

TABLE 13: EXPERIENCE OF BULLYING BY DEMOGRAPHIC (SELF-LABELLING)

Demographic	%
<b>Gender</b>	
Male	25%
Female	17%
Non-binary	33%
<b>Age</b>	
18 to 25 years	19%
26 to 35 years	22%
36 to 45 years	28%
46 to 55 years	12%
Over 55 years	9%
<b>Employee status</b>	
Full-time employee	25%
Part-time employee	14%
Casual or contractor	14%
<b>Job tenure</b>	
Less than 1 year	13%
1 to 5 years	19%
6 to 10 years	31%
11 to 20 years	23%
Over 20 years	11%
<b>Occupation</b>	
Manager	27%
Professional	20%
Technician or trade	29%
Community & personal service	7%
Clerical or administrative	16%
Sales	17%
Machinery operator or driver	7%
Labourer	18%
<b>Industry</b>	
Accommodation & food services	19%
Administrative & support services	33%
Agricultural, forestry & fishing	18%
Arts and recreation services	20%
Construction	25%
Education & training	26%
Electricity, gas, water & waste	33%
Financial and insurance services	22%
Health care & social assistance	11%
Information media & telecommunications	33%
Manufacturing	24%
Other services	25%
Professional, scientific & technical services	22%
Public administration & safety	8%
Rental, hiring & real estate services	20%
Retail trade	17%
Transport, postal & warehousing	5%
Wholesale trade	9%

