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What Predicts Threat Perceptions Toward People Opposing to the Government? A Population-Based Study Following Umbrella Movement, Hong Kong

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Abstract

We examined the incidence and predictors of threat perceptions toward people who oppose government action (i.e., protestors) following the Umbrella Movement in Hong Kong (September 28th to December 15th, 2014). A population-representative sample of 1,208 citizens (mean age = 46.89 years; 52.4% female) was recruited two months after the conclusion of the Movement using random digit dialing. Upon giving their informed consent, respondents reported sociodemographics, perceived threats of protestors to the prospects of democracy, ways of life, and the economy, anxiety symptoms (STAI), and depressive symptoms (PHQ-9). More than half disagreed that protestors threatened the prospects of democracy (54.7%, 95% CI = .52, .57), ways of life (52.2%, 95% CI = .49, .55), and the economy (51.4%, 95% CI = .49, .54). Regression analyses revealed that male sex was associated with lower odds of perceiving threats to the prospects of democracy and ways of life. Being unmarried was associated with lower odds of perceiving threats to the economy. Secondary education level and depressive symptoms were associated with higher odds of perceiving threats to ways of life and the economy, respectively. This is one of the first population-based studies that measured socioeconomic and mental health correlates of political attitudes immediately following pro-democracy movements.

Keywords: threat perceptions toward protestors, psychological distress, social movement, Hong Kong, epidemiology

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The Umbrella Movement

The Umbrella Movement, originally called “Occupy Central,” emerged between September 28th and December 15th, 2014 in Hong Kong Special Administrative Region (HKSAR). The Movement was organized to force the governments of People’s Republic of China (PRC) and HKSAR to adopt a democratic procedure for election of the Chief Executive of Hong Kong in the year 2017. It was the largest scale-pro-democracy movement in China since the Tiananmen incident in 1989. An estimated 1.6 million (20.1%) of the 7.2 million citizens have reportedly stayed in the occupied areas (The Chinese University of Hong Kong, 2014). By occupying roads of major business and commercial areas including Admiralty, Causeway Bay, and Mong Kok, the Umbrella Movement was considered causing disruptions to economic activities such as retail shops and every day of citizens who worked or lived around the areas (Hui, 2015).

Background

In the Sino-British Joint Declaration in September 1984, the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the PRC agreed upon a “one country, two systems” principle. The aim of the principle was to ensure that the socialist system of PRC would not be practiced and the previous capitalist system and way of life would remain unchanged in HKSAR for a period of 50 years from the handover of Hong Kong to PRC in 1997. The motivation for the Umbrella Movement originated from both hope for and frustration toward the development of democracy in Hong Kong. The hope was based on the Sino-British Basic Law Article 45, which states that a representative nominating committee formed under democratic procedure will facilitate the ultimate goal of universal suffrage for Chief Executive, and Article 68, which states that the ultimate goal of universal suffrage also applies to the election of all members of the Legislative Council (HKSAR, 1997). In addition, according to the Annex I and II in the Basic Law, democratic processes for achieving the two ultimate goals might begin in the year 2007 (HKSAR, 1997). In 2007, the Standing Committee of the National People’s Congress of China (NPC) proposed to amend the specific method for selecting the fourth Chief Executive and forming the fifth-term Legislative Council of the HKSAR in 2012. The proposal stated that universal suffrage might be implemented for election of the fifth Chief Executive in 2017. Thereafter, universal suffrage might be implemented for election of the Legislative Council Members (Lam, 2015). The proposal implied that the earliest possible time for universal suffrage of Chief Executive and Legislative Council would be 2017 and 2020, respectively.

Proximal Development

Given the proposed timespan of democratization, pro-democracy supporters perceived limited determination of the PRC government to implement universal suffrage in Hong Kong (Flowerdew, 2016). Twenty-six legislators from 12 pan-democratic groups and other activists formed the Alliance for True Democracy in March 2013 in order to ensure implementation of “genuine” universal suffrage (Tong, 2017). The idea of “Occupy Central” is similar to “Occupy Wall Street,” denoting rallying tens of thousands of protestors to block the roads of Central, the most important central business and financial district of Hong Kong (Tong, 2017). The Occupy Central/Umbrella Movement was triggered following the NPC’s decisions to pre-select the candidates for the Chief Executive election and restrictions on the election of the Legislative Council members on August 31, 2014. On September 28, 2015, the Umbrella Movement as a civil disobedience campaign was declared to start officially after tens of thousands of protestors gathered outside the government headquarters for two days. Pro-democracy citizens/supporters hoped that the movement would rally support from the public and put PRC government under pressure for democratizing Hong Kong (Tong, 2017).

