



## Article

# Effects of Difficult Coworkers on Employees' Responses in Macao's Public Organizations—The Mediating Role of Perceived Stress

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**Abstract:** Difficult coworkers can be found in almost every workplace, including public and private organizations. This paper investigates the effects of difficult coworkers on employees' responses including intention to leave and mental health through attitude towards difficult coworkers and perceived stress in public organizations. Data were collected from 307 public sector employees in Macao SAR, China. Results of partial least squares–structural equation modeling indicated that difficult coworkers significantly influenced their coworkers' attitude towards them. Additionally, perceived stress partially mediated the relationship between employees' attitudes towards difficult coworkers and intention to leave, while employees' attitudes towards difficult coworkers did not have a significant effect on mental health. The study's findings shed light on how difficult coworkers impacted employees' attitudes, perceptions, and responses in Chinese public organizations.

**Keywords:** difficult coworkers; perceived stress; mental health; intention to leave; public organizations; Chinese



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## 1. Introduction

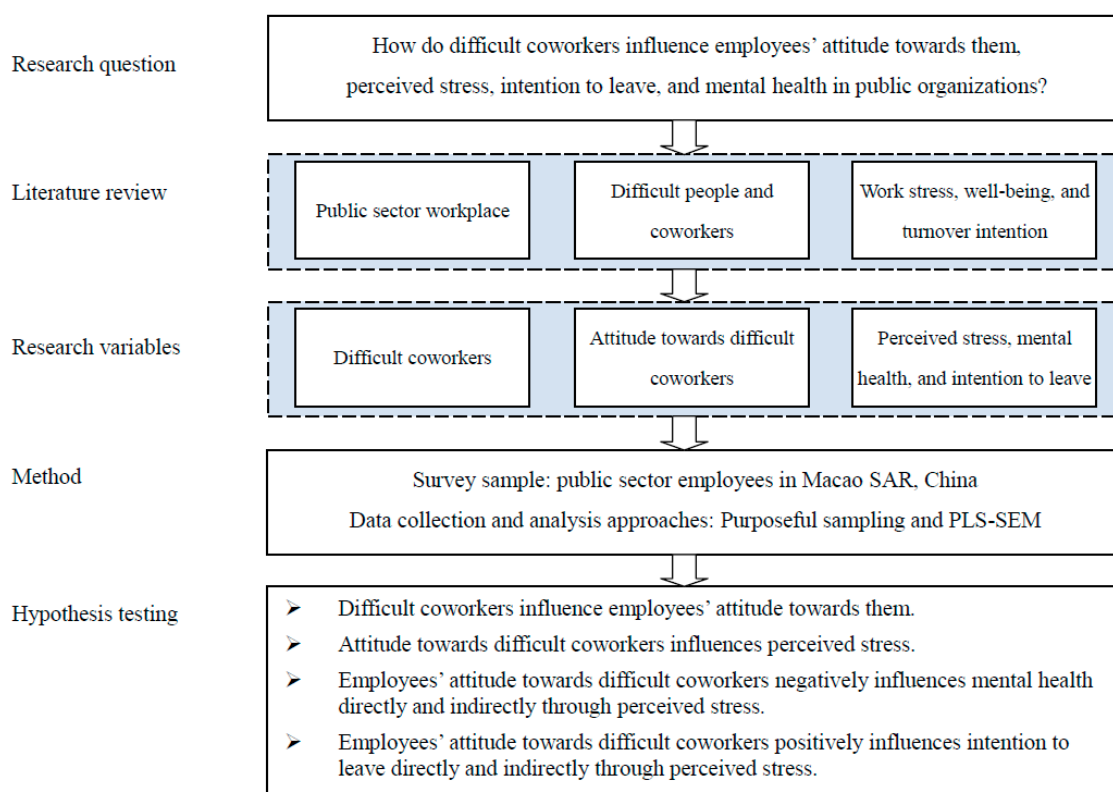
As societies have developed, many people have joined public organizations to have a stable and meaningful job with high job security and contribute to their communities (Cheng 2015; Miao et al. 2018; Mussagulova et al. 2019; Perry et al. 2010). According to the World Bank (Baig et al. 2021), the public sector employs about a third of global workforce, increasing steadily from around 14% of the total workforce in 2002. In the United States, public organizations employed about 15% of the total workforce in 2019 (Stazyk et al. 2021). In Macao, the number of public sector employees increased to over 32,000 in 2020 from around 17,000 in 2002.

Researchers have used publicness, i.e., the degree to which an organization is influenced by the government's ownership, funding, and control, to characterize an organization as public or private (Andrews et al. 2011; Bozeman and Moulton 2011). Specifically, public organizations focus on the design, production, and delivery of public goods and services to meet the public's interests and needs, while private organizations focus more on maximizing profits through the provision of goods and services in markets (Pesch 2008; Robichau et al. 2015). Public organizations include government departments, government-funded institutions, and power and utilities companies. They tend to adopt bureaucratic structures and to be more resistant to change, particularly in Asian countries (Koike 2013; Rainey 2009). They are mainly "people-processing" organizations in which their employees deal with users from all walks of life and only change the status of a user under the relevant bureaucratic and legal framework (Borst 2018). Internally, public sector employees normally have to interact with superiors, peers, and subordinates in order to get things done and processes completed. Under high external expectations with internal bureaucratic hurdles, it is not uncommon that public sector employees perceive coworkers as demanding and even "difficult" in workplaces. The experience of dealing with difficult coworkers can

range from mildly unpleasant to extremely stressful. Thus, understanding and managing workplace (in)civility has been identified as one of the more important ongoing human resource management topics in public and private organizations (Burnes and Pope 2007; Di Fabio and Duradoni 2019; Di Fabio and Gori 2016; Venetoklis and Kettunen 2016).

Difficult coworker interaction is an under-researched topic even though it has been frequently covered in media (Fisher 2019; Stahl 2018) and self-help books (Smith 2013; Romst 2014). Difficult coworkers may include those stealing colleagues' ideas (Fisher 2019), spreading gossip, not taking responsibility, blaming others for their problems (Stahl 2018), and other difficult personalities (Smith 2013). In communications, researchers characterize individuals with whom working relationships are considered as negative and disadvantageous to be troublesome others (Fritz 2002, 2006), disliked coworkers (Hess et al. 2006), and difficult coworkers (Duck et al. 2006; Tuikka 2020). Duck et al. (2006) defined difficult coworkers as the employees who impose undesired social identities on receivers, exhibit infringing personalities, and create work-related constraints, leading to their peers' negative attitudes towards working and interacting with them. Many of these studies were carried out in business organizations. Difficult coworkers are understudied, particularly in the public sector.

