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# Cultural-Psychological Differences, Social Acceptance of Same-Sex Relationships, and Dating App Use Motives of Young GBMSM: A Comparative Study Across Hong Kong, Taipei, and Osaka

Lik Sam Chan <sup>a</sup>, Don Lok Tung Chui <sup>a</sup>, and Junya Yanagi <sup>b</sup>

<sup>a</sup>School of Journalism and Communication, The Chinese University of Hong Kong; <sup>b</sup>Graduate School of Management, Kyoto University

## ABSTRACT

Gay-specific mobile dating apps such as Grindr are popular among young gay, bisexual, and other men who have sex with men (GBMSM) worldwide. However, how the use of these apps differs between regions is underexplored. In this study, we drew on the uses and gratifications literature and cross-cultural studies to examine how cultural-psychological differences (sensation seeking and communication apprehension) and social acceptance of same-sex relationships are associated with the motives for using gay dating apps in three East Asian cities. Using a sample of 18–34-year-old GBMSM (217 participants from Hong Kong, 330 from Taipei, and 175 from Osaka), we found that the Taiwanese participants scored higher than their Japanese counterparts on almost all motives. Sensation seeking was positively associated with using gay dating apps for casual sex, self-worth validation, and thrill of excitement in both Taipei and Osaka. Communication apprehension was positively associated with using the apps for ease of communication in all three cities. Social acceptance of same-sex relationships had positive relationships with using the apps for love in Hong Kong and casual sex in Taipei but negative relationships with other motives in Taipei and Osaka. These inconsistent relationships between the variables across the three cities point to the importance of cultural and regional specificity in predicting gay dating app use motives.

Mobile dating apps tailored for gay, bisexual, and other men who have sex with men (GBMSM), such as Grindr and Jack'd, are extremely popular worldwide (Grindr, 2023; Jack'd, 2023). Scholars interested in public health and psychology have observed mixed findings on the associations between app use and various health-related and psychological outcomes among GBMSM. For instance, positive relationships between gay dating app use and risky sexual behaviors have been identified (Hoenigl et al., 2020; Ko et al., 2016; Smiley et al., 2020; Yeo & Ng, 2016). Other scholars have also revealed the positive associations of dating app use with social comparison and self-stigma (Filice et al., 2019; He et al., 2023) and its negative association with loneliness (Taylor et al., 2017) among GBMSM.

In assessing the various associations with dating app use, it is imperative to consider the specific motives of app use (Bauermeister et al., 2011; Grov et al., 2014; Rice et al., 2012). For instance, the fact that a gay man using dating apps for *casual sex* should be more relevant than simply the fact that he is a dating app user in predicting his risky sexual behaviors. Likewise, knowing that a gay man uses dating apps for *self-worth validation* should be more relevant than simply knowing that he is a dating app user in predicting his level of self-objectification.


To systematically explore the multiple uses and motivations of using dating apps, media and communication studies scholars have applied uses and gratifications (U&G) theory (Katz et al., 1973) to the studies of gay dating apps. To date, many of these U&G studies

of gay dating apps have been conducted in the U.S. (Gudelunas, 2012; Miller, 2015; Van De Wiele & Tong, 2014). Gay dating apps are also popular in Asian regions, but few quantitative studies have been conducted in these regions. Through this study, we contribute to the gay dating app scholarship by examining and comparing the gay dating app use of self-identified GBMSM living in three East Asian cities: Hong Kong, Taipei, and Osaka. These cities were selected for two reasons. First, GBMSM in these locations have access to the same pool of gay dating apps, such as Grindr, Jack'd, Hornet, and 9monsters (an app developed in Japan); therefore, a meaningful comparison could be made. Second, as scholars from information systems studies have pointed out, culture affects technology use (Gallivan & Srite, 2005). Accordingly, we offer insight into how different cultural and social environments are associated with different U&G of gay dating apps. Regarding cultural environments, we consider how sensation seeking and communication apprehension – two culturally-shaped psychological traits – are related to gay dating app use.

## Uses and Gratifications of Dating Apps

Influential in communication and media studies, U&G theory assumes that media users actively select a medium to satisfy their needs (Katz et al., 1973). U&G theory is used “(a) to explain how people use media to gratify their needs, (b) to understand motives for media behavior, and (c) to identify

**CONTACT** Lik Sam Chan  samchan@cuhk.edu.hk  Room 201, Humanities Building, New Asia College, The Chinese University of Hong Kong, Shatin, Hong Kong, China

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functions or consequences that follow from needs, motives, and behavior” (Rubin, 2002, p. 527). Communication and media studies scholars have used the theory to study various new and emerging media, such as mobile phone texting (Leung, 2007), blogging (Fullwood et al., 2015), and social media (Zhang et al., 2011).