Divided Opinions

The Umbrella Movement reflected diversified political attitudes and actions that encompassed both Hong Kong people's longstanding political apathy (Kuan & Lau, 2002; Lau, 1993) and more recent participatory culture and collective action (Chan, 2015; Kurata, 2015; Pang, 2016). Divided opinions have been expressed regarding the Umbrella Movement. In a survey conducted amid the Umbrella Movement (i.e., October 2014), 37.8% of the 802 respondents expressed strong or moderate support, while 35.5% expressed strong or moderate opposition to the movement (The Chinese University of Hong Kong, 2014). Polarized perceptions of the benefits and harms of the Umbrella Movement have been reported (Lam, 2015; Lo, 2015; The Chinese University of Hong Kong, 2014). People supported the Umbrella Movement because they foresaw a threat to abolish the rule of law and deprive individual freedom (Bertolini, 2015; Cheung, 2014). Physical assaults on protestors and cases of pro-government selective law enforcement further heightened the possibility of political oppression if there is no universal suffrage in 2017 (Chan, 2014; Chow, 2015; Hui, 2015). Anti-protestors, on the other hand, focused on restoring social order. Among anti-protestor groups during the Umbrella Movement, there was speculation that PRC government would impose more restrictions upon democracy and freedom in Hong Kong (Cheung, 2015; Davis, 2015; Early, 2014). Sabotage of economic activities has also been emphasized as one of the major drawbacks (Kurtenbach, 2014; Yglesias, 2014).

With divided opinions on the pros and cons of the Umbrella Movement, it was a vantage point for understanding how the general population in Hong Kong views local people with more progressive, liberal, democratic, and anti-establishment political stances. No study to date has investigated perceptions toward people who oppose the government and actively participate in pro-democracy movements. In a population-representative sample two months after the Umbrella Movement, this study examined the incidence of threat perceptions toward the protestors and identified sociodemographic and psychological correlates of these perceptions. Models of intergroup perception and behavior (Brown, 2000; Hogg, 2016) and threat perceptions (Stephan & Stephan, 2000) and relevant empirical evidence were used to differentiate the protestors from antiprotectors based on political traditions and stances in Hong Kong. The conservation of resources (COR) theory (Hobfoll, 1998) and stress-based model of political extremism (Canetti-Nisim, Halperin, Sharvit, & Hobfoll, 2009) were applied to explain how socioeconomic resources and psychological distress could be associated with threat perceptions toward the protestors.

Protestors: Ingroup-Outgroup and Threat Perceptions

The social identity theory suggested that people make sense of who they are based on the social groups they are affiliated with, resulting in different attitudes and behaviors for people within the same group (i.e., ingroups) and those outside of the group (i.e., outgroups) (Hogg, 2016). Ingroups refer to people whom one identifies with, sees as more similar with oneself, and tends to treat with favoritism, whereas outgroups refer to people whom one does not identify with and tends to treat with hostility and stereotypes (Brown, 2000). Threat perceptions refer to cognitive evaluations about the realistic and symbolic ways that an outgroup interferes with the desires and goal attainments of an ingroup (Stephan & Stephan, 2000). Realistic threat denotes potential harm to tangible, material objects such as money, personal/interpersonal security, and land, whereas symbolic threat denotes potential harm to intangible aspects such as ingroup's identity, and value and belief systems. Amid social or political upheavals, outgroups including immigrants in Europe (Lesińska, 2014), asylum seekers and refugees in Australia (Correa-Velez, Spaaij, & Upham, 2013; Suhnan, Pedersen, & Hartley, 2012), and ethnic minorities in the USA (Torres, Driscoll, & Voell, 2012) were regarded as outgroups who disrupted different aspects of society including security and local culture. There is also evidence showing heightened perceptions of threat toward outgroups

during disruptive social/political situations, such as Arab Israelis in Israel (Canetti, Snider, Pedersen, & Hall, 2016), Australian, European, Hong Kong, and African immigrants in Britain (Ford, 2011), and Muslim populations in European countries (Hjerm & Nagayoshi, 2011).