Fritz (2002) indicated that troublesome others (i.e., difficult coworkers including superiors, peers, and subordinates) tend to exhibit a wide range of distasteful interpersonal behaviors including being a busybody, lording power, unprofessional behavior, and even sexual harassment, and poor work-related behaviors including bossiness and incompetence. Yu and To (2021) provided empirical evidence that difficult workers are multidimensional in nature. Using Fritz's (2002) and Yu and To's (2021) approaches, this study explores employees' perceptions of difficult coworkers in Macao's public organizations. The study aims to answer the following research question: How do difficult coworkers influence employees' attitudes towards them, job stress, intention to leave, and mental health in public organizations? The study is grounded in the stimulus–organism–response theory (Mehrabian and Russell 1974; Jacoby 2002). In the study, the external factor that characterizes employees' perceptions of the degree of unease and frustration in the presence of difficult coworkers and interacting with them (i.e., attitude towards difficult coworkers) is considered as a stimulus that affects employees' internal emotional conditions—the organism (i.e., perceived stress). The organism leads to responses such as employees' feelings towards leaving the organizations (i.e., intention to leave) and mental health. The findings of the study contribute to the identification of difficult coworkers as a critical organizational issue in the public sector and how difficult coworkers impact employees' job environments. The remainder of the paper is structured as follows. Section 2 reviews the literature on workplace environment in public sectors and the effects of difficult coworkers on employees' responses and presents the associated hypotheses. Section 3 presents the sample of the study, measurement scales, and data collection and analysis approaches. Section 4 presents the study's findings. Finally, Sections 5 and 6 discuss and conclude the study. The research framework is shown in Figure 1.



**Figure 1.** Research framework of the study.

## 2. Literature Review and Hypothesis Development

On the surface, public organizations seem to be less affected by the ups and downs of economic cycles. Additionally, most public organizations adopt a hierarchical structure with rather rigid job classifications, and promotion and compensation in a lockstep based on seniority, providing a sense of security and certainty to public sector employees. Nevertheless, workplaces in the public sector are not much better than their counterparts in the private sector in terms of organizational politics (Vigoda 2000; Vigoda-Gadot et al. 2003), interpersonal conflicts (Shih and Susanto 2010), and workplace stress (Davis 2018; Davis et al. 2020). With high external expectations, many internal bureaucratic hurdles and the implementation of private sector practices such as performance measurement and management systems, pay-for-performance, and quality management systems (Perry et al. 2009; Střiteská and Sein 2021; To et al. 2011, 2018; Yu et al. 2012), public sector employees started working under enormous pressure and encountered many work-related and interpersonal problems. Specifically, Davis (2018) highlighted that there is an ominous trend towards increasing negativity and hostility in public sector organizations, but the dark side of the workplace remains largely unexplored in the public administration and management literature.

### 2.1. Difficult Coworkers and Attitude towards Difficult Coworkers

Difficult coworker is a rather generic term that reflects an employee's negative perception towards a "coworker" due to his/her work-related and interpersonal behaviors. This term has connotations of dislike or even hate due to such an individual's problematic behaviors. Fritz (2002, 2006) used "troublesome others" to characterize difficult coworkers including peers, bosses, and subordinates. Although various work-related and interpersonal factors emerged for different status levels and formed different clusters, some salient factors were observed across levels (Fritz 2006). Yu and To (2021) characterized difficult coworkers in the Chinese context using six salient factors identified by Fritz (2006). The factors included being a busybody (butting in with unsolicited opinions), lording power

(self-promotion), unprofessional behavior (badmouthing others), sexual harassment, bossiness (trying to control others), and incompetence (not performing competently). Yu and To (2021) found that the bossiness factor was most highly weighted in the overall difficult coworker construct, followed by unprofessional behavior and being a busybody. They reported that difficult coworkers had an indirect effect on turnover intention through employees' attitudes towards difficult coworkers. Following Fritz's (2006) and Yu and To's (2021) studies, this study characterizes difficult coworkers by different interpersonal behaviors, namely being a busybody, lording power, unprofessional behavior, and sexual harassment, and two work-related behaviors, namely bossiness and incompetence.

The presence of difficult people such as coworkers definitely has an impact on others such as their peers when they have to deal or work with these difficult coworkers (Hahn et al. 1994; Hahn 2001; Yu and To 2021). In clinical environments, it is not uncommon that physicians encounter patients who can be classified as "difficult patients" due to their psychological, interpersonal, and even physical characteristics (Hahn et al. 1994; Hahn 2001). Hahn et al. (1994) established the multi-item Difficult Doctor–Patient Relationship Questionnaire (DDPRQ). Based on the DDPRQ, Yu and To (2021) suggested that the items of the DDPRQ can be used to characterize employees' attitudes towards difficult coworkers. Specifically, attitude towards difficult coworkers consists of employees' general subjective attitudes towards difficult coworkers and encountering attitudes towards difficult coworkers (Yu and To 2021). The former measures the perceptions of employees of a specific difficult coworker based on observations, i.e., a bystander approach (Paull et al. 2012), while the latter characterizes the level of anxiety and frustration of an employee when he/she has to interact and work with difficult coworkers (Ilies et al. 2011). As a whole, the presence and behaviors of difficult coworkers has an effect on their peers' attitudes towards them. Thus, the study posits that:

**Hypothesis 1 (H1).** *Difficult co-workers (characterized by being a busybody, lording power, unprofessional behavior, sexual harassment, bossiness, or incompetence traits) influence employees' attitudes towards them, including general subjective attitude and encountering attitude.*

## 2.2. Attitude towards Difficult Coworkers, Perceived Stress, Mental Health, and Intention to Leave

Problematic work relationships cause stress and may even adversely affect mental health (Omdahl and Fritz 2006). Harris et al. (2006) explored stress and psychological well-being among health professionals in Australia. Using responses from 139 health professionals, Harris et al. (2006) identified that difficult coworker interaction was ranked second in terms of work stress, right after workload but higher than difficult relationships with patients and schedule. Difficult coworker interaction was positively correlated with perceived stress, anxiety, and depression, while it was negatively correlated with life satisfaction (Harris et al. 2006). In a similar vein, difficult coworkers were identified by veterinarians as one of the key job stressors in Canada (Milani 2015). Hinds et al. (2003) reported that having unfavorable working relationships with difficult coworkers (i.e., employees' attitudes towards difficult coworkers) was frequently mentioned as the most dissatisfying aspect of nursing jobs in the United States. Nevertheless, Hinds et al. (2003) did not explore the impact of attitude towards difficult coworkers on perceived stress. Somewhat surprisingly, there is scant literature exploring the effect of the presence of difficult coworkers on perceived stress in public organizations other than public hospitals, particularly regarding how employees' attitudes towards difficult coworkers may influence perceived stress. Indeed, employees' attitudes towards difficult coworkers comprise a "stimulus" under the SOR framework. To address this research gap, the study posits that:

**Hypothesis 2 (H2).** *Attitude towards difficult coworkers influences perceived stress.*

Work environments including employees' interactions with difficult coworkers have detrimental effects on their mental health and intention to leave (Ishihara et al. 2014).