TABLE 14: MEANS AND STANDARD DEVIATIONS FOR THE NAQ-S MEASURES BY DEMOGRAPHIC

Demographic	Attitudes towards bullying (self)	Attitudes towards bullying (other)	Experience of bullying	Engaged in bullying
<b>Gender</b>				
Male	2.23 (1.03)	2.31 (1.06)	1.96 (1.03)	1.82 (1.00)
Female	1.59 (0.64)	1.95 (0.87)	1.67 (0.77)	1.36 (0.68)
Non-binary	1.67 (0.80)	1.65 (0.63)	1.35 (0.37)	1.15 (0.22)
<b>Age</b>				
18 to 25 years	1.70 (0.73)	2.04 (0.90)	1.78 (0.83)	1.43 (0.76)
26 to 35 years	1.94 (0.94)	2.23 (1.01)	1.83 (0.94)	1.64 (0.94)
36 to 45 years	2.06 (1.01)	2.18 (1.05)	1.91 (0.99)	1.74 (0.95)
46 to 55 years	1.66 (0.80)	1.86 (0.83)	1.65 (0.84)	1.41 (0.73)
Over 55 years	1.55 (0.64)	1.69 (0.64)	1.31 (0.47)	1.17 (0.42)
<b>Employee status</b>				
Full-time employee	2.02 (0.99)	2.20 (1.01)	1.90 (0.97)	1.70 (0.97)
Part-time employee	1.62 (0.67)	1.95 (0.89)	1.64 (0.78)	1.38 (0.68)
Casual or contractor	1.57 (0.54)	1.95 (0.85)	1.65 (0.74)	1.29 (0.54)
<b>Job tenure</b>				
Less than 1 year	1.58 (0.57)	1.92 (0.85)	1.58 (0.71)	1.29 (0.59)
1 to 5 years	1.79 (0.81)	2.08 (0.92)	1.79 (0.84)	1.52 (0.84)
6 to 10 years	2.15 (1.10)	2.36 (1.12)	2.05 (1.05)	1.84 (1.04)
11 to 20 years	1.87 (0.92)	2.01 (0.94)	1.74 (0.96)	1.53 (0.83)
Over 20 years	1.65 (0.58)	1.76 (0.64)	1.37 (0.62)	1.26 (0.52)
<b>Occupation</b>				
Manager	2.12 (1.07)	2.29 (1.08)	1.99 (1.01)	1.81 (1.01)
Professional	1.75 (0.79)	2.01 (0.90)	1.73 (0.90)	1.49 (0.85)
Technician or trade	2.19 (1.05)	2.35 (1.11)	1.96 (1.01)	1.80 (1.07)
Community & personal service	1.53 (0.56)	1.77 (0.71)	1.59 (0.59)	1.26 (0.37)
Clerical or administrative	1.57 (0.61)	1.90 (0.79)	1.53 (0.72)	1.30 (0.55)
Sales	1.68 (0.65)	2.01 (0.90)	1.72 (0.76)	1.39 (0.70)
Machinery operator or driver	1.56 (0.46)	1.83 (0.83)	1.56 (0.59)	1.32 (0.56)
Labourer	1.66 (0.69)	2.05 (0.87)	1.70 (0.82)	1.37 (0.63)
<b>Industry</b>				
Accommodation & food services	1.60 (0.60)	2.03 (0.90)	1.77 (0.80)	1.40 (0.69)
Administrative & support services	2.05 (1.06)	2.29 (1.02)	1.94 (0.88)	1.75 (0.93)
Agricultural, forestry & fishing	1.81 (0.69)	2.27 (0.70)	1.82 (0.91)	1.46 (0.81)
Arts and recreation services	1.87 (0.57)	2.19 (0.75)	2.07 (1.08)	1.42 (0.65)
Construction	2.14 (0.99)	2.47 (0.99)	1.97 (1.01)	1.87 (1.06)
Education & training	1.93 (1.03)	2.18 (1.01)	1.84 (0.94)	1.71 (1.00)
Electricity, gas, water & waste	2.48 (0.93)	2.78 (0.89)	2.27 (1.10)	2.05 (1.09)
Financial and insurance services	1.97 (1.06)	2.10 (1.09)	1.92 (1.04)	1.72 (1.03)
Health care & social assistance	1.51 (0.60)	1.77 (0.82)	1.57 (0.71)	1.27 (0.51)
Information media & telecommunications	2.51 (1.24)	2.54 (1.19)	2.19 (1.16)	2.07 (1.18)
Manufacturing	2.14 (0.93)	2.42 (1.09)	1.78 (0.79)	1.68 (0.80)
Other services	1.53 (0.47)	1.44 (0.44)	1.49 (0.46)	1.30 (0.44)
Professional, scientific & technical services	1.89 (0.74)	2.00 (0.77)	1.78 (1.01)	1.54 (0.88)
Public administration & safety	1.44 (0.41)	1.92 (0.62)	1.27 (0.46)	1.14 (0.23)
Rental, hiring & real estate services	1.82 (0.67)	2.27 (1.15)	1.93 (1.09)	1.33 (0.42)
Retail trade	1.62 (0.64)	1.92 (0.88)	1.70 (0.79)	1.34 (0.70)
Transport, postal & warehousing	1.75 (0.69)	1.95 (0.77)	1.50 (0.61)	1.35 (0.70)
Wholesale trade	1.68 (0.62)	1.90 (0.86)	1.68 (0.89)	1.43 (0.87)