During the Umbrella Movement, people with primary concerns about the economy or a more pro-China political identity, value and belief system, were likely to feel threatened by the protestors, realistically and/or symbolically (Cheung, 2015; Davis, 2015; Kurtenbach, 2014; Yglesias, 2014). The political stances in Hong Kong are mainly divided into two camps: the pro-establishment camp and the pan-democratic camp (Ortmann, 2015; The Chinese University of Hong Kong, 2016). The pro-establishment camp in Hong Kong, also called pro-Beijing camp or pro-China camp, refers to a political alignment that supports most if not all policies of the Beijing government toward Hong Kong (Chow, 2014). It also refers to the broader segments of the Hong Kong political parties that are closely linked with the Government of the PRC and HKSAR (Chow, 2014). In contrast, the pan-democratic camp embraces liberal values such as rule of law, human rights, and social justice. It refers to a political alignment in Hong Kong that supports democracy, including universal suffrage of the Chief Executive and the Legislative Council (Chow, 2014; Tong, 2017). Protestors in the Umbrella Movement demanded immediate universal suffrage, which was against the plans announced by both PRC and HKSAR governments. Because of the protestors' anti-government stance, people who held more conservative, pro-China, and pro-government political stances were likely to consider protestors as outgroup and perceive their threats to society and governance of the HKSAR government.

Socioeconomic Resources and Psychological Distress

Apart from political stances and attitudes, following social upheaval, socioeconomic resources and psychological distress have been suggested to predict threat perceptions (Adler et al., 1994; Canetti-Nisim et al., 2009; Hobfoll, 1998). According to the COR theory, social and economic resources can be indicated by proxies including education level, household income, employment status, and being married (Hobfoll, 1998). Socioeconomic resources relate to more progressive, liberal, and democratic attitudes. People who were unemployed have been found to put more emphasis on immigrants' threat to values and traditions such as national identity and ways of life in United States (Kinder & Kam, 2009; McDaniel, Nooruddin, & Shortle, 2011). Divorced or never married people, who had no social support of a partner, were more likely to support conservative right-wing party compared with married participants in Europe, controlling for the effects of age and sex (Werts, Scheepers, & Lubbers, 2013).

The stress-based model of political extremism further suggested that psychological distress resulting from exposure to social upheaval is one of the key predictors of threat perceptions, independent of demographics and exposure to terrorism during and after social upheaval (Canetti-Nisim et al., 2009). In the model, psychological distress was indicated by posttraumatic stress symptoms, which have been associated with higher threat perceptions toward outgroups (Canetti et al., 2010; Canetti, Hall, Rapaport, & Wayne, 2013; Hall, Saltzman, Canetti, & Hobfoll, 2015). Among a population-representative sample of Jewish Israelis during the Al Aqsa Intifada between 2000 and 2005, those who experienced physical harms from terrorist attacks demonstrated higher levels of posttraumatic stress symptoms relative to those who were not directly exposed to terrorist attacks (Canetti-Nisim et al., 2009). Post-traumatic stress symptoms prospectively predicted higher levels of perceived threats and exclusionist attitudes toward Arab Israelis.

However, under the broad category of psychological distress, anxiety and depression instead of posttraumatic stress symptoms might be more relevant to the people's experience during and after the Umbrella Movement

(Hou et al., 2015; Lau et al., 2017; Ni et al., 2017). Therefore, in contrast to earlier work on the stress-based model of political extremism, psychological distress was operationalized as anxiety and depressive symptoms in this study.

The Present Study

We have conducted two previous studies which also applied the COR theory to the same dataset and the same measurements of anxiety and depressive symptoms (Hou et al., 2015; Lau et al., 2016). The first study of the series (Hou et al., 2015), sought to demonstrate the prevalence of psychiatric symptoms and their predictors immediately following political upheaval. We found that a substantial proportion of people reported significant anxiety and depressive symptoms immediately following the Umbrella Movement and that these symptoms were predicted by loss of personal and social resources (Hou et al., 2015). In our second study (Lau et al., 2016), we looked specifically at how the loss of social connectedness on social media, and demographic moderators, affected anxiety and depressive symptoms. Loss of social connectedness on social media was found to be associated with higher depressive symptoms only among middle-aged and older adults, but not younger ones.

The present study, guided by the stress-based model of political extremism, extends our previous research by addressing two distinctly different aims. First, we examined the incidence of threat perceptions toward protestors in a population-representative sample two months after the Umbrella Movement. Based on media reports and population surveys (Lam, 2015; Lo, 2015; The Chinese University of Hong Kong, 2014), we predicted that respondents' threat perceptions toward protestors would be equally divided, with half of the sample perceiving threats from protestors. Second, we examined how threat perceptions toward protestors were associated with sociodemographic characteristics and psychological distress. We predicted that possessing preexisting socioeconomic resources (i.e., being married, higher education level, higher household income, and being employed) would be negatively associated with threat perceptions (Hobfoll, 1998). Based on the stress-based model of political extremism (Canetti-Nisim et al., 2009), we expected that psychological distress would be positively associated with threat perceptions. Thus, the aims of this study could not have been addressed in our previous two studies because the key outcome was threat perceptions, instead of psychological distress, and we used the stress-based model of political extremism as a frame of reference rooted in political psychology, rather than psychiatric epidemiology.

