Knowledge, attitudes, and behaviors associated with mental illness among the working population in Hong Kong: A cross-sectional telephone survey

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ABSTRACT

Mental health related issues such as stress and depressive symptoms are common in the workplace and costly to both employees and employers. Stigma against mental illness limits one's help-seeking attitude and behavior, thereby leading to social isolation and deteriorating performance in the workplace. This study aimed at examining what aspects of knowledge, attitude and previous contacts with people with mental illness influence working adults' intention to have future contact with people (e.g., to work, to live nearby) with mental illness. One thousand thirty-one employees across eight industries were telephone-interviewed. Descriptive analysis and hierarchical logistic regression were performed. The patterns of knowledge, attitude and behaviors were similar across industries. Higher education and lower income level were associated with higher intention to have contacts with people with mental illness. Previous contacts were significant predictors of intention of future contacts. The attitude that *people with mental health problems are less reliable* was significantly associated with lower intention, and the knowledge that *people with severe mental health problems can fully recover* was significantly associated with higher intended contacts with people with

mental illness. The implication of the findings and the cultural and contextual influences are discussed.

(Word count 192)

Introduction

One in five adults (17.6%) has experienced a common mental disorder within the past 12 months and 29.2% within their lifetime (Steel et al., 2014). Findings from the Global Burden of Disease Study 2010 suggested that mental and substance use disorders accounted for 183.9 million disability-adjusted life years (DALYs), 8.6 million years of life lost (YLLs) to premature mortality, and 75.3 million years lived with disability (YLDs) (Whiteford et al., 2013). The International Labour Organization estimated that there are 3 billion (61.2%) employed individuals among the world population in 2015 (International Labour Organization, 2015). Pulling these estimates together, it can be estimated that about 600 million people in the workforce may have experienced a common mental disorder within the past 12 months, which leads to a significant loss in our society.

Although effective treatments for mental illnesses are increasingly available, most people with mental health illness are not receiving professional help (Thornicroft, 2007). Wang and colleagues (2007) found that in 17 low-to-high-income countries, the proportion of people with mental illnesses using 12-month mental health services only ranged from 2% (Nigeria) to 18% (USA). Barriers to mental health services can be broadly categorized into (a) knowledge-based barriers (e.g., lack of understanding about the illness to recognize its symptoms, types of services that are available); (b) structural barriers (e.g., financial cost and lack of transport); and (c) attitudinal barriers (e.g., stigma-related concerns and fears or embarrassment about revealing personal

details) (Thompson, Hunt, & Issakidis, 2004). In the workplace, public stigma and self-stigma are the main obstacles for employed people to disclose and seek help for their mental health issues, as they are afraid of losing their jobs and also attempt to avoid discrimination (Henderson, Williams, Little, & Thornicroft, 2013). Delayed help seeking and fear of stigma may lead to social isolation at the workplace and further deterioration of the mental health conditions.

The World Economic Forum report, *The Global Economic Burden of Non-communicable Diseases,* estimates that the global cost of mental illnesses reached nearly US$2.5 trillion (two-thirds in indirect costs) in 2010, with a projected increase to over US$6 trillion by 2030 (Bloom et al., 2011). Poor mental health conditions lead to absenteeism, presenteeism, and productivity losses among the working population, which can be costly for business leaders (Hilton, Scuffham, Vecchio, & Whiteford, 2010). A recent systematic review of 16 anti-stigma interventions at the workplace shows that such interventions can lead to improved employee knowledge and supportive behavior towards people with mental illness. The effects of interventions on employees' attitudes were mixed, but generally positive (Hanisch et al., 2016). In other words, given the appropriate understanding and resources for interventions, creating a mental health friendly environment (e.g., willingness to have contacts with co-workers affected by mental health issues) for employees can likely lead to reduced health loss or even improved productivity and revenues (Dewa & Hoch, 2014).