TABLE 15: MEANS AND STANDARD DEVIATIONS FOR NAQ-4 AND ABUSIVE SUPERVISION BY DEMOGRAPHIC

Demographic	Attitudes towards bullying (self)	Attitudes towards bullying (other)	Experience of bullying	Engaged in bullying	Abusive supervision
<b>Gender</b>					
Male	2.19 (1.06)	2.29 (1.06)	1.99 (1.03)	1.82 (1.05)	2.41 (1.18)
Female	1.59 (0.66)	1.99 (0.90)	1.75 (0.82)	1.35 (0.73)	2.08 (1.10)
Non-binary	1.71 (0.80)	1.75 (0.71)	1.46 (0.58)	1.17 (0.20)	1.93 (0.87)
<b>Age</b>					
18 to 25 years	1.67 (0.75)	2.04 (0.91)	1.80 (0.83)	1.42 (0.78)	2.25 (1.14)
26 to 35 years	1.94 (0.94)	2.25 (1.03)	1.94 (0.99)	1.65 (1.01)	2.31 (1.17)
36 to 45 years	2.04 (1.04)	2.20 (1.06)	1.96 (1.02)	1.75 (1.01)	2.22 (1.13)
46 to 55 years	1.71 (0.85)	1.93 (0.88)	1.71 (0.83)	1.42 (0.77)	2.01 (1.16)
Over 55 years	1.58 (0.58)	1.75 (0.71)	1.43 (0.62)	1.15 (0.43)	1.60 (0.77)
<b>Employee status</b>					
Full-time employee	2.00 (1.01)	2.21 (1.02)	1.97 (0.99)	1.71 (1.03)	2.32 (1.17)
Part-time employee	1.61 (0.67)	2.00 (0.92)	1.67 (0.79)	1.35 (0.69)	2.04 (1.15)
Casual or contractor	1.57 (0.56)	1.94 (0.85)	1.72 (0.80)	1.26 (0.60)	2.08 (0.99)
<b>Job tenure</b>					
Less than 1 year	1.57 (0.62)	1.93 (0.84)	1.63 (0.76)	1.30 (0.64)	2.02 (1.04)
1 to 5 years	1.77 (0.81)	2.11 (0.93)	1.85 (0.85)	1.51 (0.87)	2.26 (1.15)
6 to 10 years	2.16 (1.12)	2.37 (1.13)	2.12 (1.09)	1.86 (1.10)	2.42 (1.18)
11 to 20 years	1.87 (0.91)	2.02 (0.99)	1.77 (0.98)	1.51 (0.89)	2.09 (1.14)
Over 20 years	1.68 (0.61)	1.80 (0.66)	1.43 (0.68)	1.24 (0.51)	1.61 (0.82)
<b>Occupation</b>					
Manager	2.11 (1.09)	2.28 (1.10)	2.04 (1.04)	1.83 (1.07)	2.47 (1.21)
Professional	1.74 (0.81)	2.06 (0.91)	1.82 (0.90)	1.47 (0.87)	1.97 (1.11)
Technician or trade	2.12 (1.09)	2.35 (1.18)	2.01 (1.03)	1.81 (1.08)	2.49 (1.08)
Community & personal service	1.53 (0.57)	1.87 (0.80)	1.71 (0.78)	1.28 (0.44)	2.03 (1.03)