Methods

Respondents and Procedure

Upon obtaining Ethics Committee's approval from The Education University of Hong Kong, respondent recruitment and telephone interviews were conducted by the Centre for Communication and Public Opinion Survey of The Chinese University of Hong Kong, an experienced survey institute, during the first two weeks of February 2015. Details on the inclusion criteria of participant recruitment, the procedure of using a Computer-Assisted Telephone Interview (CATI) for recruitment, and the demographic characteristics of the current population-representative sample of 1,208 Hong Kong Chinese citizen could be found in our previous studies (Hou et al., 2015; Lau et al., 2016).

Measures

A combined etic-emic approach was adopted to translate the scales on threat perceptions, which are not available in Chinese language at the time of study. First, the items were translated into Chinese by a bilingual translator and then back translated by a naïve second translator. The translators aimed to preserve the original English meaning, while attempting to use Cantonese expressions that were equivalent to or approximate the English meaning. The authors ensured that the original and the back-translated versions were semantically and conceptually equivalent. Joint meetings between the translators and the authors were conducted to resolve discrepancies in the two versions. The translation process was reiterated when necessary.

Sociodemographic Characteristics

A standardized proforma was used to obtain demographic information including age in years, sex, marital status (i.e., single, married/cohabited, divorced/separated, widowed), education level, employment status, monthly household income, and years of residence in Hong Kong.

Threat Perceptions

Three items were developed to assess respondents' perceived threats of protestors on a 6-point scale (1 = *strongly oppose*, 2 = *oppose*, 3 = *somewhat oppose*, 4 = *somewhat agree*, 5 = *agree*, 6 = *strongly agree*). Perceived threat to the prospects of democracy was indicated by the item "*Protestors pose threats to the prospects of democracy.*" Perceived threat to ways of life was indicated by the item "*Protestors pose threats to the prospects of Hong Kong's ways of life.*" Perceived threat to the economy of Hong Kong was indicated by the item "*Protestors pose threats to Hong Kong's economy.*" (range of score on each dimension = 1–6). Alpha for the three items as a scale was high (.88), showing that the three items together reliably measured different aspects of threat perceptions.

Anxiety and Depressive Symptoms

The Chinese version of the 6-item state version of the State-Trait Anxiety Inventory (STAI-6) assessed frequency of six emotional states in the previous two weeks, three negatively worded (i.e., tense, upset, worried) and three positively worded (i.e., calm, relaxed, content), on a 4-point scale (1 = *not at all*, 2 = *somewhat*, 3 = *moderately*, 4 = *very much*) (Martean & Bekker, 1992; Shek, 1988). Scores on the three positive-worded items were reverse coded and the total summed scores were prorated (i.e., multiplied by 20/6) to approximate the original 20-item full scale (Martean & Bekker, 1992). Alpha was .71 in the current administration. Depressive symptoms in the previous two weeks were assessed using the Chinese version of the 9-item Patient Health Questionnaire (PHQ-9) on a 4-point scale from 0 (*not at all*) to 3 (*nearly every day*) (Yeung et al., 2008). In this study, alpha was .86. More detailed descriptions and references for previous studies indicating scale validity and reliability could be found in our previous studies (Hou et al., 2015; Lau et al., 2016).

Analytic Plan

Weightings of sex, age, and education level were conducted on the study data based on the population census (Census and Statistics Department, 2014). Multiple imputations were used to replace the small portion of missing data (no more than .01% on any study variable). The first part of the analyses aimed to report the incidence of threat perceptions toward protestors. The second part of the analyses aimed to investigate the associations of preexisting socioeconomic resources and current anxiety and depressive symptoms with threat perceptions toward protestors in series of regression models. Zero-order correlations of threat perceptions with sociodemographic

characteristics and anxiety and depressive symptoms were also examined. Then, a regression model was conducted for each of the three dimensions of threat perceptions as a single-item continuous outcome. Adjusted odds ratios (aORs) with 95% CI were reported to indicate the independent association of each demographic characteristic and symptom with an outcome while adjusting for potential confounders.

In all regression models, education level (1 = primary education or below, 2 = secondary education, and 3 = tertiary education), employment status (1 = unemployed, 2 = dependent, and 3 = employed), and marital status (1 = married/ 0 = unmarried) were recoded. Based on the median household income of HK\$23,800 (Census and Statistics Department, 2015), income level was recoded into 1 = < HK\$20,000, 2 = HK\$20,000–\$29,999, 3 = HK\$30,000–\$39,999, 4 = HK\$40,000–\$49,999, and 5 = ≥ HK\$50,000. Lifetime years of residence in Hong Kong were calculated by dividing years of residence by age (range = 0–1). All analyses were performed using SPSS (Version 21; SPSS Inc., Chicago, IL).