Drawing on U&G theory, several recent studies have identified motives for using dating apps across different genders, sexual orientations, and geographical locations (Chen & Ding, 2020; Miller, 2015; Sumter et al., 2017; Timmermans & De Caluwé, 2017; Van De Wiele & Tong, 2014). For instance, Van De Wiele and Tong (2014) identified six motives of Grindr use, namely sex, friendship, entertainment, romance, social inclusion, and location-based search. They found that rather than the general use of Grindr, using Grindr for social interaction and for romance predicted the frequency of self-disclosure on the app. They demonstrated the importance of considering specific motives of gay dating app use. More recently, Timmermans and De Caluwé (2017) and Sumter et al. (2017) each developed a scale to assess motivations for using Tinder. Using one U.S. and three Belgian samples, Timmermans and De Caluwé (2017) identified 13 motives, such as getting social approval, seeking relationships, seeking sexual experiences, and using while traveling. Their study demonstrated that certain motives had associations with behavioral outcomes. For example, using Tinder to seek relationships was negatively associated with having casual sex with people met via Tinder, yet using Tinder to explore one’s sexual orientation had a positive association with the same outcome. Similarly, Sumter et al. (2017) identified six motives for using Tinder, namely love, casual sex, ease of communication, self-worth validation (“positive feedback about one’s appearance” as well as “feeling more confident and happy by receiving validation,” p. 71), thrill of excitement (“the rush and kick associated with the app,” p. 71), and trendiness. In their subsequent validation study, in which they also examined other dating apps besides Tinder (Sumter & Vandenbosch, 2019), the research team categorized these six motives under three broad types of goals: love and casual sex under *relational goals*, ease of communication and self-worth validation under *intrapersonal goals*, and thrill of excitement and trendiness under *entertainment goals*. Using a sample of young Dutch adults, Sumter and Vandenbosch (2019) found that men were more likely to use dating apps for love, casual sex, and ease of communication, and that people with a stronger sensation-seeking trait were more likely to use dating apps for casual sex and thrill of excitement.

The above studies have shown that various motives for using dating apps exist, and that conceptualizing dating app use in terms of either frequency or use/nonuse neglects many nuances of the phenomenon. In this study, we followed the typology of Sumter et al. (2017) as their scale was validated in their subsequent study (Sumter & Vandenbosch, 2019) and has been employed in other studies (Blake et al., 2022; Harrison et al., 2022; Sevi et al., 2018); the scale also consists of a manageable number of items. Our first research question was as follows:

**RQ1:** How do the motives of GBMSM for using gay dating apps differ across Hong Kong, Taipei, and Osaka?

## Cultural-Psychological Differences at the Individual Level

Culture, as defined as “the collective programming of the mind which distinguishes the members of one human group from another” (Hofstede, 1980, p. 260), affects technology adoption and use (Gallivan & Srite, 2005). While much cross-cultural research in information systems studies has operationalized culture at the country level (e.g., Calhoun et al., 2002; Ford et al., 2003; Gallivan & Srite, 2005), Lee et al. (2007) suggested that “using country as a surrogate for the individual is likely to be misleading, because within-country heterogeneity is sometimes greater than between-country heterogeneity” (p. 13). They advocated measuring cultural characteristics at the *individual* level. Triandis and Suh (2002) also argued that culture plays a role in influencing one’s personality traits. Therefore, instead of regarding all GBMSM living in one city as a homogeneous population, we consider variances in individual psychological traits that are culturally shaped. Two likely traits of this kind are sensation seeking and communication apprehension.

### Sensation Seeking

Sensation seeking refers to “the seeking of varied, novel, complex, and intense sensations and experiences and the willingness to take physical, social, legal, and financial risks for the sake of such experience” (Zuckerman, 1994, p. 27). Even though sensation seeking is measured at an individual level, research has revealed differences in sensation seeking across cultures. Using student samples, Magaro et al. (1979) found that Italian women had a greater inclination for sensation seeking than their Thai and Japanese counterparts, but they did not differ significantly from their American counterparts. Studies have also found Chinese people to be less inclined toward sensation seeking than English and American people (Pilgrim et al., 1999; Wang et al., 2000). Lu et al. (2017) argued that low uncertainty avoidance cultures such as American culture cultivate individuals with a higher inclination for sensation seeking, compared with high uncertainty avoidance cultures such as Chinese.

How can sensation-seeking possibly be related to dating app use? Sumter and Vandenbosch (2019) argued that the possibility of curating an identity on mobile dating apps that is different from the identity of off-app life may draw people with a higher sensation-seeking inclination to use the apps. In their Dutch sample, they found that sensation seeking did not predict general dating app use (versus nonuse), but it was positively related to using dating apps for casual sex and thrill of excitement. A study conducted in the U.S. also found that sensation seeking was positively related to the intent to use mobile dating apps to seek both romance and casual sex (Chan, 2017). Therefore, it is likely that sensation seeking is positively associated with using gay dating apps for *relational goals* (love and casual sex) and *entertainment goals* (thrill of excitement and trendiness). However, there is not enough literature to support directional hypotheses relating sensation seeking to *intrapersonal goals* (ease of communication and self-worth validation). Therefore, we proposed the following:

**H1:** Sensation seeking would be positively related to using gay dating apps for (a) love, (b) casual sex, (c) thrill of excitement, and (d) trendiness among GBMSM in Hong Kong, Taipei, and Osaka.

**RQ2:** How is sensation seeking related to using gay dating apps for (a) ease of communication and (b) self-worth validation among GBMSM in Hong Kong, Taipei, and Osaka?