Clerical or administrative	1.60 (0.58)	1.96 (0.79)	1.65 (0.81)	1.30 (0.64)	2.01 (1.09)
Sales	1.65 (0.70)	2.01 (0.91)	1.76 (0.78)	1.37 (0.72)	2.16 (1.05)
Machinery operator or driver	1.52 (0.51)	1.95 (0.79)	1.64 (0.74)	1.50 (1.11)	1.60 (0.69)
Labourer	1.63 (0.65)	2.01 (0.80)	1.64 (0.77)	1.35 (0.70)	2.20 (1.10)
<b>Industry</b>					
Accommodation & food services	1.51 (0.60)	2.00 (0.89)	1.73 (0.79)	1.36 (0.70)	2.14 (1.03)
Administrative & support services	2.09 (1.11)	2.28 (1.01)	1.99 (0.95)	1.73 (0.93)	2.38 (1.08)
Agricultural, forestry & fishing	1.88 (0.82)	2.34 (0.77)	1.84 (0.81)	1.43 (0.75)	2.59 (1.04)
Arts and recreation services	1.88 (0.63)	2.25 (0.94)	2.13 (1.24)	1.48 (0.78)	2.56 (1.29)
Construction	2.05 (1.00)	2.44 (1.05)	1.98 (1.01)	1.83 (1.07)	2.45 (1.16)
Education & training	1.92 (1.02)	2.21 (1.04)	1.97 (0.99)	1.70 (1.06)	2.37 (1.34)
Electricity, gas, water & waste	2.45 (1.13)	2.65 (0.89)	2.22 (1.09)	2.15 (1.27)	2.47 (1.03)
Financial and insurance services	1.98 (1.11)	2.10 (1.10)	2.02 (1.10)	1.76 (1.08)	2.51 (1.33)
Health care & social assistance	1.55 (0.61)	1.85 (0.87)	1.70 (0.78)	1.26 (0.58)	1.89 (1.03)
Information media & telecommunications	2.47 (1.25)	2.61 (1.24)	2.23 (1.14)	2.14 (1.22)	2.50 (1.28)
Manufacturing	2.09 (0.95)	2.31 (1.02)	1.78 (0.79)	1.71 (0.98)	2.18 (0.95)
Other services	1.45 (0.44)	1.55 (0.54)	1.54 (0.60)	1.28 (0.44)	1.96 (1.09)
Professional, scientific & technical	1.92 (0.72)	2.02 (0.76)	1.88 (1.03)	1.55 (0.85)	2.03 (1.03)
Public administration & safety	1.50 (0.45)	2.08 (0.82)	1.35 (0.46)	1.11 (0.19)	1.68 (0.96)
Rental, hiring & real estate services	1.75 (0.43)	2.40 (1.18)	1.85 (0.74)	1.35 (0.42)	2.20 (1.22)
Retail trade	1.63 (0.67)	1.95 (0.90)	1.74 (0.83)	1.34 (0.73)	2.16 (1.09)
Transport, postal & warehousing	1.70 (0.68)	2.05 (0.87)	1.74 (0.74)	1.36 (0.77)	1.71 (0.87)
Wholesale trade	1.76 (0.68)	2.00 (0.84)	1.74 (0.85)	1.35 (0.79)	1.95 (1.12)