Results

Threat Perceptions Toward Protestors

As shown in Table 1, a total of 54.7% (95% CI = .52, .57) of the respondents rated “*very strongly disagree/strongly disagree/disagree*” on “threat of protestors to the prospects of democracy of Hong Kong,” among which 20.2% ($n = 244$, 95% CI = .18, .23) “*very strongly disagree*,” 18.3% ($n = 221$, 95% CI = .16, .21) “*strongly disagree*,” and 16.2% ($n = 195$, 95% CI = .14, .18) “*disagree*.” Another 45.3% (95% CI = .43, .48) rated “*very strongly agree/strongly agree/agree*” on “threat of protestors to the prospects of democracy:” 14.1% ($n = 170$, 95% CI = .12, .16) “*very strongly agree*,” 14.2% ($n = 172$, 95% CI = .12, .16) “*strongly agree*,” and 17% ($n = 205$, 95% CI = .15, .19) “*agree*.” About half of the respondents 52.2% (95% CI = .49, .55) disagreed that protestors posed “threat to ways of life in Hong Kong” whereas 47.8% (95% CI = .45, .51) agreed with it: “*very strongly disagree*” = 20.2% ($n = 244$, 95% CI = .18, .23), “*strongly disagree*” = 18% ($n = 217$, 95% CI = .16, .20), “*disagree*” = 14.1% ($n = 170$, 95% CI = .12, .16), “*agree*” = 20.6% ($n = 249$, 95% CI = .18, .23), “*strongly agree*” 13.6% ($n = 164$, 95% CI = .12, .16), and “*very strongly agree*” 13.5% ($n = 163$, 95% CI = .12, .16). The numbers of people who disagreed (51.4%, 95% CI = .49, .54) and agreed (48.6%, 95% CI = .46, .51) that “protestors posed threat to the economy of Hong Kong” were similar.

Predicting Perceived Threats Toward Protestors

Correlations of threat perceptions with sociodemographic characteristics and anxiety and depressive symptoms are summarized in Table 2. Threat perceptions toward protestors were positively associated with age, female sex, being unmarried, and depressive symptoms, and inversely associated with education level and household income level.

Table 1
Incidence of Threat Perceptions Toward Protestors

Threats to	M	SD	Very strongly disagree			Strongly disagree			Disagree			Agree			Strongly agree			Very strongly agree		
			n	%	95% CI	n	%	95% CI	n	%	95% CI	n	%	95% CI	n	%	95% CI	n	%	95% CI
Prospects of democracy	3.29	1.71	244	20.2	18, .23	221	18.3	16, .21	195	16.2	.14, .18	205	17	.15, .19	172	14.2	.12, .16	170	14.1	.12, .16
Ways of life	3.30	1.69	244	20.2	.18, .23	217	18	.16, .20	170	14.1	.12, .16	249	20.6	.18, .23	164	13.6	.12, .16	163	13.5	.12, .16
Economy	3.39	1.75	252	20.9	.19, .23	179	14.8	.13, .17	190	15.7	14, .18	217	18	.16, .20	170	14.1	.12, .16	200	16.5	.15, .19
Overall	3.33	1.72	740	20.4	.19, .21	617	17.0	.16, .18	555	15.3	14, .17	671	18.5	.17, .20	506	14.0	.13, .15	533	14.7	.14, .16

Note. The data was weighted by sex, age, and education level based on the data of population census in Hong Kong. CI = confidence interval.

Table 2
Correlations of Threat Perceptions Toward Protestors With Sociodemographic Characteristics and Anxiety and Depressive Symptoms

Variable	Prospects of democracy	Ways of life	Economy
Age ^a	.11***	.13***	.10***
Gender	.08**	.09**	.07*
Marital status	.06*	.06*	.07*
Education level	-.11***	-.14***	-.12***
Year of residence in Hong Kong ^b	.02	-.00	-.00
Employment status	-.03	-.01	.02
Household income	-.06*	-.10**	-.09**
Anxiety symptoms ^c	.03	.01	.03
Depressive symptoms ^d	.06*	.07*	.09**

Note. SD = standard deviation.

^aM = 46.89, SD = 17.20. ^bM = 39.94, SD = 16.97. ^cM = 44.28, SD = 11.27. ^dM = 4.40, SD = 4.87.

*p < .05. **p < .01. ***p < .001.