Studies on knowledge, attitudes and behaviors towards mental illness are limited among the Chinese populations, especially among the working population. Ninety-one percent of the total Hong Kong population is of Chinese descent (Hong Kong Government, 2014). Chinese culture is mainly influenced by Confucianism that guides people to live in harmony and peace in the society for upholding social order (Yang, 1992). A survey on public attitudes towards persons with disability showed that 87% of the respondents who did mind working with persons with mental illness thought that the latter might cause danger and adverse effects to other staff (Equal Opportunities Commission, 2011). This perceived threat to social order might contribute to stigma in the workplace. Several local studies were conducted among the general public (Chou & Mak, 1998; Chou, Mak, Chung, Chan, & Ho, 1996), students (Ng & Chan, 2000), employers (Tsang et al., 2007) health professionals, and elderly (Siu et al., 2012) and generally concluded that the existence of stigma and discrimination associated with mental illness and the misunderstanding of people with mental illness are high in Hong Kong. In fact, The Equal Opportunity Commission (EOC) (2014), a statutory body set up to implement the discrimination ordinance in Hong Kong, received an average of 95 complaints of disability discrimination on the ground of mental illness each year between 2011 and 2013. Among those, 60% of the investigated complaints were related to employment. Yet, there are limited studies examining the knowledge and attitude towards mental illness and the resulting behaviors towards people with mental illness among working adults in the workplace in Hong Kong.

Hong Kong has been identified as having the highest working time in the world, with over 50 hours per week (UBS AG, 2015); the waking time that employees spend at work may be as long as they spend at home, if not longer. Hence, studying mental health related issues at the workplace in Hong Kong is very pressing. This study aimed to examine employees' knowledge, attitude, and behaviors towards people with mental illness across different industries. It was hypothesized that participants' knowledge and attitude towards mental illness and their reported behaviors towards people with mental illness are associated with their future intended behaviors towards people with mental illness. The findings of the present study are useful for the future development of empirically based anti-stigma programs and mental health policies in the Hong Kong workplace

Methods

Study Setting

The labor force participation rate in 2015 was 3.90 million, which was about 69% of the total population aged 15 and over in Hong Kong, and the unemployment rate was 3.7% (Hong Kong Census and Statistics Department, 2015). Hong Kong's total Gross Domestic Product (GDP) was US$307.3 billion and the GDP per capita was US$42,100 in 2015 (Hong Kong Census and Statistics Department, 2015). There is little data on financial loss due to mental health issues in Hong Kong.

Training for data collection fieldworkers and ethical approval

We conducted a cross-sectional telephone survey in Hong Kong between March and June 2014. The data were collected by researchers from the Social Science Research

Centre (SSRC) at The University of Hong Kong (HKU) who received two full days of training on the telephone survey, basic knowledge of research methodology, usage of research-related computer programs, a coding and rules briefing, and how to conduct telephone interviews. Before the survey period, they attended a briefing and an interview role-play session under the supervision of senior researchers at the SSRC. To ensure the quality of the survey, supervisors randomly checked the recorded phone interviews and called back interviewees in order to reconfirm the answers. All interviews were conducted in Cantonese (Chinese dialect commonly spoken in Hong Kong and the southern part of Mainland China) (Hong Kong Government, 2014). The Human Research Ethics Committee for Non-clinical Faculties at HKU approved this study.

Recruitment and participants

A sample of 50,000 mobile numbers was randomly generated using the mobile numbers prefix data published by the Office of the Telecommunications Authority. The criteria for participation included: (a) being at least 18- years old, (b) the ability to speak and listen to Cantonese, and (c) having worked more than 20 hours in the past week. Among the holders of these numbers, 21,585 (43.1%) did not answer the call; 17,103 (34.2%) were disconnected numbers; 6,329 (12.7%) were non-contact numbers; 2,448 (4.9%) declined to participate; and 1,504 (3.0%) were excluded because they did not meet the criteria. One thousand thirty-one people were successfully surveyed.

Measures

Knowledge. Mental Health Knowledge Schedule (MAKS) - Part A (Evans-Lacko, Henderson, & Thornicroft, 2013) was used. It comprised six items covering stigma-related mental health knowledge areas (help-seeking, recognition, support, employment, treatment and recovery) with true or false answers (Cronbach $\alpha = .35$). Sample item is:

Medication can be an effective treatment for people with mental health problems.

Attitude. Scale of Attitude to Co-workers with Mental Health Issues in the workplace was used (Henderson, Williams, Little, & Thornicroft, 2013). It is a ten-item five-point Likert scale (1 = strongly disagree, 5 = strongly agree, Cronbach α = .39). Sample item is: *Potential employees should disclose mental health problems prior to recruitment*.