This effect may be enhanced or lessened depending on individuals' characteristics and perceptions of stress. Nelson and Smith (2016) investigated the relationships between work stressors and mental health among police officers in Jamaica. They reported that negative work characteristics and poor interpersonal relationships with coworkers had negative effects on employees' mental health. Grynderup et al. (2016) studied the impact of negative work environments such as workplace bullying on employees' long-term sickness absence in Denmark. Using survey data from 4114 respondents, Grynderup et al. (2016) reported that the feelings of workplace bullying were associated with long-term sickness absence. Following Nelson and Smith's (2016) and Grynderup et al.'s (2016) studies, the study hypothesizes that:

**Hypothesis 3 (H3).** *Employees' attitudes towards difficult coworkers negatively influence mental health.*

**Hypothesis 4 (H4).** *Employees' attitudes towards difficult coworkers positively influence intention to leave.*

### 2.3. The Mediating Role of Perceived Stress

In public organizations such as police departments, Nelson and Smith (2016) found that perceived stress mediated the relationship between work characteristics and mental health. Grynderup et al. (2016) reported that the relationship between workplace bullying and long-term sickness absence was partially mediated by perceived stress. Additionally, Nabe-Nielsen et al. (2017) reported that the link between workplace bullying and turnover intention was partially mediated by perceived stress. Thus, perceived stress has a negative effect on employees' mental health and a positive direct effect on their intention to leave. The study posits that:

**Hypothesis 5 (H5).** *Perceived stress negatively influences mental health.*

**Hypothesis 6 (H6).** *Perceived stress positively influences intention to leave.*

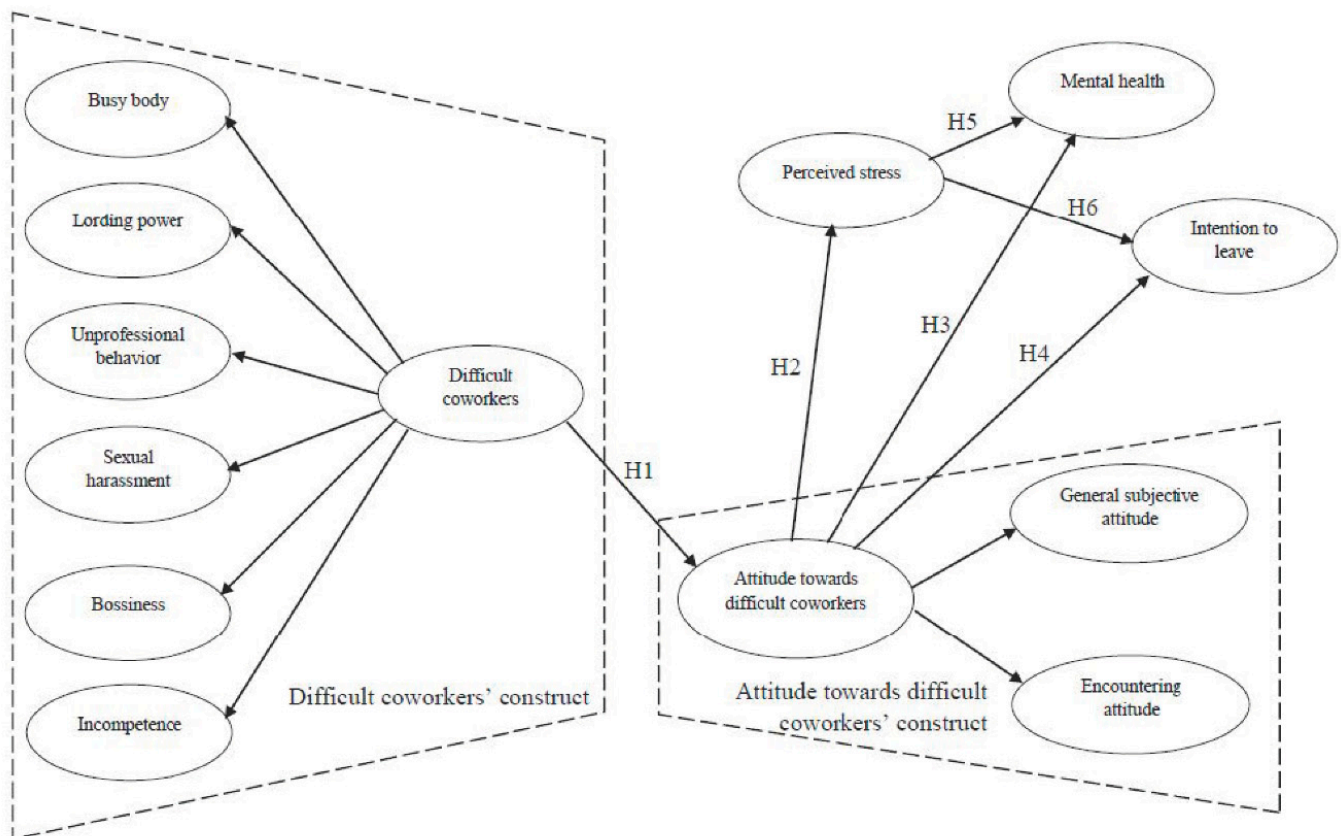
As perceived stress is likely to mediate the relationships between employees' attitudes towards difficult coworkers and mental health and between employees' attitudes towards difficult coworkers and intention to leave, the study hypothesizes that:

**Hypothesis 7 (H7).** *The relationship between employees' attitudes towards difficult coworkers and mental health is mediated by perceived stress.*

**Hypothesis 8 (H8).** *The relationship between employees' attitudes towards difficult coworkers and intention to leave is mediated by perceived stress.*

Figure 2 shows that difficult workers and employees' attitudes towards difficult coworkers are two second-order constructs. Specifically, difficult coworkers influence employees' attitudes towards them, while attitudes towards difficult co-workers affect employees' mental health and intention to leave directly and indirectly through employees' perceived stress. Hypotheses H1–H6 are presented in this figure.