The results of the multivariable regression analyses are summarized in Table 3. Male respondents reported lower threats of protestors toward the prospects of democracy and ways of life, respectively. Respondents with secondary education level reported higher threats of protestors to the prospects of democracy and ways of life, relative to respondents with tertiary education level as the reference group. Threats to the prospects of democracy, ways of life, and the economy were approximately 0.4%, 0.4%, and 0.3% higher with every one year increase in age. Unmarried respondents reported lower threat of protestors to the economy, relative to married respondents. Respondents with higher depressive symptoms reported higher threat of protestors on the economy.

Table 3

Regression of Threat Perceptions on Sociodemographic Characteristics and Anxiety and Depressive Symptoms

Predictor	Prospects of democracy			Ways of life			Economy		
	aOR	95% CI	p value	aOR	95% CI	p value	aOR	95% CI	p value
Age	1.00	1.00, 1.01	< .01	1.00	1.00, 1.01	< .001	1.00	1.00, 1.01	.03
Gender									
Male	0.94	0.88, 1.00	.03	0.92	0.86, 0.97	< .01	0.95	0.89, 1.01	.08
Female	1.00	Referent		1.00	Referent		1.00	Referent	
Marital status									
Unmarried	0.97	0.90, 1.04	.34	0.95	0.89, 1.02	.15	0.92	0.86, 0.99	.02
Married	1.00	Referent		1.00	Referent		1.00	Referent	
Education level									
Primary or below	1.05	0.93, 1.18	.44	0.99	0.89, 1.11	.91	1.00	0.89, 1.12	.99
Secondary	1.11	1.03, 1.20	.01	1.10	1.02, 1.18	.02	1.07	0.99, 1.15	.11
Tertiary	1.00	Referent		1.00	Referent		1.00	Referent	
Household income									
\$19,999 or below	0.97	0.88, 1.07	.50	1.06	0.97, 1.16	.22	1.07	0.97, 1.17	.20
\$20,000–\$29,999	0.93	0.85, 1.03	.18	0.96	0.87, 1.06	.38	1.01	0.91, 1.11	.89
\$30,000–\$39,999	0.98	0.88, 1.08	.63	1.03	0.94, 1.14	.53	1.06	0.96, 1.17	.28
\$40,000–\$49,999	0.95	0.84, 1.06	.33	0.99	0.88, 1.10	.82	1.05	0.94, 1.17	.41
\$50,000 or above	1.00	Referent		1.00	Referent		1.00	Referent	
Anxiety symptoms	1.00	1.00, 1.01	.17	1.00	1.00, 1.00	.55	1.00	1.00, 1.00	.65
Depressive symptoms	1.01	1.00, 1.01	.20	1.01	1.00, 1.01	.12	1.01	1.00, 1.02	.02

Note. aOR = adjusted odds ratio.

Discussion

This population-based study is one of the first to report political attitudes among Hong Kong or Chinese people immediately following large-scale pro-democracy movement. Consistent with previous media reports and our prediction, the present Hong Kong Chinese respondents held equally divided opinions on the extent to which protestors threatened the prospects of democracy, ways of life, and the economy. In a series of regressions, male respondents reported lower perceived threats of protestors to the prospects of democracy and ways of life in Hong Kong. Contrary to our expectation, being unmarried was associated with reduced odds of perceiving threat to the

economy. Secondary education level was associated with increased odds of higher threats of protestors to the prospects of democracy and ways of life, relative to people with tertiary education as the reference group. Older age increased the odds of perceiving higher threats of protestors to these two aspects as well as the economy. As will be explored below, depressive but not anxiety symptoms were associated with increased odds of higher threats of protestors to the economy.

Very little population-based research has been conducted on perceptions toward protestors. The Umbrella Movement undeniably brought disruptions and inconvenience to everyday life of some Hong Kong citizens. Local patriotic groups disseminated the message that participants of the Umbrella Movement disrupted social order and brought no positive impact on Hong Kong (Kurata, 2015; The Chinese University of Hong Kong, 2014). But no reliable empirical evidence is available to show that these were the popular opinions of the general public. This study is one of the first to provide a valid and reliable assessment of threat perceptions toward protestors in the Umbrella Movement. In the current population-representative sample, equally divided opinions have been found on protestors' threats to the prospects of democracy, ways of life, and the economy in Hong Kong. Therefore, neither prodemocracy nor pro-China groups should assert that the majority of the population supported their opposing stances toward the Umbrella Movement.