Behaviors. Mental health-related reported and intended behavior was measured by the Reported and Intended Behaviour Scale (RIBS) (Evans-Lacko et al., 2013). It assessed four actual and four intended behavior outcomes (domains comprised: living with, working with, living nearby, and having or continuing a relationship with someone with a mental health problem). Sample item of reported behaviors is: *Are you currently working with or have ever worked with someone with a mental health problem?* Answer choices included *Yes*, *No* and *Don't know*. Sample item of intended behaviors is: *In the future, I would be willing to work with someone with a mental health problem.* Respondents chose from *Agree*, *Agree slightl*y, neutral, *Disagree slightly, and Disagree,* and *Don't know* (Cronbach $\alpha_{\text{reported behavior}} = .52$, $\alpha_{\text{intended behavior}} = .80$).

Demographics. Gender, education level, industry, and monthly income were measured. Each interview lasted about 20 minutes and the above mentioned scales were translated and back-translated by bilingual clinical psychologist and counselor.

Data Analysis

To enhance the representativeness of our findings, we weighted the collected data for each industry, based on the industry distribution of the Hong Kong 2011 Population Census (2011 Hong Kong Population Census, 2011). The measures of knowledge, attitude and behaviors were analyzed in item level in order to find out what specific

aspects might yield significant results. Descriptive analyses were used to calculate the number and percentage of responses of each item among eight industries, and industry differences were examined using *chi*-square tests. The participants were employed in the following eight types of industries: Community, Social and Personal Services (n = 263), Import/Export, Wholesale/Retail (n = 234), Finance, Insurance, Estate and other Commercial Services (n =198), Transport, Warehouse and Communication (n = 92), Hotel and Restaurant (n = 81), Construction (n = 80), Manufacturing (n = 49) and others (n = 33).

Hierarchical logistic regression was conducted to analyze the predictors of four future intended behaviors towards people with mental health problems. They were willingness of: (a) living with, (b) working with, (c) living nearby, and (d) maintaining a relationship with people with mental illness. Demographic variables (i.e., gender, education level, income and type of industry) were entered as block one, reported behaviors were entered as block two, and attitude and knowledge factors were entered as block three in the logistic regression analyses.

Results

Five hundred sixty-one male and 470 female (N = 1,031) participants were telephone-interviewed during March to May in 2014. With regard to their education level, 53% of participants indicated tertiary or above, 34% high school, 9% matriculation, 3% primary school, and 1% did not answer this question. Their monthly income ranged from below HK$5,999 (US$800) to HK$30,000 (US$4,000) or above. The median income was approximately HK$15,000 to 19,999 (US$1,900-2,500).

Tables 1-3 provide details of the stigma-related knowledge, attitude and behavior responses at the item level and their corresponding percentages in different industries.

Knowledge (Table 1). The mental health knowledge items showed that 97% of the participants answered correctly that psychotherapy (e.g., talking therapy or counselling) could be an effective treatment for people with mental health problems. However, only 55% thought people with severe mental health problems could fully recover.

Attitudes (Table 2). The findings about the attitude towards mental health problems showed that 92% of participants believed their industry needed more support in improving the way it dealt with mental health in the workplace, while 30% thought people with mental health problems were less reliable than other employees. Less than half (47%) of the participants thought employees were likely to fully recover after a few weeks of leave.

Reported and Intended Behaviours (Table 3). Among the participants, about 49% reported they had ever had a close friend with a mental health problem and 17% had ever lived with someone with a mental health problem. The participants responded that they were willing to live with (37%), work with (64%), live nearby (49%) people with a mental health problem and continue a relationship with a friend (71%) with a mental health problem.

In general, the distributions of the knowledge, attitude, and behavior items among different industries have more similarities than differences. The chi-square analyses among industries only detect significant statistical differences in one item in knowledge (*Most people with mental health problems go to a healthcare professional to get help),* followed by "previously working with", "having a relationship with", and "intention to live nearby people with mental illness". Among these items, the affirmative responses

among participants from Hotel and Restaurant, Construction industries were relatively low.