**Figure 2.** Higher-order constructs and inner model of the study.

### 3. Method

#### 3.1. Sample and Data Collection Procedure

The study used a purposeful sampling approach to collect data from Macao's public organizations. Our research team contacted human resources representatives of government departments, public utilities, and higher education institutions in Macao SAR, China. Among these organizations, 14 of them agreed to participate. With the assistance from human resources representatives, the team conducted questionnaire surveys and distributed 500 questionnaires to public sector employees. The target respondents were assured that the study was anonymous, and the collected data were treated confidentially. Additionally, they could withdraw from the questionnaire survey at any point.

Out of the 500 questionnaires distributed, 307 questionnaires were completed and returned, resulting in a usable response rate of 61.4 percent. Among these respondents, most of them were females (60.3 percent), aged between 20 and 39 years (75.6 percent), and had a bachelor's degree (60.6 percent). More than half of respondents were single (54.1 percent), followed by married with children (29.6 percent). The majority of respondents worked in frontline and supporting positions (75.8 percent) and had less than 4 years of working experience (61.5 percent). Table 1 shows demographic profile of respondents.

**Table 1.** Demographic profile of respondents (N = 307).

Variable	Class	Frequency	Percentage
Gender	Male	122	39.7
	Female	185	60.3
Age	20 to 29	146	47.6
	30 to 39	86	28
	40 to 49	61	19.9
	50 or above	14	4.6
Education	High school	41	13.3
	Diploma	37	12.1
	Bachelor's degree	186	60.6
	Master's or above	43	14
Marital status	Single	166	54.1
	Married without children	49	16
	Married with children	91	29.6
	Others	1	0.3
Position	Frontline	107	34.8
	Supporting	126	41
	Administrative	62	20.2
	Managerial	6	2
	Others	6	2
Work experience (in years)	<2	79	25.7
	2 to <4	110	35.8
	4 to <8	38	12.4
	8 or above	80	26.1

### 3.2. Measures

The measurement items of difficult coworkers, attitude towards difficult coworkers, perceived stress, mental health, and intention to leave were adapted from the literature to ensure content validity. The difficult coworker item includes six factors, namely busybody, lording power, unprofessional behavior, sexual harassment, bossiness, and incompetence (Fritz 2002, 2006; Yu and To 2021). These six factors cover a wide range of an employee's interpersonal and work-related behaviors that lead to his/her colleague having negative feelings towards him/her. A busybody refers to an employee who keeps offering unsolicited opinions. Lording power refers to an employee who wants others to follow his/her way. Unprofessional behavior refers to an employee who brings personal problems to work. Sexual harassment refers to an employee who gives others unwanted romantic attention. Bossiness refers to an employee who is fond of giving people orders. Incompetence refers to an employee who cannot do their job competently. Busybody, lording power, unprofessional behavior, sexual harassment, bossiness, and incompetence were measured by three items, five items, three items, three items, six items, and four items, respectively. These 24 items were adapted from Fritz (2002, 2006) and Yu and To (2021). They were rated on a seven-point Likert scale, with one representing "very strongly disagree" and seven representing "very strongly agree". Attitude towards difficult coworkers characterizes the level of unease and frustration of employees in the presence of difficult coworkers and interacting with them. It consists of general subjective attitude (three items) and encountering attitude (four items) which were adapted from Hahn (2001) and Yu and To (2021). These five items were rated on a seven-point Likert scale with one representing "not at all" and seven representing "a great deal". Perceived stress characterizes the degree to which an employee finds his/her work overwhelming, unpredictable, uncontrollable, and stressful. Five items were adapted from Cohen et al. (1983). Items were rated on a five-point scale with one representing "never" and five representing "very often". Mental health refers to an employee's psychological well-being such as joy and energy. Four items were adapted from Ware and Sherbourne (1992). Items were rated on a five-point scale with one representing

“never” and five representing “very often”. Intention to leave measures the extent to which employees consider leaving public organizations. Three items were adapted from [Ferres et al. \(2004\)](#). They were rated on a five-point Likert scale with one representing “strongly disagree” and five representing “strongly agree”. Scale reliability and internal consistency were checked using Cronbach’s alpha. The Cronbach’s alpha values of busybody, lording power, unprofessional behavior, sexual harassment, bossiness, and incompetence ranged from 0.728 to 0.875. The Cronbach’s alpha values of general subjective attitude towards difficult coworkers, encountering attitude towards difficult coworkers, perceived stress, mental health, and intention to leave were between 0.717 and 0.916. All these values were higher than the threshold of 0.70 as recommend by [Hair et al. \(2009\)](#).

### 3.3. Data Analysis

Data were entered into an IBM SPSS data file. Demographic variables such as gender, age group, education, marital status, job position, and work experience were used to profile respondents. Means, standard deviations, skewness, and kurtosis were calculated for all Likert scale items. Specifically, skewness and kurtosis were used to assess the normality of data on items of employees’ perceptions of difficult coworkers, perceived stress, mental health, and intention to leave. Additionally, a series of *t*-tests and ANOVAs was performed to investigate the effects of gender, age group, and education on employees’ perceptions.

Hypotheses H1 to H6 were tested using the partial least squares–structural equation modeling (PLS-SEM) approach. This approach has been widely adopted in marketing, business, and organizational management in recent years ([Hair et al. 2017, 2019](#)). It is a variance-based structural equation modeling approach and has a number of advantages over the covariance-based structural equation modeling approach such as fewer restrictions on sample size and the distributions of responses, its ability to handle complex models with many constructs, and its versatile explanatory and predictive capabilities ([Hair et al. 2019](#)). It can explore causal relationships among a set of latent constructs and the relationships between latent constructs and their observed indicators simultaneously. SmartPLS 2.0 was used in the study ([Ringle et al. 2005](#)). The study’s PLS-SEM included outer models (i.e., the measurement models) and inner model (i.e., the structural model). The reliability and validity of measurement models were assessed based on indicators’ outer loadings, composite reliability, and average variance extracted (AVE) values. [Hair et al. \(2019\)](#) suggested that each indicator’s outer loading should preferably be 0.70 or higher, composite reliability should be 0.70 or higher, and AVE values should be 0.50 or higher. Results of the structural model were evaluated based on the coefficient of determination ( $R^2$ ), the significance of path coefficients, predictive relevance ( $Q^2$ ), and effect sizes ( $f^2$ ) ([Hair et al. 2014](#)). Predictive relevance ( $Q^2$ ) was assessed using the blindfolding procedure. The values of  $Q^2$  should be greater than 0. Effect sizes were calculated based on changes in  $R^2$  as one of exogenous variables was included and the same one was excluded, dividing by one minus  $R^2$  for the variable included. The effect sizes were considered as large, medium, and small when their values were 0.35, 0.15, and 0.02 for multiple regression analyses, respectively ([Cohen 1988](#)). As suggested by [Baron and Kenny \(1986\)](#), Sobel’s test was used to identify whether the mediator (perceived stress) fully or partially mediates the independent variable (attitude towards difficult coworkers) and the dependent variables (mental health and intention to leave).