### Communication Apprehension

Communication apprehension refers to people's fear or anxiety when they encounter or expect to encounter another person and engage in oral communication (McCroskey, 1984). Specifically, traitlike communication apprehension is defined as "a relatively enduring, personality-type orientation toward a given mode of communication across a wide variety of contexts" (p. 16). Scholars have acknowledged that the culture in which a person is raised is indispensable to the cultivation of traitlike communication apprehension (McCroskey, 1984). For instance, Hsu (2004) argued that people in Taiwan, which has a collectivist culture, would be motivated to maintain social harmony and would care less about expressing their thoughts and feelings, whereas people in the U.S., which has an individualist culture, would prioritize their feelings, thoughts, and actions. Using student samples, Hsu (2004) indeed found that students in Taiwan scored higher on communication apprehension than their American counterparts. Similarly, Croucher et al. (2015) noted the differences in communication apprehension between British, Finnish, and German people. Finnish people scored the highest on communication apprehension, followed by German and British people. These studies offer strong evidence that traitlike communication apprehension has a cultural origin.

Scholars have examined the relationship between traitlike communication apprehension and the use of social media platforms. In an Iranian student sample, communication apprehension was negatively related to joining social networking sites, which suggests that online spaces, relative to offline ones, do not offer an advantage to people with communication apprehension (Ahadzadeh et al., 2014). A similar phenomenon was observed in a Hong Kong sample. Zhang et al. (2011) found that communication apprehension was negatively related to the number of friends one connected with on Facebook, and that people with greater communication apprehension used Facebook less for expanding and maintaining their social networks. However, in a U.S. student sample, Bardi and Brady (2010) noted a positive relationship between being shy and using instant messaging for social ease (i.e., shy students found it easier to talk to people via instant messaging than face-to-face). This study supports the social compensation hypothesis (Valkenburg & Peter, 2009), which posits that online spaces benefit people who do not feel comfortable communicating face-to-face.

Because of the contradictory observations from different online contexts and geographical locations, we were not able to set up directional hypotheses relating communication

apprehension to the different motives for using dating apps. Therefore, we asked the following research question:

**RQ3:** How is communication apprehension related to using gay dating apps for (a) love, (b) casual sex, (c) thrill of excitement, (d) trendiness, (e) ease of communication, and (f) self-worth validation among GBMSM in Hong Kong, Taipei, and Osaka?

### Social Differences in Acceptance of Same-Sex Relationships

Hong Kong, Taiwan, and Japan differ in terms of their acceptance of same-sex relationships (Tang et al., 2020). Among the three regions, only Taiwan officially recognizes same-sex marriage (Huang, 2011). In Japan, as of October 11, 2021, 130 local governments can issue partnership certifications to same-sex couples; however, this system is not legally binding. Japan is the only G7 nation that still has not legalized same-sex marriage (Lies, 2022). In Hong Kong, there is no legislation prohibiting sexual minorities from being discriminated against in terms of employment, education, and access to goods and services; no same-sex marriage or form of civil partnership is available (Suen, 2017).

However, legal recognition of same-sex relationships does not imply their social acceptance in Taiwan. According to the World Values Survey Wave 7 conducted between 2017 and 2021 (Haerpfer et al., 2020), 41.6% of the survey respondents in Taiwan mentioned "homosexuals" as the group of people that they would not like to have as neighbors; the corresponding figures were just 26.4% in Japan and 23.9% in Hong Kong. Although Cheng et al. (2016) pointed out that Taiwan had made the most progress among Asian regions in terms of acceptance of homosexuality, the figures above show that Taiwan has the least friendly current societal attitude toward same-sex relationships among the three regions.

Members of sexual minorities may sense non-acceptance or hostility from their society through their experience of discrimination. In a study by Lau and Stotzer (2011) on workplace discrimination in Hong Kong, 34% of the sexual minority members who were out at their workplaces reported being discriminated. In a study conducted in Japan by Tamagawa (2018), among the sexual minority members who were out, between 20% and 27% reported that their coming out experience had led to negative emotions such as anxiety, loneliness, depression, and self-hatred, and 12.8% said they no longer felt comfortable living with their family. In short, the literature has shown that GBMSM in Hong Kong, Taiwan, and Japan may perceive different levels of social acceptance toward same-sex relationships based on the laws of their regions and their personal experiences.

In this study, we considered the ways in which GBMSM's perceived social acceptance of same-sex relationships may be associated with their use of gay dating apps. First, a plethora of studies of digital media have shown that the Internet offers a safe place for young gay men to connect to each other and explore their sexual orientation amid their heterosexist societies (Cassidy, 2018; Chan, 2021; Mowlabocus, 2010). Therefore, it is

likely that when GBMSM perceive a less favorable societal attitude toward themselves, they turn to gay dating apps for *relational goals* (love and casual sex). Second, as shown by Baudinette's (2021) study in Japan, being seen visiting a gay neighborhood already constitutes a stigma. Therefore, when GBMSM perceive a less favorable societal attitude toward themselves, they may prefer communicating with other GBMSM via dating apps over physical venues such as gay bars because of the ease of communication using dating apps. Putting it in another way, GBMSM who perceive a more favorable societal attitude may be less gratified by gay dating apps' ease of communication. Third, as self-worth validation includes feeling confident and happy by receiving validation, when GBMSM perceive a less favorable societal attitude toward themselves, they may turn to gay dating apps for this validation. Therefore, we proposed the following:

**H2:** Perceived social acceptance of same-sex relationships would be negatively related to using gay dating apps for (a) love, (b) casual sex, (c) ease of communication, and (d) self-worth validation among GBMSM in Hong Kong, Taipei, and Osaka.