Table 4 presents the hierarchical logistic model of predictors of intended behaviors of employees in Hong Kong. Hierarchical logistic regressions were performed to assess the impact of a number of factors on the likelihood of four intended behaviors. Specific findings of the three level variables are presented here:

Block one – demographic variables. It was found that demographic variables were not significantly related with intended behaviors except for education and income level. People with higher education level were more likely to be willing to maintain a relationship with people with mental health problem (OR = 1.29, 95% CI [1.08, 1.53]) but respondent with a higher income were less willing to work with people with mental health problem (OR = .90, 95% CI [.80, 1.00]).

Block two – reported behaviors with people with mental illness variables. Past or present contacts with person with mental illness were important predictors of intention of future contacts with person with mental illnesses. People who had lived with people with mental illness are twice more likely to be willing to live with them again (OR = 2.22, 95% CI [1.52, 3.26]). People who had worked with people with mental illness also predicted higher willingness of working with (OR = 1.68, 95% CI [1.20, 2.37]) and living nearby (OR = 1.49, 95% CI [1.09, 2.04]) with them again. People who had lived nearby predicts the willingness of living nearby (OR = 1.38, 95% CI [1.01, 1.87]) and maintain a relationship (OR = 1.73, 95% CI [1.18, 2.51]). If people have/had a friend with mental health problem, they are more likely to continue a relationship with people with mental health problem (OR = 1.69, 95% CI [1.21, 2.37]).

Block three – attitudes and knowledge towards mental illnesses variables. We found that feeling comfortable to talk about mental health problem with colleagues (OR = 1.27, 95% CI [1.05, 1.54]) is associated with higher likelihood of willingness to work with people with mental health problem The belief that people with mental illness are less reliable is an important predictor of lower intention of working with them (OR = .74, 95% CI [.63, .87]), living nearby (OR = .73, 95% CI [.62, .85]), and maintaining a relationship (OR = .73, 95% CI [.61, .87]). The thought that "[our] industry needs more support in improving the way it deals with mental health in workplace" was significant predictor of higher willingness to work (OR = 1.46, 95% CI [1.15, 1.86]), live nearby (OR = 1.27, 95% CI [1.01, 1.50]) and maintain a relationship (OR = 1.50, 95% CI [1.27, 1.93]) with people with mental illness in the future. In terms of knowledge, the core predictor was about whether those with mental health illness can fully recover. This positive view doubled the willingness of living with people with mental health problems (OR = 2.08, 95% CI [1.54, 2.79]) and increased the intended behaviors of working with (OR = 1.50, 95% CI [1.12, 2.03]), living nearby (OR = 1.67, 95% CI [1.26, 2.21]) and maintaining a relationship (OR = 1.38, 95% CI [1.02, 1.90]). If employees thought medication was effective treatment for people with mental health problems, they were more likely to be willing to work with them (OR = 1.41, 95% CI [1.01, 1.98]).

The changes of R^2 at different levels. Block one contained four factors (gender, education level, income and industry) and was not statistically significant ($\chi_{\text{live with}}^2(4, N=1,031) = .70$, $p = .95$, $R^2 = .001$; $\chi_{\text{work with}}^2(4, N=1,031) = 7.37$, $p = .12$, $R^2 = .011$; $\chi_{\text{live nearby}}^2(4, N=1,031) = 4.12$, $p = .39$, $R^2 = .006$; $\chi_{\text{relationship}}^2(4, N=1,031) = 11.99$, $p = .02$, $R^2 = .018$). In block two, after adding the four reported behaviors as predictors, the

models were statistically significant ($\chi_{\text{live with}}^2(4, N=1,031) = 47.83$, $p < .001$, R^2 change = .07; $\chi_{\text{work with}}^2(4, N=1,031) = 26.19$, $p < .001$, $R^2 = .038$; $\chi_{\text{live nearby}}^2(4, N=1,031) = 27.02$, $p < .001$, $R^2 = .037$; $\chi_{\text{relationship}}^2(4, N=1,031) = 47.68$, $p < .001$, $R^2 = .071$). In block three with the predictors of attitude and knowledge, the models were also statistically significant ($\chi_{\text{live with}}^2(16, N=1,031) = 65.38$, $p < .001$, R^2 change = .088; $\chi_{\text{work with}}^2(16, N=1,031) = 95.42$, $p < .001$, $R^2 = .139$; $\chi_{\text{live nearby}}^2(16, N=1,031) = 79.40$, $p < .001$, $R^2 = .111$; $\chi_{\text{relationship}}^2(16, N=1,031) = 70.46$, $p < .001$, $R^2 = .116$).