TABLE 16: MEANS AND STANDARD DEVIATIONS FOR WORK ENVIRONMENT BY DEMOGRAPHIC

Demographic	PSC-12	PSC-4	Supervisor support	Supervisor psych support	Attitudes towards mental health
<b>Gender</b>					
Male	3.59 (0.88)	3.60 (0.91)	3.49 (0.76)	3.37 (0.98)	2.73 (0.72)
Female	3.34 (1.00)	3.34 (1.07)	3.53 (0.85)	3.29 (1.04)	2.06 (0.77)
Non-binary	3.21 (1.30)	3.29 (1.17)	3.50 (0.45)	3.08 (1.29)	2.10 (0.73)
<b>Age</b>					
18 to 25 years	3.26 (1.00)	3.25 (1.06)	3.41 (0.84)	3.18 (1.09)	2.04 (0.80)
26 to 35 years	3.48 (0.92)	3.50 (0.97)	3.57 (0.83)	3.40 (0.95)	2.37 (0.81)
36 to 45 years	3.67 (0.91)	3.67 (0.95)	3.64 (0.73)	3.55 (0.91)	2.59 (0.80)
46 to 55 years	3.49 (0.99)	3.47 (1.05)	3.52 (0.85)	3.25 (1.11)	2.45 (0.63)
Over 55 years	3.35 (0.98)	3.34 (1.01)	3.43 (0.79)	3.01 (0.90)	2.60 (0.76)
<b>Employee status</b>					
Full-time employee	3.53 (0.90)	3.53 (0.94)	3.54 (0.75)	3.40 (0.97)	2.53 (0.81)
Part-time employee	3.42 (1.00)	3.42 (1.06)	3.60 (0.83)	3.34 (1.07)	2.07 (0.72)
Casual or contractor	3.12 (1.07)	3.14 (1.14)	3.27 (0.94)	2.98 (1.01)	2.02 (0.81)
<b>Job tenure</b>					
Less than 1 year	3.33 (0.98)	3.37 (1.03)	3.49 (0.84)	3.20 (1.08)	1.95 (0.71)
1 to 5 years	3.38 (0.96)	3.39 (1.02)	3.50 (0.82)	3.31 (1.01)	2.22 (0.78)
6 to 10 years	3.52 (0.93)	3.49 (0.98)	3.54 (0.77)	3.43 (0.95)	2.59 (0.84)
11 to 20 years	3.52 (1.02)	3.50 (1.06)	3.50 (0.84)	3.35 (1.01)	2.54 (0.77)
Over 20 years	3.63 (0.95)	3.66 (1.01)	3.66 (0.79)	3.09 (1.09)	2.93 (0.76)
<b>Occupation</b>					
Manager	3.59 (0.94)	3.60 (0.97)	3.54 (0.69)	3.47 (0.97)	2.59 (0.77)
Professional	3.44 (0.90)	3.44 (0.96)	3.64 (0.78)	3.36 (0.99)	2.25 (0.77)
Technician or trade	3.54 (0.89)	3.51 (0.87)	3.37 (0.97)	3.37 (1.12)	2.51 (0.82)
Community & personal service	3.18 (1.17)	3.18 (1.23)	3.28 (0.96)	3.22 (1.15)	1.87 (0.73)
Clerical or administrative	3.37 (1.00)	3.39 (1.07)	3.55 (0.89)	3.28 (1.04)	2.28 (0.86)
Sales	3.25 (0.98)	3.24 (1.04)	3.40 (0.90)	3.11 (1.01)	2.05 (0.85)
Machinery operator or driver	3.36 (1.09)	3.27 (1.25)	3.36 (0.99)	2.80 (1.01)	2.58 (0.84)
Labourer	3.32 (1.00)	3.33 (1.07)	3.44 (0.76)	3.16 (1.03)	2.19 (0.73)
<b>Industry</b>					
Accommodation & food services	3.18 (0.91)	3.18 (1.01)	3.44 (0.82)	3.05 (1.04)	2.08 (0.81)
Administrative & support services	3.33 (0.92)	3.41 (0.94)	3.29 (0.66)	3.20 (1.03)	2.40 (0.72)
Agricultural, forestry & fishing	3.08 (0.95)	3.06 (0.99)	3.35 (0.94)	3.06 (0.88)	2.37 (0.70)
Arts and recreation services	2.57 (1.19)	2.58 (1.23)	3.12 (1.27)	2.92 (1.36)	2.11 (0.87)
Construction	3.33 (0.96)	3.35 (0.98)	3.41 (0.69)	3.30 (1.05)	2.60 (0.66)
Education & training	3.46 (1.05)	3.48 (1.09)	3.61 (0.81)	3.53 (0.94)	2.16 (0.78)
Electricity, gas, water & waste	3.43 (0.64)	3.60 (0.60)	3.52 (0.69)	3.37 (0.65)	2.49 (0.74)
Financial and insurance services	3.68 (0.83)	3.67 (0.86)	3.59 (0.74)	3.49 (0.97)	2.60 (0.77)
Health care & social assistance	3.48 (0.90)	3.47 (0.96)	3.56 (0.79)	3.33 (1.02)	2.06 (0.73)
Information media & telecommunications	3.65 (0.91)	3.68 (0.94)	3.49 (0.78)	3.41 (1.03)	2.65 (0.68)
Manufacturing	3.72 (0.75)	3.73 (0.82)	3.56 (0.71)	3.24 (0.90)	2.84 (0.76)
Other services	3.73 (1.14)	3.66 (1.19)	3.90 (1.03)	3.86 (1.26)	2.04 (0.80)
Professional, scientific & technical	3.53 (0.94)	3.52 (0.99)	3.66 (0.74)	3.55 (0.88)	2.61 (0.78)
Public administration & safety	3.54 (0.87)	3.51 (1.04)	3.78 (0.79)	3.45 (1.01)	2.33 (0.86)
Rental, hiring & real estate services	2.90 (1.20)	2.70 (1.34)	3.30 (0.21)	3.50 (0.92)	2.47 (1.10)
Retail trade	3.29 (1.06)	3.29 (1.11)	3.39 (0.89)	3.12 (1.05)	2.09 (0.86)
Transport, postal & warehousing	3.50 (1.04)	3.48 (1.15)	3.67 (0.95)	3.37 (1.04)	2.32 (0.83)
Wholesale trade	3.41 (1.01)	3.36 (1.05)	3.69 (0.90)	3.42 (1.06)	2.18 (0.81)