There is not enough prior literature to support directional hypotheses relating perceived social acceptance of same-sex relationships to *entertainment goals* (thrill of excitement and trendiness). Therefore, we asked the following research question:

**RQ4:** How is perceived social acceptance of same-sex relationships related to using gay dating apps for (a) thrill of excitement and (b) trendiness among GBMSM in Hong Kong, Taipei, and Osaka?

## Method

### Participants and Recruitment

The data used in this study came from a larger survey project exploring how young GBMSM in Hong Kong, Taipei, and Osaka used social media and dating apps (Chan & Wu-Ouyang, 2023). The participants had to (a) be between 18 to 34 years old, (b) self-identify as GBMSM, (c) be born and residing in either Hong Kong, Taiwan, or Japan, (d) be a fluent speaker of the local language, and (e) be a smartphone user. We collected a total of 1,502 survey responses in August and September 2021. This study only included the respondents who reported using at least one gay-specific dating app (e.g., Grindr, Jack'd, Hornet, or 9monsters) in the last 3 months. The following responses were removed from the dataset: (1) incomplete responses; (2) responses from the same IP addresses – IP addresses were then erased permanently from our records to protect the identities of the participants; and (3) responses that failed to pass the validation checks (i.e., those not selecting the requested answers to some questions). The usable dataset

consisted of 217 participants from Hong Kong, 330 from Taipei, and 175 from Osaka.

We promoted the study via Facebook advertisements, online mailing lists of LGBTQ organizations, gay-themed online discussion groups, and the social media accounts of members of the research team. Although using nonrandom Internet samples certainly has its limitations, this method is deemed effective for reaching hard-to-reach communities such as GBMSM (Gama et al., 2017). The questionnaire took 15–20 minutes to complete. The study was advertised as an examination of GBMSM's social media practices. The participants were compensated according to common practices in each region (HKD 120 in cash for Hong Kong participants, TWD 200 in cash for Taiwanese participants, and a JPY 1,000 Amazon coupon for Japanese participants). The study was approved by the Survey and Behavioral Research Ethics Board of the first author's institution.

The questionnaire included both existing and newly developed scales in English. It was translated into Chinese (for the Taiwanese and Hong Kong participants) and Japanese (for the Japanese participants) using a back-translation procedure (McGorry, 2000) to ensure item consistency and clarity.

### Measures

Motives for using dating apps were measured with an adapted version of the 24-item Tinder Motivation Scale from Sumter et al. (2017). The participants were asked to answer each item based on their use of gay dating apps, such as Grindr, Jack'd, Hornet, or 9monsters, over the last 3 months. Each item was rated on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). The reliability of each motive was computed for each regional sample. Cronbach's alphas were as follows (for all alphas, the first, second, and third figures refer to the Hong Kong, Taiwanese, and Japanese samples, respectively): love, .87/.90/.84; casual sex, .83/.85/.74; ease of communication, .78/.78/.81; self-worth validation, .89/.86/.92; thrill of excitement, .86/.91/.82; and trendiness, .68/.68/.70. The means and standard deviations are reported in the "Results" section below.

Sensation seeking was measured with the three-item sensation-seeking subscale of the Impulsivity and Sensation-Seeking Scale (Harden & Tucker-Drob, 2011). A sample item was "Life with no danger in it would be too dull for me." All items were rated on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Cronbach's alphas for the scale were .81/.81/.79.

The six-item dyadic subscale of the Personal Report of Communication Apprehension Scale (PRCA-24; McCroskey, 1982) was used to evaluate the participants' traitlike communication apprehension. A sample item was "While participating in a conversation with a new acquaintance, I feel very nervous." All items were rated on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Cronbach's alphas were .86/.88/.86.

The participants' perception of social acceptance of same-sex relationships was measured with an adapted version of the five-item Attitudes Toward Gay Men Scale (ATG-S; Herek, 1988). The original scale captures individuals' acceptance of gay men. In this study, the participants were asked to perceive how most people in the city in which they were residing

**Table 1.** Survey participants' background information.

	Hong Kong ( <i>n</i> = 217)		Taipei ( <i>n</i> = 330)		Osaka ( <i>n</i> = 175)	
	%	<i>M</i> ( <i>SD</i> )	%	<i>M</i> ( <i>SD</i> )	%	<i>M</i> ( <i>SD</i> )
Age		26.39 (4.32)		27.72 (3.71)		27.88 (4.02)
Education						
High school or below	36.41		10.91		31.43	
Bachelor's degree	55.30		62.42		53.71	
Graduate school	8.29		26.67		14.86	
Relationship status						
Single	68.20		64.24		63.43	
Close relationship	20.74		23.03		32.00	
Open relationship	11.06		12.73		4.57	
Sexual orientation						
Gay	81.11		87.58		90.86	
Bisexual	18.89		12.42		9.14	
Gay app log-on frequency (range: 1–6) <sup>a</sup>		4.29 (1.84)		4.30 (1.76)		4.21 (1.71)

<sup>a</sup>1 = less than once a week, 2 = once a week, 3 = 2–3 times a week, 4 = 4–6 times a week, 5 = once a day, 6 = several times a day.

thought about gay relationships. A sample item was “Most people in my city think that just as in other species, male homosexuality is a natural expression of sexuality in human men.” All items were rated on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Cronbach's alphas were .88/.89/.85.