Discussion

This study examined knowledge and attitude toward mental illness and reported behaviors with people with mental illness among the working population across different industries in Hong Kong. We specifically investigated the contributing impacts of knowledge, attitude, and reported behavior towards future intended behavior to interact with people with mental illness. There are four major findings. First, participants appeared to have positive attitudes and accurate knowledge towards the many aspects of mental illness measured by the chosen measurement tools. Second, employees in different industries reported fairly consistently in regard to the scales that measured knowledge and attitudes of mental illness and behaviors towards people with mental illness. Third, having experiences of living with, working with and nearby, and having a continuous relationship with people with mental illness were found to be important predictors for future willingness to live, work, and have a relationship with people with mental illness. Lastly, the attitude that *people with mental health problems are less reliable* was significantly associated with lower intended contacts, and the knowledge that *people with severe mental health problem can fully recover* was significantly associated with higher intended contacts with people with mental illness.

Participants' knowledge on mental illness was, to our surprise, much higher than anticipated because it has generally been depicted that the mental health literacy among the Chinese is lower than their western counterparts (Chien, Yeung, & Chan, 2014; Li, Chau, Wong, Lai, & Yip, 2013; Loo, Wong, & Furnham, 2012; Wong, Lam, Poon, & Chow, 2012). This unexpected result might be explained by the reported high percentage (49%) of having a close friend with a mental health problem among the participants and almost half of our participants (53%) were educated at the territory level and above. When comparing our findings with the study conducted in England (Evans-Lacko, Henderson, & Thornicroft, 2013), Hong Kong participants have higher percentage of correct answers in five of the six items in the MAKS but a relatively lower percentage answering correctly that people with severe mental health problems can fully recover. We suspect that this difference in findings may be due to the different research methodologies adopted in the studies from England and Hong Kong, instead of a real representation of the actual situation in Hong Kong. We are extremely cautious to state that Hong Kong population has good knowledge on mental illness, because, compared with other high-income societies (World Health Organization, 2005), Hong Kong lacks a mental health policy, has a small health budget for mental health promotion and treatment (8.7% of GDP for mental health among the total health budget in Hong Kong vs. 10% in the UK at 2005), and has a low psychiatrist to population ratio (1:44,202 in Hong Kong vs. 1:16,836 in the UK as of 2005). It is worth noting although an overarching vision, sustainable and territory-wide programs for enhancing mental health literacy of the population are still lacking, mental health service providers,

schools and universities are devoting designated efforts on education and promotion of mental health. In regard to the people's attitudes toward employees with mental health problems, as measured by the Attitude to Co-workers with Mental Health Issues in the workplace, current results are very similar to the findings in England (Henderson et al., 2013). In general, participants in our studies have positive attitudes toward a potential workmate with a mental health problem.

Employees in different industries produced similar findings in regards to their knowledge and attitudes to mental illness. Statistical differences were only found among a few industries. Specifically, we found that over 75% of employees in the Community, Social and Personal Services and in the Finance, Insurance, Estate and other Commercial Services knew that not many people seek help for mental health problem, while only half of the respondents from the Hotel and Restaurant industry answered this item correctly. The participants in the Finance, Insurance, Estate and other Commercial Services had the least experience of working with people with mental illness, while employees in the Transport, Warehouse and Communication industries had higher percentage. We also found that employees in the Transport, Warehouse and Communication industry had more positive intended behaviors towards people with mental illness in three out of the four included items. We are not aware of any previous similar studies that have examined the knowledge, attitude and behaviors towards mental illness among different industries simultaneously. Hence, no meaningful comparisons could be made between present findings and the existing literature. At the

moment, we can only report that the types of industries do not seem to have strong association with employees' knowledge, attitude, and behavior towards mental illness.