## Appendix 2 Description and instructions for the full measures used in the study

### Attitudes towards bullying (self)

Below is a list of behaviours that commonly occur at work. Please tell us how acceptable you find the following behaviours at work.

	Completely unacceptable	Unacceptable	Neither acceptable nor unacceptable	Acceptable	Completely unacceptable
Someone withholding information which affects an individual's performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spreading gossip and rumours about others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excluding people at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulting or offensive remarks made about people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People being shouted at	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repeated reminders of a person's errors or mistakes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Individuals facing a hostile reaction when they approach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Persistent criticism of an individual's work and effort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People being the subject of excessive teasing or sarcasm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Scoring instructions:

The items of the attitudes towards bullying (self) scale are rated on a 1 to 5 scale: 1 completely unacceptable, 2 unacceptable, 3 neither acceptable nor unacceptable, 4 acceptable, 5 completely unacceptable which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 9 items to a total score ranging from 9 to 45.

An average score is calculated by summing the assigned values for the 9 items and then dividing the total score by 9 to produce a score ranging from 1 to 5.

## Attitudes towards bullying (others)

Below is a list of behaviours that commonly occur at work. Please tell us how acceptable you think most other people at your work find these behaviours.

	Completely unacceptable	Unacceptable	Neither acceptable nor unacceptable	Acceptable	Completely unacceptable
Someone withholding information which affects an individual's performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spreading gossip and rumours about others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excluding people at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulting or offensive remarks made about people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People being shouted at	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repeated reminders of a person's errors or mistakes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Individuals facing a hostile reaction when they approach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Persistent criticism of an individual's work and effort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People being the subject of excessive teasing or sarcasm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Scoring instructions:

The items of the attitudes towards bullying (others) scale are rated on a 1 to 5 scale: 1 completely unacceptable, 2 unacceptable, 3 neither acceptable nor unacceptable, 4 acceptable, 5 completely unacceptable which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 9 items to a total score ranging from 9 to 45.

An average score is calculated by summing the assigned values for the 9 items and then dividing the total score by 9 to produce a score ranging from 1 to 5.

## Experience of bullying (NAQ-S)

Over the last six months, how often have you been subjected to the following behaviours at work?

	Never	Now and then	Monthly	Weekly	Daily
Someone withholding information which affects your performance	<input type="checkbox"/>				
Spreading gossip and rumours about you	<input type="checkbox"/>				
Being excluded by people at work	<input type="checkbox"/>				
Having insulting or offensive remarks made about you (i.e. habits, background, attitude or private life)	<input type="checkbox"/>				
Being shouted at	<input type="checkbox"/>				
Repeated reminders of your errors or mistakes	<input type="checkbox"/>				
Facing a hostile reaction when you approach others	<input type="checkbox"/>				
Persistent criticism of your work and performance	<input type="checkbox"/>				
Being the subject of excessive teasing and sarcasm	<input type="checkbox"/>				

### Scoring instructions:

The items of the experience of bullying scale are rated on a 1 to 5 scale: 1 never, 2 now and then, 3 monthly, 4 weekly, 5 daily which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 9 items to a total score ranging from 9 to 45.

An average score is calculated by summing the assigned values for the 9 items and then dividing the total score by 9 to produce a score ranging from 1 to 5.

Note: while this measure is free to use, permission is required from Notelaers and colleagues prior to inclusion in research studies. See Notelaers, G., Van der Heijden, B., Hoel, H., & Einarsen, S. (2019). Measuring bullying at work with the short-negative acts questionnaire: Identification of targets and criterion validity. *Work & Stress*, 33(1), 58-75.

## Perpetration of bullying

Below is a list of behaviours that commonly occur at work. Over the last six months, how often have you engaged in the following behaviours at work? Please remember your individual responses are completely anonymous and cannot be shared with anyone.

	Never	Now and then	Monthly	Weekly	Daily
Withholding information which affects another person's performance	<input type="checkbox"/>				
Spreading gossip and rumours about another person	<input type="checkbox"/>				
Excluding another person at work	<input type="checkbox"/>				
Making insulting or offensive remarks about another person (i.e. their habits, background, attitude or private life)	<input type="checkbox"/>				
Shouting at another person	<input type="checkbox"/>				
Repeatedly reminding another person of their errors or mistakes	<input type="checkbox"/>				
Giving a hostile reaction when another person approaches you	<input type="checkbox"/>				
Persistently criticising another person's work and performance	<input type="checkbox"/>				
Engaging in excessive teasing or sarcasm to another person	<input type="checkbox"/>				

### Scoring instructions:

The items of the perpetration of bullying scale are rated on a 1 to 5 scale: 1 never, 2 now and then, 3 monthly, 4 weekly, 5 daily which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 9 items to a total score ranging from 9 to 45.

An average score is calculated by summing the assigned values for the 9 items and then dividing the total score by 9 to produce a score ranging from 1 to 5.