## 4. Results

The multidimensional scales and the details of measurement items are shown in Table 2. It was found that difficult coworker items including those of busybody, lording power, unprofessional behavior, bossiness, and incompetence ranged from 4.29 to 5.22. All these 21 items were significantly higher than the midpoint of the seven-point Likert scale at 4.0 ( $p < 0.001$ ). The mean score of the item “The person is self-centered” was the highest at 5.22, followed by the mean score of the item “The person criticizes people” at 5.10 and that of the item “The person badmouths people to a third party or parties” at 5.03. On



the other hand, two difficult coworker items (i.e., those characterizing sexual harassment) had mean scores at 3.08 and 3.45, significantly lower than the midpoint of the seven-point Likert scale ( $p < 0.001$ ). The mean scores of attitude towards difficult coworkers ranged from 3.89 to 5.05. The mean scores of perceived stress, mental health, and intention to leave items ranged from 2.67 to 3.35, from 2.92 to 3.15, and from 2.45 to 2.62, respectively. Table 2 shows that the values of skewness and kurtosis ranged from  $-0.632$  to  $0.536$  and  $-0.896$  to  $0.082$ , respectively. As these values were between  $-1$  and  $+1$ , the data were normally distributed (Mishra et al. 2019). Q–Q plots of all Likert scale items were produced. They confirmed the normality of data, and no outlier was observed in the collected data. Results of  $t$ -tests and ANOVAs for gender, age group, and education showed that no significant difference was observed in most items based on these demographic characteristics.

**Table 2.** Constructs, measurement items, means and standard deviations, skewness (Skew.), kurtosis (Kurt.), outer loadings, Cronbach’s alpha values, composite reliability (CR), and average variance extracted (AVE) values.

Construct and Items	Mean (SD)	Skew.	Kurt.	Outer Loading
Lording power (Cronbach’s alpha = 0.875, CR = 0.911, AVE = 0.671)				
The person wants to be “number one”.	4.97 (1.488)	−0.585	0.010	0.859
The person is aggressive.	4.80 (1.543)	−0.410	−0.281	0.798
The person tries to make himself or herself look good.	4.95 (1.377)	−0.509	−0.003	0.866
The person tries to promote himself or herself.	4.62 (1.504)	−0.312	−0.336	0.827
The person is self-centered.	5.22 (1.524)	−0.613	−0.400	0.740
Unprofessional behavior (Alpha = 0.773, CR = 0.870, AVE = 0.691)				
The person badmouths people to a third party or parties.	5.03 (1.490)	−0.587	−0.081	0.829
The person criticizes people.	5.10 (1.429)	−0.584	−0.171	0.867
The person is rude.	4.62 (1.580)	−0.406	−0.465	0.797
Sexual harassment (Cronbach’s alpha = 0.728, CR = 0.842, AVE = 0.640)				
The person yells and screams.	3.96 (1.810)	−0.126	−0.876	0.788
The person harasses people sexually.	3.08 (1.840)	0.451	−0.811	0.848
The person gives others unwanted romantic attention.	3.45 (1.684)	0.073	−0.896	0.762
Bossiness (Cronbach’s alpha = 0.852, CR = 0.890, AVE = 0.577)				
The person tries to control others.	4.99 (1.439)	−0.478	−0.329	0.732
This person gives orders without having the proper authority.	4.93 (1.476)	−0.465	−0.221	0.728
The person has a poor work attitude.	4.51 (1.526)	−0.215	−0.592	0.729
The person takes credit for others’ work.	4.60 (1.584)	−0.270	−0.658	0.858
The person makes unreasonable or excessive work demands.	4.57 (1.457)	−0.251	−0.446	0.813
The person’s behavior distracts others from their work.	4.69 (1.477)	−0.503	−0.168	0.682
Incompetence (Cronbach’s alpha = 0.857, CR = 0.903, AVE = 0.700)				
The person performs incompetently.	4.30 (1.467)	−0.136	−0.304	0.795
The person does not do his or her job correctly.	4.32 (1.485)	−0.151	−0.478	0.882
The person lies about his or her work or task accomplishments.	4.32 (1.456)	−0.204	−0.281	0.864
The person fails to follow workplace rules and regulations.	4.29 (1.503)	−0.219	−0.150	0.802
General subjective attitude towards difficult coworkers (Cronbach’s alpha = 0.717, CR = 0.841, AVE = 0.640)				
How frustrating do you find this person?	3.89 (1.660)	0.001	−0.747	0.863
How manipulative is this person?	4.36 (1.498)	−0.106	−0.439	0.708
How destructive is this person?	4.02 (1.481)	−0.010	−0.393	0.821
Encountering attitude towards difficult coworkers (Cronbach’s alpha = 0.853, CR = 0.901, AVE = 0.696)				
How uneasy did you feel when you were with this person?	4.62 (1.543)	−0.398	−0.283	0.794
How time-consuming is dealing with this person?	5.00 (1.484)	−0.592	0.055	0.845
How difficult is it to communicate with this person?	5.05 (1.443)	−0.546	0.059	0.879
Do you find yourself secretly hoping you will not see this person?	4.88 (1.604)	−0.299	−0.628	0.817

Table 2. Cont.