Consistent with previous work on stigma on mental illness, this study found that previous contacts with people with mental illness in different settings were positively related to willingness for future contact with the population (Corrigan, 2016; Espinosa, Valiente, Rigabert, & Song, 2016). In this light, it may be efficacious to involve individuals with personal experience of mental illness in the delivery of anti-stigma program or mental health education in the workplace. The emerging workforce of peer support workers in mental health services may contribute in this realm (Slade et al., 2014; Tse, Tsoi, Wong, Kan, & Kwok, 2014). Moreover, with good knowledge and positive attitude toward mental illness (e.g., Abiri, Oakley, Hitchcock, & Hall, 2016; Dalky, 2012; Parcesepe & Cabassa, 2013), the willingness for future contact can be further enhanced. With the rapidly growing body of literature on reducing stigma associated with mental illness in the past decade, we now have improved understanding about the potential outcomes of anti-stigma effort; for example, short term benefits for positive change can be achieved at the population level for different target groups (e.g., young people) which require different strategies for achieving the outcomes (Corrigan, 2016; Thornicroft et al., 2016). Systematic and outcome-based anti-stigma and mental health literacy programs with a clear over-arching vision are thus called for in Hong Kong (Tse, Ng, & Lam, 2015).

We found the attitude that people with mental illness are less reliable was associated

with lower likelihood of making future contacts. Consistent with previous study, persons with mental illness are often seen as incompetent (Pescosolido, Monahan, Link, Stueve, & Kikuzawa, 1999), with compromised productivity and job performance (Tsang et al., 2007). Consequently, employers and employees may find it challenging to rely on the former in achieving work tasks. Only 55% of the participants considered that people with mental health problems could fully recover; this was an important predictor of intended contacts. This may suggest the prominent influence of a medical model that emphasizes symptom reduction (Davidson, O'Connell, Tondora, Staeheli, & Evans, 2005) instead of promoting a sense of self-efficacy, empowerment, purpose and strengths among people in recovery from mental illness (Slade, 2009). Therefore, providing recovery-oriented education would be helpful to expand people's perception of the possibility of full recovery, so as to reduce the stigmatization.

Conclusion

This is a cross-sectional study and cannot make causal inferences. The telephone survey may also have its limitation of reaching those who are extremely busy and cannot answer the phone during work. Regardless of its limitations, the present study presents an improved understanding of employees' stigma-related attitude, knowledge and behaviors towards people with mental illness in Hong Kong. The findings may provide evidence for policy making and mental health promotion in the workplace to foster a mental health friendly environment for employees. Much more work on improving the understanding of mental illness and mental wellbeing across the globe is badly needed. It is paramount to conduct high-quality, multi-sectorial longitudinal studies with linkages to government's big data to allow a holistic understanding of mental illness in

workplaces of Hong Kong and the region.

(Word count 4054)

Article Notes

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Table 1 Responses to Mental Health Knowledge items: percentage of correct answers (N=1,031)

Knowledge	**Answer correctly %**	**1[a] % among the industry**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	χ^2
K1 Most people with mental health problems want to have paid employment (true)	92	93	95	90	92	88	93	96	92	5.96
K2 If a friend had a mental health problem, I know what advice to give them to get professional help (true)	82	83	84	75	84	87	87	80	87	9.81
K3 Medication can be an effective treatment for people with mental health problems (true)	77	79	80	76	69	76	72	83	78	8.79
K4 Psychotherapy (e.g., talking therapy or counselling) can be an effective treatment for people with mental health problems (true)	97	97	95	97	96	99	100	100	94	7.90
K5 People with severe mental health problems can fully recover (true)	55	50	57	57	57	58	60	54	48	5.50
K6 Most people with mental health problems go to a healthcare professional to get help (false)	69	75	65	77	68	51	59	57	86	39.03***

Notes: [a] 1-8 represent eight main industries by Hong Kong Census 2011 data; 1 is Community, Social and Personal Services (n = 263); 2 is Import/Export, Wholesale/Retail (n = 234); 3 is Finance, Insurance, Estate and other Commercial Services (n = 198); 4 is Transport, Warehouse and Communication (n = 92); 5 is Hotel and Restaurant (n = 81); 6 is Construction (n = 80); 7 is Manufacturing (n = 49); 8 is others (n = 33). The data were weighted for industry to represent the population distribution among industries. The percentages are the number of correct answers among the corresponding number of participants in the industry. *** $p < .001$

Table 2. Responses to Attitudes to Employees with Mental Health Problems items (N=1,031)