The following data were also collected as control variables: age, education level, relationship status, sexual orientation, and gay app log-on frequency. These data are summarized in Table 1.

### Data Analysis

The data were analyzed using SPSS software (v. 29). To answer RQ1, we conducted one-way analyses of variance (ANOVAs) on each of the six motives for using gay dating apps across the three cities. When the *F*-test produced a significant result for a motive, we ran post-hoc *t*-tests with Bonferroni adjustment to locate which two cities were different from each other on that particular motive. To offer additional exploration of the dataset, we also conducted one-way ANOVAs to investigate sensation seeking, communication apprehension, and perceived social acceptance of same-sex relationships across the three cities to discern any between-city differences.

For the remaining hypotheses and research questions, we regressed each of the six motives on sensation seeking, communication apprehension, perceived social acceptance of same-sex relationships, and the control variables for *each* city. The control variables were age, education, relationship status, sexual orientation, and gay dating app log-on frequency. In total, we ran 18 separate regressions (six motives × three cities).

To assess whether the observed associations (i.e., beta coefficients) between our variables of interest and motives varied significantly across the three cities, we performed additional interaction analyses. First, we combined the data from all three cities. We set Hong Kong as the reference city and assigned dummy codes to the Taiwanese and Japanese samples, respectively. Then, we created two interaction terms for *each* predictor – one for the Taiwanese sample and another for the Japanese sample. We regressed each of the six motives on the

dummy codes representing Taipei and Osaka, all variables, and their corresponding interaction terms. Significant interaction terms indicate that the main effects of the variables of interest on the particular motive differ significantly between the reference city and the city represented by the dummy code. This allows us to compare the magnitudes of the associations between the Hong Kong sample and the Taiwanese sample, as well as between the Hong Kong sample and the Japanese sample. To compare these associations between the Taiwanese sample and the Japanese sample, we repeated the entire procedure by setting Taipei as the reference city.

## Results

### Regional Differences of Gay Dating App Use Motives (RQ1)

RQ1 compared the motives for using gay dating apps among GBMSM in Hong Kong, Taipei, and Osaka. The ANOVA revealed significant differences in five out of the six motives: love,  $F(2, 719) = 9.526, p < .001$ ; casual sex,  $F(2, 719) = 14.063, p < .001$ ; ease of communication,  $F(2, 719) = 24.704, p < .001$ ; self-worth validation,  $F(2, 719) = 5.666, p = .004$ ; and trendiness,  $F(2, 719) = 7.532, p < .001$ . No significant difference was observed in thrill of excitement,  $F(2, 719) = 2.366, p = .095$ .

The specific pairwise differences obtained from the post-hoc *t*-tests with Bonferroni adjustment are as follows (full test statistics including standard errors, *p*-values, and 95% confidence intervals are reported in Table A1 of the Online Supplementary Material). For love, the Taipei participants scored significantly higher than the Hong Kong participants ( $p = .004$ ) and the Osaka participants ( $p < .001$ ; see Table 2 for their respective scores). For both casual sex and ease of communication, both the Hong Kong and Taipei participants scored significantly higher than the Osaka participants ( $ps < .001$ ). Regarding self-worth validation, the Taipei participants scored significantly higher than the Osaka participants ( $p = .002$ ). Finally, for trendiness, the Taipei participants also scored significantly higher than the Hong Kong participants ( $p = .046$ ) and the Osaka participants ( $p < .001$ ).

**Table 2.** Means and standard deviations of major variables.

	<i>M (SD)</i>		
	Hong Kong	Taipei	Osaka
Motives for using gay dating apps			
Love	3.66 (0.81)	3.91 (0.89)	3.57 (1.00)
Casual sex	3.76 (0.88)	3.74 (0.98)	3.31 (0.97)
Ease of communication	3.44 (0.72)	3.47 (0.77)	2.96 (1.01)
Self-worth validation	2.83 (0.94)	2.96 (0.97)	2.63 (1.27)
Thrill of excitement	3.22 (0.99)	3.09 (1.14)	3.31 (1.23)
Trendiness	2.74 (0.87)	2.93 (0.89)	2.61 (1.00)
Individual predictors			
Sensation seeking	3.15 (0.87)	3.18 (0.89)	2.90 (0.99)
Communication apprehension	2.90 (0.79)	3.04 (0.83)	3.04 (0.87)
Perceived societal acceptance of same-sex relationships	3.21 (0.82)	3.53 (0.77)	2.84 (0.79)

### Regional Differences of Sensation Seeking, Communication Apprehension, and Perceived Social Acceptance of Same-Sex Relationships (Not Hypothesized)

Regarding sensation seeking, the ANOVA revealed a significant difference across the three cities,  $F(2, 719) = 5.460, p = .004$ . Specifically, both the Hong Kong and Taipei participants scored significantly higher than the Osaka participants ( $p = .027$  and  $p = .005$ , respectively). The Hong Kong and Taipei participants were not significantly different from each other.

Regarding communication apprehension, the ANOVA revealed no significant difference across the three cities,  $F(2, 719) = 2.113, p = .122$ .

Finally, for the perceived social acceptance of same-sex relationships differed between GBMSM in Hong Kong, Taipei, and Osaka, the ANOVA revealed a significant difference,  $F(2, 719) = 51.700, p < .001$ . Specifically, the Taipei participants scored significantly higher than the Hong Kong participants, who in turn scored significantly higher than the Osaka participants (all  $ps < .001$ ).