Construct and Items	Mean (SD)	Skew.	Kurt.	Outer Loading
Perceived stress (Cronbach's alpha = 0.846, CR = 0.890, AVE = 0.617)				
In the last month, how often have you been upset because of something that happened unexpectedly at work?	3.35 (0.935)	0.130	−0.448	0.732
In the last month, how often have you felt that you were unable to control the important things at work?	3.14 (0.975)	0.140	−0.463	0.768
In the last month, how often have you felt nervous and stressed because of work?	3.23 (1.053)	0.027	−0.635	0.808
In the last month, how often have you been angered because of things that had happened at work that were outside of your control?	2.85 (1.096)	0.202	−0.371	0.834
In the last month, how often have you felt that difficulties at work were piling up so high that you could not overcome them?	2.67 (0.962)	0.338	−0.095	0.783
Mental health (Cronbach's alpha = 0.840, CR = 0.894, AVE = 0.678)				
Did you feel full of life?	3.15 (1.035)	0.010	−0.524	0.839
Have you felt calm and peaceful?	3.07 (0.901)	0.101	−0.320	0.889
Did you have a lot of energy?	2.92 (0.871)	0.212	−0.396	0.758
Have you been happy?	3.12 (0.961)	0.090	−0.314	0.803
Intention to leave (Cronbach's alpha = 0.916, CR = 0.947, AVE = 0.857)				
You often think about quitting.	2.62 (1.208)	0.520	−0.562	0.902
It is likely that you will actively look for a new job next year.	2.57 (1.173)	0.513	−0.529	0.951
You will probably look for a new job in the next year.	2.45 (1.149)	0.536	−0.463	0.924

#### 4.1. Outer Model Results

Table 2 shows that all indicators' outer loadings were 0.708 and above, except for the last item of bossiness at 0.682, and statistically significant ( $p < 0.001$ ) while composite reliability ranged from 0.842 to 0.947, supporting item reliability and construct reliability. The AVE values were at least 0.577, indicating convergent validity (Hair et al. 2019). Table 3 presents correlation coefficients between constructs and the square roots of AVEs. It shows that the square root of a construct's AVE was greater than correlations between the construct and all other constructs, supporting discriminant validity (Fornell and Larcker 1981). Table 3 shows that general subjective attitude towards difficult coworkers was weakly associated with lording power ( $r = 0.272$ ,  $p < 0.001$ ), unprofessional behavior ( $r = 0.319$ ,  $p < 0.001$ ), sexual harassment ( $r = 0.372$ ,  $p < 0.001$ ), and bossiness ( $r = 0.254$ ,  $p < 0.001$ ), while encountering attitude towards difficult coworkers was weakly associated with busybody ( $r = 0.382$ ,  $p < 0.001$ ) and incompetence ( $r = 0.275$ ,  $p < 0.001$ ) and moderately associated with lording power ( $r = 0.437$ ,  $p < 0.001$ ), unprofessional behavior ( $r = 0.449$ ,  $p < 0.001$ ), and bossiness ( $r = 0.453$ ,  $p < 0.001$ ). Perceived stress was found to be negatively and weakly associated with mental health ( $r = -0.244$ ,  $p < 0.01$ ) and positively and moderately associated with intention to leave ( $r = 0.488$ ,  $p < 0.001$ ).

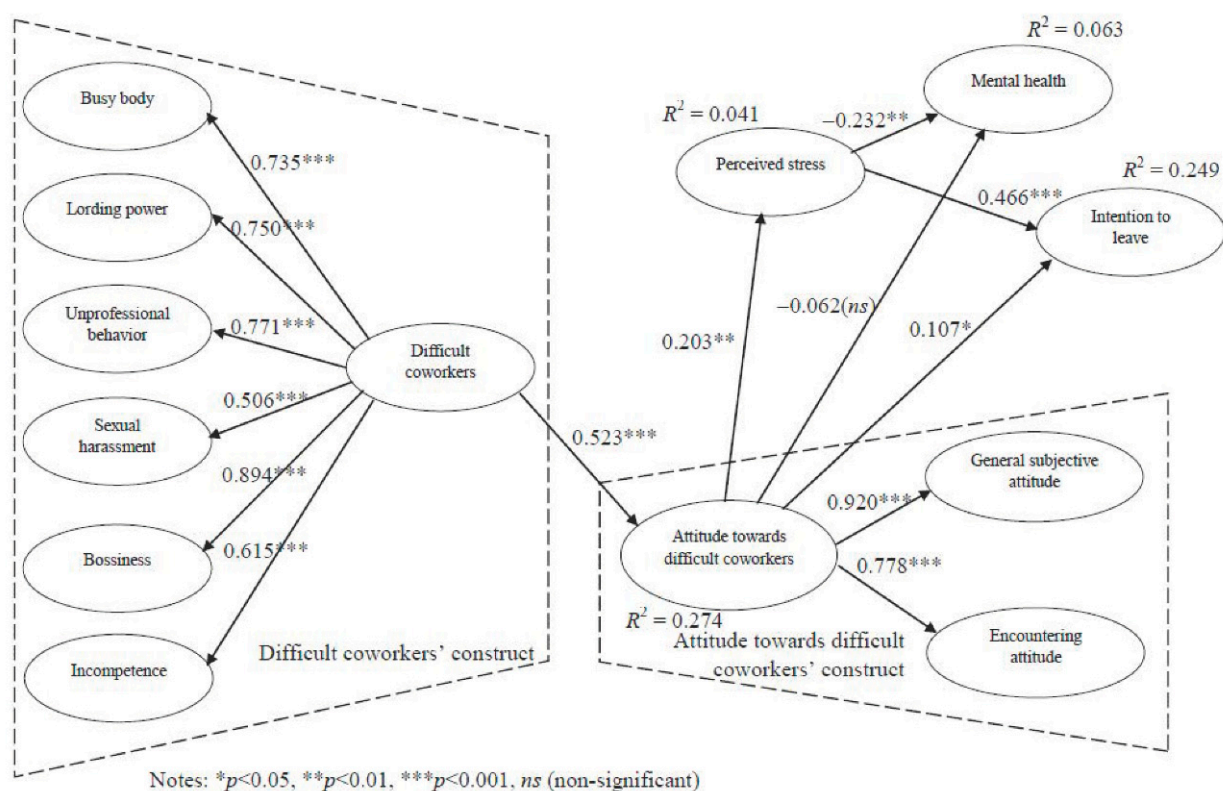
Table 3. Correlations between constructs.

Construct	BB	LP	UPB	SH	BOSS	INC	GSA	ECA	PS	MH	ITL
Busybody (BB)	<b>0.837</b>	0.512	0.500	0.288	0.606	0.285	0.195	0.382	0.042	0.005	0.020
Lording power (LP)		<b>0.819</b>	0.554	0.184	0.524	0.265	0.272	0.437	0.184	−0.179	0.135
Unprofessional behavior (UPB)			<b>0.831</b>	0.392	0.612	0.305	0.319	0.449	0.026	−0.005	0.083
Sexual harassment (SH)				<b>0.804</b>	0.407	0.307	0.372	0.178	−0.024	−0.037	0.004
Bossiness (BOSS)					<b>0.759</b>	0.552	0.254	0.453	0.039	0.018	0.027
Incompetence (INC)						<b>0.837</b>	0.148	0.275	−0.036	−0.108	0.085
General subjective attitude (GSA)							<b>0.800</b>	0.470	0.267	−0.120	0.132
Encountering attitude (ECA)								<b>0.834</b>	0.119	−0.079	0.201
Perceived stress (PS)									<b>0.786</b>	−0.244	0.488
Mental health (MH)										<b>0.824</b>	−0.230
Intention to leave (ITL)											<b>0.926</b>

Note: The bold italics numbers in diagonal are the square roots of AVEs.