Attitudes [a]	**Percentage of agree responses %**	**1**[b] **%**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	χ^2
A I would feel comfortable talking about mental health with my employees.	80	81	79	79	84	81	71	76	79	6.71
B I would feel comfortable talking about mental health with job applicants.	65	62	67	64	71	63	56	70	70	8.47
C We would be flexible in offering adjustments or accommodations to someone with mental ill health.	79	80	75	83	80	84	72	76	82	8.44
D Potential employees should disclose mental health problems prior to recruitment.	78	77	77	79	83	80	76	82	73	4.78
E Negative attitudes from co-workers are a major barrier to employing people with mental health problems	64	64	57	71	64	67	65	60	63	7.31
F People with mental health problems are less reliable than other employees.	30	28	28	33	32	40	28	31	24	6.29
G Employees who have been off work with a mental illness for more than a few weeks are unlikely to ever fully recover	47	45	47	47	55	42	50	47	33	1.00
I Organizations take a significant risk when employing people with mental health problems in a public/ client-facing role.	58	53	58	57	64	57	60	66	64	7.23
J (Hong Kong) industry loses a great deal of talent because it does not know how best to deal with mental health in the workplace	58	59	57	56	59	64	61	50	52	5.12
K (Hong Kong) industry needs more support in improving the way it deals with mental health in the workplace	92	91	92	93	93	96	85	88	90	7.67

Notes: [a] The Attitude to employees with mental health problems asked interviewees what extent they agreed with a statement. Here we reported the percentage of strongly agree and agree. [b] 1-8 represent eight main industries by Hong Kong Census 2011 data; 1 is Community, Social and Personal Services (n = 263); 2 is Import/Export, Wholesale/Retail (n = 234); 3 is Finance, Insurance, Estate and other Commercial Services (n =198); 4 is Transport, Warehouse and Communication (n = 92); 5 is Hotel and Restaurant (n = 81); 6 is Construction (n = 80); 7 is Manufacturing (n = 49); 8 is others (n = 33). The data were weighted for industry to represent the population distribution among industries.

Table 3 Responses to Reported and Intended Behaviour Scale items (N=1,031)

Reported Behaviors	**Responses yes %**	**1[a] %[b]**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	χ^2
R1 Live with	17	21	16	16	14	12	16	18	15	4.57
R2 Work with	34	41	29	24	44	33	35	43	46	25.15**
R3 Live nearby	31	24	36	32	33	27	34	38	39	12.21
R4 Have a relationship	49	50	50	55	48	32	44	47	61	16.20*
Intended Behaviors [c]	**Agree %**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	
I1 Live with	37	35	41	37	44	33	28	35	32	8.48
I2 Work with	64	67	64	59	72	67	58	66	63	8.56
I3 Live nearby	49	50	51	43	62	49	43	56	42	14.75*
I4 Continue a relationship	71	73	70	81	77	73	74	64	73	8.45

Notes: [a] 1-8 represent eight main industries by Hong Kong Census 2011 data; 1 is Community, Social and Personal Services (n = 263); 2 is Import/Export, Wholesale/Retail (n = 234); 3 is Finance, Insurance, Estate and other Commercial Services (n =198); 4 is Transport, Warehouse and Communication (n = 92); 5 is Hotel and Restaurant (n = 81); 6 is Construction (n = 80); 7 is Manufacturing (n = 49); 8 is others (n = 33). The data were weighted for industry to represent the population distribution among industries. The data were weighted for industry to match the industry distribution. [b] The percentages are the number of positive answer among the corresponding number of participants in the industry. [c] The Intended Behaviours Scale items asked interviewees what extent they agreed with a statement. Here we reported the percentage of strongly agree and disagree. * $p < .05$; ** $p < .01$.