### Predictions of Motives (H1 and RQ2 for Sensation Seeking; RQ3 for Communication Apprehension; H4 and RQ5 for Perceived Social Acceptance)

We report the results of the 18 regression analyses in Table 3. For easier viewing of the results, we only report unstandardized beta coefficients and highlight significant results with bold fonts in the table (full test statistics including both unstandardized and standardized beta coefficients, standard errors, and  $p$ -values are reported in Tables A2–A7 of the Online Supplement Material). Before discussing the associations between specific variables, we note here that the overall regression models for predicting self-worth validation, thrill of

**Table 3.** Regression of motives on sensation-seeking, communication apprehension, and perceived social acceptance.

	Love			Casual sex			Ease of communication		
	Hong Kong	Taipei	Osaka	Hong Kong	Taipei	Osaka	Hong Kong	Taipei	Osaka
Age	.01	-.01	<b>-.05*</b>	.01	.02	-.00	.01	<b>.03*</b>	<b>-.06***</b>
Sexual orientation (Ref: Gay)									
Bisexual	.02	-.04	-.27	.08	-.19	-.09	<b>.39**</b>	.19	-.08
Education (Ref: High school)									
Bachelor's degree	.02	-.04	.09	.02	-.25	.09	-.19	-.16	-.28
Graduate school	.01	-.14	.19	-.18	-.22	.03	-.13	-.30	<b>-.61**</b>
Relationship status (Ref: Single)									
Close relationship	<b>-.35*</b>	-.10	<b>-.43*</b>	-.09	.21	-.21	.11	<b>.22*</b>	-.20
Open relationship	<b>-.42*</b>	<b>-.58***</b>	.24	<b>.53**</b>	<b>.75***</b>	.01	.05	<b>.27*</b>	.05
Gay app logon frequency	.04	<b>.11***</b>	.06	<b>.12***</b>	<b>.12***</b>	.02	.01	<b>.07**</b>	-.04
Sensation-seeking	.07	-.08	.04	.11	<b>.18**</b>	<b>.30***</b>	.06	.00	<b>.16*</b>
Communication apprehension	-.03	.03	-.02	-.03	.04	-.01	<b>.27***</b>	<b>.20***</b>	<b>.24**</b>
Perceived social acceptance of same-sex relationships	<b>.13*</b>	.09	-.05	.10	<b>.15*</b>	-.10	<b>-.13*</b>	-.03	<b>-.18*</b>
<i>F</i>	<b>1.97*</b>	<b>4.07***</b>	<b>2.04*</b>	<b>3.18***</b>	<b>5.52***</b>	<b>2.28*</b>	<b>3.62***</b>	<b>3.13***</b>	<b>5.65***</b>
<i>R</i> <sup>2</sup>	.09	.11	.11	.13	.15	.12	.15	.09	.26
Adjusted <i>R</i> <sup>2</sup>	.04	.09	.06	.09	.12	.07	.11	.06	.21
	Self-worth validation			Thrill of excitement			Trendiness		
	Hong Kong	Taipei	Osaka	Hong Kong	Taipei	Osaka	Hong Kong	Taipei	Osaka
Age	<b>-.04*</b>	-.00	<b>-.08***</b>	.01	.01	-.04	-.01	<b>.04**</b>	<b>-.04*</b>
Sexual orientation (Ref: Gay)									
Bisexual	.27	.06	<b>-.71*</b>	.27	.14	-.48	.27	.05	-.17
Education (Ref: High school)									
Bachelor's degree	.18	-.31	-.09	-.19	-.35	-.29	.04	-.27	-.11
Graduate school	.22	-.35	<b>-.75**</b>	.10	-.27	-.23	.02	<b>-.40*</b>	<b>-.51*</b>
Relationship status (Ref: Single)									
Close relationship	.12	<b>.32*</b>	-.29	.17	<b>.37*</b>	-.21	-.06	.04	-.21
Open relationship	.10	<b>.38*</b>	.40	.31	<b>.46*</b>	.42	-.06	.04	-.17
Gay app logon frequency	-.02	<b>.11***</b>	-.02	.07	.04	.04	.04	.04	-.01
Sensation-seeking	.04	<b>.15*</b>	<b>.24**</b>	.13	<b>.30***</b>	<b>.41***</b>	.04	.08	.08
Communication apprehension	.08	.09	.08	.12	<b>.20*</b>	.06	-.04	.06	-.05
Perceived social acceptance of same-sex relationships	-.10	-.10	<b>-.34***</b>	.08	-.10	<b>-.24*</b>	.02	<b>-.17**</b>	-.14
<i>F</i>	1.51	<b>3.18***</b>	<b>6.80***</b>	1.25	<b>3.42***</b>	<b>4.05***</b>	0.68	<b>2.27*</b>	<b>2.69**</b>
<i>R</i> <sup>2</sup>	.07	.09	.29	.06	.10	.20	.03	.07	.14
Adjusted <i>R</i> <sup>2</sup>	.02	.06	.25	.01	.07	.15	-.02	.04	.09

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

excitement, and trendiness were not significant in the Hong Kong sample.