#### 4.2. Higher-Order Constructs and Inner Model Results

Results of SmartPLS confirmed that difficult coworkers and attitude towards difficult coworkers could be modeled as second-order constructs. Figure 3 shows the standardized path coefficients for the two second-order constructs and inner model. The second-order difficult coworkers' construct consisted of six dimensions. Path coefficients revealed that bossiness ( $\beta = 0.894$ ,  $p < 0.001$ ) was the most important dimension of difficult coworkers, followed by unprofessional behavior ( $\beta = 0.771$ ,  $p < 0.001$ ), lording power ( $\beta = 0.750$ ,  $p < 0.001$ ), busybody ( $\beta = 0.735$ ,  $p < 0.001$ ), incompetence ( $\beta = 0.615$ ,  $p < 0.001$ ), and sexual harassment ( $\beta = 0.506$ ,  $p < 0.001$ ). The second-order attitude towards difficult coworkers' construct consisted of two dimensions. Encountering attitude ( $\beta = 0.920$ ,  $p < 0.001$ ) was the more important dimension of attitude towards difficult coworkers, followed by general subjective attitude ( $\beta = 0.778$ ,  $p < 0.001$ ).



**Figure 3.** Results of higher-order constructs and inner model.

Figure 3 shows that difficult coworkers positively and significantly influenced attitude towards coworkers ( $\beta = 0.523$ ,  $p < 0.001$ ), supporting H1. Additionally, attitude towards difficult coworkers significantly influenced perceived stress ( $\beta = 0.203$ ,  $p < 0.01$ ) and intention to leave ( $\beta = 0.107$ ,  $p < 0.05$ ), but it did not have a significant effect on mental health ( $\beta = -0.062$ , *ns*). Thus, H2 and H4 were supported, but H3 was not supported. Perceived stress negatively and significantly predicted mental health ( $\beta = -0.232$ ,  $p < 0.01$ ) and positively and significantly predicted intention to leave ( $\beta = 0.466$ ,  $p < 0.001$ ), supporting H5 and H6. Table 4 summarizes the results of hypothesis testing for H1-H6. In sum, results of the inner model indicated that employees' attitudes towards difficult coworkers were linked to mental health through perceived stress while employees' attitudes towards difficult coworkers were linked to intention to leave directly and indirectly through perceived stress. Table 5 presents coefficients of determination ( $R^2$ ), values of predictive relevance ( $Q^2$ ), and effect sizes ( $f^2$ ).  $R^2$  for intention to leave was 0.249, and  $R^2$  for mental health was 0.063, meaning that 24.9% of the variance in intention to leave and 6.3% of the variance in mental health were explained by variations in perceived stress and attitude towards

difficult coworkers.  $Q^2$  for both employees' intention to leave and mental health were greater than 0. The effect size of perceived stress on intention to leave was medium. To check for multicollinearity, latent variable scores of the inner model were extracted from SmartPLS and entered into an IBM SPSS file. A multiple regression analysis was run using difficult coworkers, attitude towards difficult coworkers, and perceived stress as independent variables and intention to leave (or mental health) as a dependent variable. The variance inflation factors (VIF) of three independent variables were 1.381, 1.436, and 1.046, respectively, while tolerance values were 0.724, 0.697, and 0.956, respectively. As all VIF values were below 10 and tolerance values were higher than 0.1 (Hair et al. 2009), multicollinearity was not an issue in the study.

**Table 4.** Path coefficients and hypothesis testing.

Hypothesis	Relationship	Direct Effect ( $\beta$ )	SE	T Statistics	Support
H1	Difficult coworkers → attitude towards difficult coworkers	0.523	0.0427	12.24 ***	Yes
H2	Attitude towards difficult coworkers → perceived stress	0.203	0.0567	3.58 ***	Yes
H3	Attitude towards difficult coworkers → mental health	−0.062	0.0591	1.05	No
H4	Attitude towards difficult coworkers → intention to leave	0.107	0.0533	2.00 *	Yes
H5	Perceived stress → mental health	0.232	0.0570	4.06 ***	Yes
H6	Perceived stress → intention to leave	0.466	0.0454	10.27 ***	Yes

Notes: \*  $p < 0.05$ , \*\*\*  $p < 0.001$ , *ns* = non-significant.

**Table 5.** Coefficients of determination ( $R^2$ ), predictive relevance ( $Q^2$ ), and effect sizes ( $f^2$ ).

Construct	$R^2$	$Q^2$	$f^2$	Remark
Intention to leave				
- Perceived stress	0.249	0.194	0.276	Medium
- Attitude towards difficult coworkers			0.015	Small
Mental health				
- Perceived stress	0.063	0.044	0.050	Small
- Attitude towards difficult coworkers			0.003	Small

Notes:  $f^2$ : 0.02, small; 0.15, medium; 0.35, large.

The mediating role of perceived stress on the relationships between attitude towards difficult coworkers and mental health and between attitude towards difficult coworkers and intention to leave was evaluated using Sobel's test (Baron and Kenny 1986). Table 6 summarizes the path coefficients and significance levels for two mediation hypotheses H7 and H8. There were significant direct effects from employees' attitudes towards difficult coworkers to perceived stress and from perceived stress to mental health. Nevertheless, the direct effect from attitude towards difficult coworkers to mental health (with or without the mediator—perceived stress) was non-significant. Thus, H7 was not supported. On the other hand, results showed that perceived stress mediated the relationship between attitude towards difficult coworkers and intention to leave, and the direct effect between these two variables was significant with the mediator. Thus, H8 was supported (with partial mediation).

**Table 6.** Path coefficients and significance levels for the mediation testing.

Hypothesis	Relationship	IV to DV	IV to MV	MV to DV	IV to DV (with Mediator)	Support
H7	ATDCW→PS→MH	−0.125 ( <i>ns</i> )	0.203 ***	−0.232 ***	−0.062 ( <i>ns</i> )	No (IV to DV was not significant)
H8	ATDCW→PS→ITL	0.204 ***	0.203 ***	0.466 ***	0.107 *	Yes (partial mediation)

Notes: i. ATDCW = attitude towards difficult coworkers, PS = perceived stress, MH = mental health, ITL = intention to leave. ii. IV = independent variable, DV = dependent variable = MV = mediating variable. iii. \*  $p < 0.05$ , \*\*\*  $p < 0.001$ , *ns* = non-significant.