## Psychosocial safety climate (PSC-12)

The following statements concern the psychological health and safety in your workplace. Please indicate how strongly you agree or disagree with each statement.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
In my workplace senior management acts quickly to correct problems/issues that affect employees' psychological health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Senior management acts decisively when a concern about an employee's psychological status is raised	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Senior management shows support for stress prevention through involvement and commitment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Psychological well-being of staff is a priority for this organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Senior management clearly considers the psychological health of employees to be of great importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Senior management considers employee psychological health to be as important as productivity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is good communication here about psychological safety issues which affect me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information about workplace psychological well-being is always brought to my attention by my manager/supervisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My contributions to resolving occupational health and safety concerns in the organization are listened to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participation and consultation in psychological health and safety occurs with employees, unions and health and safety representatives in my workplace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employees are encouraged to become involved in psychological safety and health matters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In my organization, the prevention of stress involves all levels of the organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Scoring instructions:

The items of the psychosocial safety climate scale are rated on a 1 to 5 scale: 1 strongly disagree, 2 disagree, 3 neither disagree nor disagree, 4 agree, 5 strongly agree which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 12 items to a total score ranging from 12 to 60.

An average score is calculated by summing the assigned values for the 12 items and then dividing the total score by 12 to produce a score ranging from 1 to 5.

## Appendix 3 Description and instructions for the short-form measures used in the study

### Attitudes towards bullying (self)

Below is a list of behaviours that commonly occur at work. Please tell us how acceptable you find the following behaviours at work.

	Completely unacceptable	Unacceptable	Neither acceptable nor unacceptable	Acceptable	Completely unacceptable
Someone withholding information which affects an individual's performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excluding people at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People being exposed to an unmanageable workload	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People being humiliated or ridiculed in connection with their work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Scoring instructions:

The items of the attitudes towards bullying (self) scale are rated on a 1 to 5 scale: 1 completely unacceptable, 2 unacceptable, 3 neither acceptable nor unacceptable, 4 acceptable, 5 completely unacceptable which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 4 items to a total score ranging from 4 to 20.

An average score is calculated by summing the assigned values for the 4 items and then dividing the total score by 4 to produce a score ranging from 1 to 5.

## Attitudes towards bullying (others)

Below is a list of behaviours that commonly occur at work. Please tell us how acceptable you think most other people at your work find these behaviours.

	Completely unacceptable	Unacceptable	Neither acceptable nor unacceptable	Acceptable	Completely unacceptable
Someone withholding information which affects an individual's performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excluding people at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People being exposed to an unmanageable workload	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People being humiliated or ridiculed in connection with their work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Scoring instructions:

The items of the attitudes towards bullying (others) scale are rated on a 1 to 5 scale: 1 completely unacceptable, 2 unacceptable, 3 neither acceptable nor unacceptable, 4 acceptable, 5 completely unacceptable which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 4 items to a total score ranging from 4 to 20.

An average score is calculated by summing the assigned values for the 4 items and then dividing the total score by 4 to produce a score ranging from 1 to 5.

## Experience of bullying

Over the last six months, how often have you been subjected to the following behaviours at work?

	Never	Now and then	Monthly	Weekly	Daily
Someone withholding information which affects your performance	<input type="checkbox"/>				
Being excluded by people at work	<input type="checkbox"/>				
Being given an unmanageable workload	<input type="checkbox"/>				
Being humiliated or ridiculed in connection with your work	<input type="checkbox"/>				

### Scoring instructions:

The items of the experience of bullying scale are rated on a 1 to 5 scale: 1 never, 2 now and then, 3 monthly, 4 weekly, 5 daily which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 4 items to a total score ranging from 4 to 20.

An average score is calculated by summing the assigned values for the 4 items and then dividing the total score by 4 to produce a score ranging from 1 to 5.

## Perpetration of bullying

Below is a list of behaviours that commonly occur at work. Over the last six months, how often have you engaged in the following behaviours at work? Please remember your individual responses are completely anonymous and cannot be shared with anyone.

	Never	Now and then	Monthly	Weekly	Daily
Withholding information which affects another person's performance	<input type="checkbox"/>				
Excluding another person at work	<input type="checkbox"/>				
Giving someone an unmanageable workload	<input type="checkbox"/>				
Humiliating or ridiculing someone in connection with their work	<input type="checkbox"/>				

### Scoring instructions:

The items of the perpetration of bullying scale are rated on a 1 to 5 scale: 1 never, 2 now and then, 3 monthly, 4 weekly, 5 daily which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 4 items to a total score ranging from 4 to 20.