Table 4 Intended behavior: Logistic regression analysis of predictors on intended behaviors among respondents (N= 1,031)

Predictors	Live with Beta [95%CI]	Work with Beta [95%CI]	Live nearby Beta [95%CI]	Continue relationship Beta [95%CI]
Demographic				
Gender	1.09 [.80, 1.48]	1.08[.80, 1.48]	.91[.68, 1.21]	.91[.65, 1.27]
Education level	.95 [.81, 1.12]	1.07[.90, 1.26]	1.10[.94, 1.28]	**1.29[1.08, 1.53]
Income	1.01 [.90, 1.13]	^.90[.80, 1.00]	.97[.87, 1.08]	.98[.87, 1.11]
Industry	.98[.91, 1.06]	1.02[.94, 1.10]	1.00[.93, 1.07]	1.04[.95, 1.13]
Reported behavior				
Live with	***2.22[1.52, 3.26]	1.29[.85, 1.97]	1.04[.71, 1.53]	1.46[.90, 2.36]
Work with	^1.33[.97, 1.85]	**1.68[1.20, 2.37]	*1.49[1.09, 2.04]	1.41[.97, 2.05]
Live nearby	^1.34[.98, 1.85]	1.28[.92, 1.79]	*1.38[1.01, 1.87]	**1.73[1.18, 2.51]
Have a relationship	^1.39[1.02, 1.89]	1.21[.89, 1.65]	1.30[.97, 1.74]	**1.69[1.21, 2.37]
Attitude				
Feel comfortable talking about mental health with colleagues	.95[.78, 1.15]	*1.27[1.05, 1.54]	1.07[.89, 1.29]	1.18[.95, 1.37]
Feel comfortable talking about mental health with job applicants.	1.11[.93, 1.32]	1.02[.86, 1.21]	1.11[.94, 1.31]	1.14[.92, 1.35]
Be flexible in offering adjustments or accommodations to someone with mental ill health.	1.03[.86, 1.24]	1.14[.95, 1.36]	1.11[.93, 1.32]	1.11[.91, 1.34]
Potential employees should disclose mental health problems prior to recruitment.	*.84[.72, .98]	.96[.81, 1.13]	.92[.79, 1.08]	*.80[.67, .97]
Negative attitudes from co-workers are a major barrier to employing people with mental health problems	.88[.76, 1.03]	1.02[.87, 1.19]	1.04[.89, 1.20]	1.01[.85,1.20]
People with mental health problems are less reliable than other employees.	.88[.75, 1.04]	***.74[.63, .87]	*.73[.62, .85]	***.73[.61, .87]
Employees who have been off work with a mental illness for more than a few weeks are unlikely to ever fully recover	.95[.80, 1.12]	.87[.73, 1.04]	.90[.76, 1.05]	.98[.82, 1.19]
Organizations take a significant risk when employing people with	.90[.77, 1.06]	*.81[.68, .96]	.88[.76, 1.03]	.84[.70, 1.01]

mental health problems in a public/ client-facing role.				
(Hong Kong) industry loses a great deal of talent because it does not know how best to deal with mental health in the workplace.	1.14[.99, 1.32]	1.13[.98, 1.31]	1.01[.88, 1.16]	.96[.82, 1.12]
(Hong Kong) industry needs more support in improving the way it deals with mental health in the workplace.	.99[.78, 1.26]	*1.46[1.15, 1.86]	*1.27[1.01, 1.59]	*1.50[1.17, 1.93]
Knowledge				
Most people with mental health problems want to have paid employment (true)	1.05[.63, 1.76]	1.29[.78, 2.15]	.86[.52, 1.41]	1.36[.80, 2.31]
If a friend had a mental health problem， I know what advice to give them to get professional help. (true)	1.19 [.82, 1.73]	.94[.65, 1.37]	1.17[.83, 1.67]	1.22[.82, 1.81]
Medication can be an effective treatment for people with mental health problems. (true)	1.00[.72, 1.40]	*1.41[1.01, 1.98]	1.12[.81, 1.55]	1.06[.73, 1.53]
Psychotherapy (e.g. talking therapy or counselling) can be an effective treatment for people with mental health problems (true)	1.44[.65, 3.22]	.79[.39, 1.60]	1.36[.67, 2.76]	.86[.41, 1.80]
People with severe mental health problems can fully recover (true)	*2.08[1.54, 2.79]	**1.50[1.12, 2.03]	*1.67[1.26, 2.21]	*1.38[1.02, 1.90]
Most people with mental health problems go to a healthcare professional to get help (false)	1.11[.80, 1.55]	1.09[.77, 1.53]	.95[.77, 1.45]	.92[.64, 1.33]

Notes: ^ p <.08, marginally significant; * $p < .05$; ** $p < .01$; *** $p < .001$

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