## 5. Discussion

The five items that had the highest mean scores were: “The person is self-centered” (an item of lording power), “The person criticizes people”, “The person badmouths people to a third party or parties” (two items of unprofessional behavior), “The person tries to control others” (an item of bossiness), and “The person wants to be number one” (another item of lording power). Additionally, all items of busybody, lording power, unprofessional behavior, and bossiness had mean scores higher than 4.50, and their mean scores were significantly higher than the midpoint of the seven-point Likert scale at 4.0. Relatively speaking, items of incompetence had low mean scores at around 4.30, while items of sexual harassment had a mean score below 4.0. Two items of sexual harassment, “The person harasses people sexually” and “The person gives others unwanted romantic attention”, only had mean scores of 3.08 and 3.45, respectively. The findings were anticipated because difficult coworkers exist all over the world (Fisher 2019), and sexual harassment is strictly prohibited and condemned in Chinese societies (Wang et al. 2021). Additionally, Macao’s government and public organizations keep educating people and reminded their employees about the negative consequences of sexual harassment in workplaces. Results of PLS-SEM indicated that difficult workers were mostly characterized by bossiness, followed by unprofessional behavior, lording power, and being busybodies. Liu (2010) suggested that it is not unusual among Chinese coworkers who feel powerless to control others, i.e., bossiness, particularly for those who may have worked for some years in the organizations.

Difficult coworkers significantly influenced employees’ attitudes towards them. This finding was consistent with the findings of Duck et al. (2006), Tuikka (2020), and Yu and To (2021). The mean scores of encountering attitude towards difficult coworkers’ items were found to be between 4.62 and 5.05, much higher than the mean scores of general subjective attitude towards difficult coworkers’ items ranging from 3.89 to 4.36. The two items that had the highest mean scores were “How difficult is it to communicate with this person?” and “How time-consuming is dealing with this person?” The path coefficient of the link between the second-order difficult coworkers’ construct and the second-order attitude towards difficult coworkers’ construct was moderate at 0.523, while attitude towards difficult workers had a weak direct effect on perceived stress ( $\beta = 0.203$ ), a very weak direct effect on intention to leave ( $\beta = 0.107$ ), and a non-significant direct effect on mental health. This is not unexpected because dealing with difficult people will make one feel frustrated, which eventually causes stress (Krebs et al. 2006) and a higher turnover intention (Mosadeghrad et al. 2011) but may not adversely affect mental health. Nevertheless, perceived stress had a medium effect size ( $f^2$ ) of 0.276 on intention to leave. The finding was consistent with the one reported by Giauque et al. (2019) who explored the impact of perceived stress on turnover intention in international organizations. Taken together, the study indicated that the total effect of attitude towards difficult coworkers on intention to leave was weak and significant (total effect = 0.202,  $p < 0.001$ ), while the total effect of attitude towards difficult coworkers on mental health was very weak, negative, and insignificant (total effect = −0.109,  $p > 0.05$ ). The insignificant effect of attitude towards difficult coworkers on mental health was probably due to Chinese people tending to adopt positive coping styles, i.e., asking relatives and friends for advice when they work under pressure (Yan et al. 2021), which can help maintain mental health.



### 5.1. Managerial and Theoretical Implications

The study confirmed that difficult coworkers were characterized by different aspects of employees' interpersonal and work-related behaviors. Specifically, bossiness was found to be the main issue of difficult coworkers among Chinese public sector employees in Macao SAR. Other issues included lording power, being a busybody, and unprofessional behavior. Managers of public organizations should help employees exhibit good working behaviors. They should provide basic social-psychological and communication training to employees so that offensive interpersonal behaviors can be avoided in workplaces. Attitude towards difficult coworkers was found to include general subjective attitude towards difficult coworkers and encountering attitude towards difficult coworkers. The analyzed results showed that the latter contributed more to the overall attitude. Thus, communication training can also help employees to lessen their hard feelings towards difficult coworkers. Attitude towards difficult coworkers was found to impact intention to leave directly and indirectly through perceived stress. The findings complemented what [Yu and To \(2021\)](#) reported in their study. Additionally, the findings shed light on how attitude towards difficult coworkers impacted intention to leave indirectly through perceived stress. Attitude towards difficult coworkers was found to have no significant impact on mental health directly or indirectly through perceived stress. As a whole, difficult coworkers were found to cause problems and to create stress in the work environment. They indirectly caused high turnover intention but did not affect mental health.

### 5.2. Limitations and Future Research

The study has some limitations. First, common method bias could be a problem because data were collected from self-report measures ([Podsakoff et al. 2003](#)). Harman's single factor test was carried out to assess the extent of common method bias. Results of Harman's single factor test showed that the first factor of the unrotated solution was only 23.32%, implying that common method bias was not problematic in the study. Second, the study's findings showed that difficult coworkers were mainly characterized by bossiness, followed by unprofessional behavior, lording power, and being busybodies. Nevertheless, respondents of the study were public sector employees in Macao SAR. The generalization of the study's findings on the characterization of difficult workers to private sector employees and public sector employees in other cities should be made with great caution. After all, public sector employees were found to have different job attitudes and behaviors from their counterparts in the private sector ([Nayir et al. 2018](#)). Third, results showed that intention to leave was predicted by attitude towards difficult coworkers directly and indirectly through perceived stress. Nevertheless, some other situational factors such as job security, equity, job (or career) satisfaction, and organizational cynicism have effects on intention to leave ([Ko and Campbell 2021](#)). Future research will explore whether these situational factors have effects on employees' intention to leave in Macao's public sector. Finally, future research can be conducted to explore whether and how coping style and social support moderate the links between attitude towards difficult coworkers, perceived stress, and mental health in the public organization context ([Yan et al. 2021](#)).

## 6. Conclusions

The study investigated the effects of difficult coworkers on employees' perceived stress, mental health, and intention to leave. Using responses from 307 public sector employees in Macao, the results of PLS-SEM showed that difficult coworkers were mainly characterized by bossiness, followed by unprofessional behavior, lording power, being busybodies, incompetence, and sexual harassment. Difficult coworkers significantly influenced employees' attitudes towards difficult coworkers, including general subjective attitude and encountering attitude (which played a more important role in defining the overall employees' attitude). Attitude towards difficult coworkers was found to impact employees' intention to leave directly and indirectly through perceived stress. Neverthe-

less, the impact of attitude towards difficult coworkers on employees' mental health was non-significant.

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