H1 hypothesized positive associations between sensation seeking and (a) love, (b) casual sex, (c) thrill of excitement, and (d) trendiness in the three samples. The analyses showed that in both the Taipei and Osaka samples, sensation seeking was positively associated with casual sex (Taipei,  $b = .18$ ,  $p = .004$ ; Osaka,  $b = .30$ ,  $p < .001$ ) and thrill of excitement (Taipei,  $b = .30$ ,  $p < .001$ ; Osaka,  $b = .41$ ,  $p < .001$ ), but not with love or trendiness. In the Hong Kong sample, sensation seeking was not associated with any motive. Therefore, H1a and H1d were rejected; H1b and H1c were partially supported. Our additional interaction analyses showed that the beta coefficient between sensation-seeking and thrill of excitement of the Japanese sample was significantly greater than that of the Hong Kong sample (interaction term =  $.28$ ,  $p = .027$ ).

RQ2 explored the relationships between sensation seeking and (a) ease of communication and (b) self-worth validation. It was found that sensation seeking had a positive association with ease of communication in the Osaka sample only ( $b = .16$ ,  $p = .034$ ). Furthermore, it had a positive association with self-worth validation in the Taipei sample ( $b = .15$ ,  $p = .019$ ) and the Osaka sample ( $b = .24$ ,  $p = .009$ ). No associations were observed in the Hong Kong sample.

RQ3 explored the relationships between communication apprehension and the six respective motives. We found significant positive associations with ease of communication (in all three cities; Hong Kong,  $b = .27$ ,  $p < .001$ ; Taipei,  $b = .20$ ,  $p < .001$ ; Osaka,  $b = .24$ ,  $p = .004$ ) and thrill of excitement (in the Taipei sample only,  $b = .20$ ,  $p = .013$ ).

H2 hypothesized negative associations between perceived social acceptance of same-sex relationships and (a) love, (b) casual sex, (c) ease of communication, and (d) self-worth validation in the three samples. The results showed that perceived social acceptance of same-sex relationships had *positive* associations with love in the Hong Kong sample ( $b = .13$ ,  $p = .050$ ) and with casual sex in the Taipei sample ( $b = .15$ ,  $p = .033$ ). Therefore, H2a and H2b were rejected. The results also showed that perceived social acceptance of same-sex relationships had negative associations with ease of communication in the Hong Kong sample ( $b = -.13$ ,  $p = .030$ ) and the Osaka sample ( $b = -.18$ ,  $p = .050$ ) and with self-worth validation in the Osaka sample only ( $b = -.34$ ,  $p = .002$ ). Therefore, H2c and H2d were partially supported. Our additional interaction analyses showed that the beta coefficient between perceived social acceptance and casual sex of the Taiwanese sample was significantly greater than that of the Japanese sample (interaction term =  $.24$ ,  $p = .030$ ); the difference in the coefficients for perceived social acceptance and self-worth validation between the Japanese and Taiwanese samples approached statistical significance (interaction term =  $.24$ ,  $p = .051$ ).

Finally, RQ4 explored the relationships between perceived social acceptance of same-sex relationships and (a) thrill of excitement and (b) trendiness. In the Hong Kong sample, no association was observed. In the Taipei sample, social acceptance of same-sex relationships was negatively associated with trendiness ( $b = -.17$ ,  $p = .009$ ). In the Osaka sample, social acceptance of same-sex relationships was negatively associated with thrill of excitement ( $b = -.24$ ,  $p = .037$ ). Our additional interaction analyses revealed

that this beta coefficient was significantly smaller compared to that of the Hong Kong sample (interaction term =  $-.32$ ,  $p = .025$ ).

## Discussion

Using three respective samples of GBMSM from Hong Kong, Taipei, and Osaka, we explored how sensation seeking, communication apprehension, and perceived social acceptance toward same-sex relationships are related to motives for using gay dating apps. The contribution of this study is two-fold. First, building on U&G theory and prior U&G studies of dating apps, we differentiated motives for using gay dating apps among GBMSM. Such differentiation may be considered by further studies because knowing the specific motive for using an app should help researchers predict behavioral outcomes more precisely. Second, we introduced a comparative angle to the dating app scholarship by comparing the use of gay dating apps in three Asian regions. Specifically, we showed that the different culturally-shaped psychological attributes and social environments in these regions do shape the motives for using gay dating apps.

### Motives for Using Gay Dating Apps Varied Across Regions

We compared how GBMSM in Hong Kong, Taipei, and Osaka use gay dating apps for love, casual sex, ease of communication, self-worth validation, thrill of excitement, and trendiness (RQ1; Sumter et al., 2017). The GBMSM in Taipei scored higher than their counterparts in Osaka on all motives, except on thrill of excitement, for which the participants from all three cities had similar scores. These significant differences found have implications for future dating app studies. For example, researchers in public health have urged sexual health practitioners and government health departments to work with gay dating apps to promote safer sex and disseminate sexual health content (Huang et al., 2016; Kirby & Thornber-Dunwell, 2014). While some researchers are right to emphasize that these safer sex messages must be crafted with cultural sensitivity (Choi et al., 2020), it is also paramount for public health researchers and sexual health practitioners to first ascertain whether GBMSM in their regions indeed use gay dating apps for casual sex. Our specific comparison found that the GBMSM in Taipei in our study used gay dating apps for casual sex more than their counterparts in Osaka. This finding could mean that using gay dating apps as a medium for safer sex promotion in Osaka may be less effective than in Taipei. In addition, some researchers have observed an association between using Grindr and diminished body image (Filice et al., 2019). Our findings suggest that this association may be a regionally specific phenomenon because the GBMSM in Osaka in our study used gay dating apps for self-worth validation much less than their counterparts in Taipei.