Male respondents in the current study tended to perceive lower threat perceptions toward protestors. There is evidence showing that women held more conservative political attitudes than men (Norrande & Wilcox, 2008). In other contexts, more support on the Conservatives over Labor or Liberals has been observed among British women especially those who were older (Shorrocks, 2016). Contrasting findings, however, have been obtained from a representative sample of Americans ($n = 25,588$) during the 2008 United States presidential election, among which men expressed higher conservatism in political self-identification than women (Inbar, Pizarro, Iyer, & Haidt, 2012). In a previous population survey in Hong Kong, men expressed more polarized views over localist camp, pan-democratic, and pro-establishment (i.e., the three major political orientations in Hong Kong nowadays) than females, whereas women tended to express "neutral" or "no view" on the political orientations (The Chinese University of Hong Kong, 2016). The inconsistent findings on gender differences on political attitudes could be due to factors including women's lower interest in usually male-dominated political systems or governments (Coffé & Bolzendahl, 2010), and fewer chances to engage in political discussions (Wolak & McDevitt, 2011). In this study, female respondents' higher perceptions of threats toward protestors might reflect their long-standing apathy to politics.

This is the first empirical evidence suggesting a nonlinear association between education level and threat perceptions toward protestors or anti-establishment people. There are three frameworks for understanding the impact of education on political attitudes, namely self-interest thesis, developmental thesis, and socialization thesis (Dunn, 2011). The self-interest thesis suggests that people with higher levels of education are likely to earn higher incomes, which predispose them to a right-wing identity out of self-interest (Marshall, 2016). The developmental thesis nonetheless asserts that education expands one's perspective and stimulates cognitive growth, leading to a more liberal ideology (Stubager, 2008). In addition, the socialization thesis suggests that political attitudes are transmitted to students through social learning processes (Dunn, 2011). Because tertiary education is westernized and liberal in Hong Kong (Curry, 2012; Mok & Cheung, 2011) and Hong Kong society is generally liberal (Ma, 2011; Oksanen, 2011), tertiary education may tend to predispose university graduates to more left-wing political attitudes (Hastie, 2007; Weakliem, 2002). Consistent with the socialization thesis, the current study found that relative to respondents with secondary education level, respondents with tertiary education level demonstrated lower odds of perceived

threats toward protestors for prospects of democracy and way of life. The findings suggest that respondents with tertiary education might hold a more positive, open attitude toward the protestors who aimed to accelerate democratic development in Hong Kong.

Lower perceived threat of protestors to the economy was found in unmarried respondents in the current study. A body of studies suggested that marital status was not a significant predictor of political attitudes or political participation (Banerjee & Ray Chaudhuri, 2018; Berinsky & Lenz, 2011; Schussman & Soule, 2005). Werts and colleagues investigated voting behaviors in Europe between 2002 and 2008 and found that participants who were divorced and never married are more likely to support more conservative right-wing party compared with married participants, controlling for the effects of age and sex (Werts et al., 2013). Contrasting findings, however, showed that married people were more likely to support Republicans than Democrats relative to unmarried people in congressional elections in the United States (McKee & Springer, 2015). Denver (2008) argued that married citizens tend to adhere to more traditional values, which relate to higher conformity to the idea of 'good citizenship.' Protests against the government could be less acceptable to married people. In addition, marital status has been found to be more strongly associated with political behaviors and perceptions of political behaviors than political attitudes. In addition, married people have reported less participation even for nonviolent and lawful protests (Solt, 2015). The data from World Values Surveys of 37,716 citizens in 17 more advanced democratic countries further showed that during social movements, married people tended to sign petitions to express their stances, whereas unmarried people tended to take part in demonstrations directly (Dodson, 2015). This study extends previous contradicting evidence by analyzing different dimensions of threat perceptions. While there is no significant difference between married and unmarried participants on threats of protestors to the prospects of democracy and ways of life, being unmarried was associated with lower threat of protestors to the economy.

The stress-based model of political exclusionism is useful for describing how experiences of social/political upheaval impact momentary, sometimes longstanding, political attitudes in conjunction with negative psychological functioning (Canetti-Nisim et al., 2009). Currently the model has only been replicated and extended within people who experienced traumatic and/or life-threatening events including armed conflicts, missile attacks, and terrorist attacks (Canetti et al., 2010; Canetti et al., 2013; Hall et al., 2015). This study assessed two of the key components of the stress-based model, namely psychological distress (i.e., anxiety and depressive symptoms) and threat perceptions toward protestors. Our findings suggest that although anxiety and depressive symptoms may represent the psychological distress component in the model, differences between these types of symptoms may be important to study and understand.

Previous research has found mixed findings on the associations of anxiety and depression with political conservatism and right-wing authoritarianism, denoting the inclinations to maintain established and traditional order. Higher conservatism has been associated with lower depressive symptoms among college students (Schlenker, Chambers, & Le, 2012) but higher depressive symptoms as well as death anxiety among older adults (Soenens & Duriez, 2012). Right-wing authoritarianism predicted higher anxiety symptoms among high-exposure survivors of the September 11th terrorist attacks in the year that followed (Bonanno & Jost, 2006) and increase in depressive symptoms over time among community and school samples (Duriez, Klimstra, Luyckx, Beyers, & Soenens, 2012). What was not addressed by these studies is temporality of the political attitudes, whether it is directed toward past or future issues.