An average score is calculated by summing the assigned values for the 4 items and then dividing the total score by 4 to produce a score ranging from 1 to 5.

## Abusive supervision

Please indicate how strongly you agree or disagree with each statement below about your immediate supervisor.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
My supervisor makes negative comments about me to others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My supervisor puts me down in front of others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My supervisor tells me I am incompetent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My supervisor tells me my thoughts or feelings are stupid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My supervisor ridicules me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Scoring instructions:

The items of the abusive supervision scale are rated on a 1 to 5 scale: 1 strongly disagree, 2 disagree, 3 neither disagree nor disagree, 4 agree, 5 strongly agree which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 5 items to a total score ranging from 5 to 25.

An average score is calculated by summing the assigned values for the 5 items and then dividing the total score by 5 to produce a score ranging from 1 to 5.

## Attitudes towards mental health

Please indicate how strongly you agree or disagree with each statement below. There are no right or wrong answers.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
It is best to avoid people who have a mental health issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would feel unsafe being around someone who has a mental health issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would be just as happy to invite a person with a mental health issue into my home as I would anyone else (reverse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would feel relaxed if I had to talk to someone who has a mental health issue (reverse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am not scared of people with a mental health issue (reverse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In general, it is easy to interact with someone who has a mental health issue (reverse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would find it hard to talk to someone who has a mental health issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Scoring instructions:

The items of the attitudes towards mental health scale are rated on a 1 to 5 scale: 1 strongly disagree, 2 disagree, 3 neither disagree nor disagree, 4 agree, 5 strongly agree which can either be summed to a total score or averaged.

There are four items that must be reverse scored prior to calculating the total score (1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1). A total score is then calculated by summing the assigned values for the 7 items to a total score ranging from 7 to 35.

After reverse scoring the relevant items, an average score is calculated by summing the assigned values for the 7 items and then dividing the total score by 7 to produce a score ranging from 1 to 5.

### Psychosocial safety climate (PSC-4)

The following statements concern the psychological health and safety in your workplace. Please indicate how strongly you agree or disagree with each statement.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
Senior management shows support for stress prevention through involvement and commitment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My contributions to resolving occupational health and safety concerns in the organization are listened to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participation and consultation in psychological health and safety occurs with employees, unions and health and safety representatives in my workplace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In my organization, the prevention of stress involves all levels of the organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Scoring instructions:

The items of the psychosocial safety climate scale are rated on a 1 to 5 scale: 1 strongly disagree, 2 disagree, 3 neither disagree nor disagree, 4 agree, 5 strongly agree which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 4 items to a total score ranging from 4 to 20.

An average score is calculated by summing the assigned values for the 4 items and then dividing the total score by 4 to produce a score ranging from 1 to 5.

## Supervisor psychological health support

The following statements are about your immediate supervisor (i.e., the person to whom you report). Please indicate how strongly you agree or disagree with each statement.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
My supervisor and I discuss things at work that I find stressful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My supervisor and I discuss things that are bothering me or causing me to feel upset	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My supervisor and I discuss my concerns about my psychological well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My supervisor and I discuss ways to improve my psychological well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Scoring instructions:

The items of the supervisor psychological health support scale are rated on a 1 to 5 scale: 1 strongly disagree, 2 disagree, 3 neither disagree nor disagree, 4 agree, 5 strongly agree which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 4 items to a total score ranging from 4 to 20.

An average score is calculated by summing the assigned values for the 4 items and then dividing the total score by 4 to produce a score ranging from 1 to 5.

## Supervisor support

The following statements are about your immediate supervisor (i.e., the person to whom you report). Please indicate how strongly you agree or disagree with each statement.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
My supervisor cares about my opinions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My supervisor really cares about my wellbeing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My supervisor strongly considers my goals and values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Scoring instructions:

The items of the supervisor support scale are rated on a 1 to 5 scale: 1 strongly disagree, 2 disagree, 3 neither disagree nor disagree, 4 agree, 5 strongly agree which can either be summed to a total score or averaged.

A total score is calculated by summing the assigned values for the 3 items to a total score ranging from 3 to 15.

An average score is calculated by summing the assigned values for the 3 items and then dividing the total score by 3 to produce a score ranging from 1 to 5.



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