Our findings suggest differential associations of anxiety and depressive symptoms with threat perceptions because of their symptomatic differences (Baldwin, Evans, Hirschfeld, & Kasper, 2002; Burns & Eidelson, 1998). Anxiety is future-oriented, indicating one's non-preparedness of coping with upcoming negative incidents, whereas depression is past-oriented, indicating recurrent negative thoughts and feelings toward negative incidents in the past (Ingram, Ramel, Chavira, & Scher, 2001; Papageorgiou & Wells, 1999). Previous studies that focused on the difference between anxiety and depression have found that depression was associated more with past events than future events, whereas anxiety was associated more with future events than past events (Eysenck, Payne, & Santos, 2006; Pomerantz & Rose, 2014; Rinaldi, Locati, Parolin, & Girelli, 2017). Threat perceptions toward protestors were likely to be past-oriented based on memory because our survey was conducted after the Umbrella Movement. This might explain why depressive symptoms but not anxiety symptoms were related to higher threat perceptions toward the protestors. This study suggests that after a major political movement, depressive symptoms could be more strongly associated with political attitudes toward protestors or possibly political activists.

Limitations and Conclusion

Several limitations warrant cautions. First, the present cross-sectional analyses could not determine causality between socioeconomic resources, anxiety and depressive symptoms, and political attitudes. Media framing of the drawback of the Movement and the state's reluctant to offer concession despite the massive scale of public outcry could be related to higher depressive symptoms of the respondents. The stress-based model proposes psychological distress as one of the predictors of political attitudes, while there is also evidence showing that political attitudes such as higher political conservatism, right-wing authoritarianism, and conservative shift predict psychological distress (e.g., Bonanno & Jost, 2006). Because of the cross-sectional design, we could not determine causality between depressive symptoms and threat perceptions.

Second, the telephone survey relied on self-reports. Respondents' identity and genuineness of the information they provided could not be verified. Although phone-based interviews have been found to be a valid method for assessing psychological variables in both cross-sectional and longitudinal designs (Hobfoll et al., 2011; Muskens et al., 2014), response bias and social desirability could influence respondents' answers and discount data validity, especially for expressing opinions over sensitive political issues (Gonzalez-Ocantos, de Jonge, Meléndez, Osorio, & Nickerson, 2012; Janus, 2010).

Third, it was possible that some respondents could have been living abroad for long time and have limited understanding about the Umbrella Movement. Nevertheless, lifetime years of residence in Hong Kong was included as one of the covariates in the current statistical analyses and random digit dialing has been considered a reliable mean to obtain representative sample in population-based epidemiological studies (Olson, Kelsey, Pearson, & Levin, 1992).

Fourth, potential confounders such as preexisting mental health issues and concurrent predictors like exposure to the Umbrella Movement, prodemocracy or pro-China status, knowledge about the Umbrella Movement, political sympathy or identification with the protestors were not assessed. Unmeasured confounders could increase or decrease the associations between predictors and outcomes. For example, lower threat perceptions were likely associated with respondents' higher identification with the protestors and endorsement of the Umbrella Movement. More studies are needed to examine the nature of associations among psychological distress, threat perceptions, and other political attitudes.

Fifth, the current study only assessed threat perceptions toward protestors who participated in the Umbrella Movement for democracy in Hong Kong. In view of the data showing that over half of the respondents did not perceive threats from the protestors; it is possible that a substantial proportion of the respondents might perceive the status quo but not the Movement as “threatening.” In addition, threat perceptions toward the protestors could have resulted from the effect of framing by the media, especially pro-establishment ones.

Notwithstanding these limitations, the current study sheds light on threat perceptions toward protestors among the general population in Hong Kong. This is one of the first studies to investigate public attitudes toward people who oppose to the government among a representative population sample. Although our data did not show an overwhelming majority support on the Umbrella Movement, it is hard to deny that substantial number of Hong Kong people viewed the movement positively. The data on the sociodemographic correlates provide timely description on how different people in the Hong Kong population made sense of protestors immediately following the Umbrella Movement, one of the most large-scale pro-democracy movements in Chinese societies around the world. The stress-based model of political exclusionism was extended and tested. Our findings suggest a specific association of depressive symptoms with threat perceptions toward protestors. This study provides a potentially important evidence base for examining the associations between political attitudes and participations and mental health following pro-democracy movements among Chinese populations.

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Competing Interests

The authors have declared that no competing interests exist.

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