### Individual Traits Mattered, but Performed Inconsistently Across Regions

We also examined two individual traits – sensation seeking and communication apprehension – among participants from



three cities. Generally, our empirical data only provided limited support for our initial hypotheses. First of all, we hypothesized that sensation seeking would be positively related to using gay dating apps for love, casual sex, thrill of excitement, and trendiness (H1). However, we only found positive associations between sensation seeking and casual sex and between sensation seeking and thrill of excitement in Taipei and Osaka. Notably, the association between sensation seeking and thrill of excitement in the Japanese sample was significantly stronger than that in the Hong Kong sample. The absence of an association between sensation seeking and love in all three cities may imply that looking for love via gay dating apps requires much “work,” which can be mentally taxing and time-consuming (LeFebvre, 2018). Therefore, our GBMSM participants did not find doing so sensation-fulfilling. In addition, the absence of an association between sensation seeking and using gay dating apps for trendiness may be explained by the notion that strong sensation seekers enjoy new experiences (Zuckerman, 1994). Because gay dating apps have been on the market for more than a decade, strong sensation seekers might not perceive these apps to be as new as they once were.

Furthermore, we observed a positive association between sensation seeking and self-worth validation in Taipei and Osaka (RQ2). This finding suggests that receiving positive feedback about oneself from others may offer an adrenaline rush, which may be fulfilling for sensation seekers. As Bandinelli and Bandinelli (2021) pointed out, what people enjoy about using dating apps may not be making personal connections per se but the accumulation of likes and matches. This idea may explain the greater use of gay dating apps for self-worth validation by the stronger sensation seekers in our study.

Regarding communication apprehension, we found a consistent pattern across the three cities (RQ3): The more a participant experienced communication apprehension in face-to-face encounters, the more they used gay dating apps for ease of communication. This pattern aligns with the social compensation hypothesis, which postulates that the online space serves as a substitute for communication among people who are shy to communicate face-to-face (Valkenburg & Peter, 2009). Perhaps, the asynchrony of communication mediated on gay dating apps may give users more time to react to others’ messages, thus alleviating the pressure that would be higher in a face-to-face encounter.

### **Social Acceptance of Same-Sex Relationships Had Contradictory Associations with Motives**

Regarding the social acceptance of same-sex relationships, our pre-analysis exploration found that the GBMSM in Taipei perceived a more accepting society than their Hong Kong and Osaka counterparts. This suggests that the legal recognition of same-sex couples in Taiwan has offered local GBMSM confidence.

We hypothesized that perceived social acceptance of same-sex relationships would be negatively related to using gay dating apps for love, casual sex, ease of communication, and self-worth validation (H2). Our rationale was that if a GBMSM feels accepted by his society at large, he may

not need to use gay dating apps for these goals. Our data provided contradictory findings. While consistent with our hypothesis, social acceptance of same-sex relationships was negatively associated with ease of communication in Hong Kong and Osaka and with self-worth validation in Osaka; surprisingly, perceived social acceptance of same-sex relationships was positively associated with using gay dating apps for love in Hong Kong and for casual sex in Taipei (with the association between perceived social acceptance and casual sex in the Taiwanese sample significantly stronger than that in the Japanese sample). That is, instead of turning away from gay dating apps when feeling accepted by society at large, the GBMSM in Hong Kong and Taipei used gay dating apps even more for relational goals. What could be a possible reason for these positive relationships? In the past, being seen using a gay dating app such as Grindr may have outed oneself (Blackwell et al., 2015). The results from this study may suggest that when GBMSM perceive a more accepting society at large, they may feel less concerned about being discovered as gay if they use gay dating apps. Therefore, they may be motivated to use these apps for love or casual sex.

We also explored the relationships between social acceptance of same-sex relationships and thrill of excitement and trendiness (RQ4). We observed negative associations between perceived social acceptance and thrill of excitement in Osaka (one that was more negative than that in Hong Kong), and between perceived social acceptance and trendiness in Taipei. That is, GBMSM who perceived a more accepting society at large were less likely to use gay dating apps for these entertainment purposes. The apparent negative relationship could be explained by the fact that GBMSM, perceiving a more accepting society, may feel more at ease to pursue offline entertainment activities such as visiting gay bars. The emerging Boys’ Love culture in East Asia may also offer GBMSM various public occasions for entertainment (Baudinette, 2022; Kwon, 2021).

### **Limitations and Conclusions**

The following limitations of the study should be noted. This study was based on nonrandom, self-selected dating app users from the three cities. Therefore, potential sampling biases may exist. We could not delineate the demographic and cultural-psychological differences between app users and non-users. However, there is yet to be any legitimate way to draw random, representative GBMSM samples in these cities. Second, this study relied on self-report measures. We acknowledge that people from different regions may have different ways of thinking and talking about their motives. While a sensible way to inquire about the cultural implication of GBMSM’s motives in a specific region is through qualitative research (e.g., in-depth interviews), pure qualitative data is not conducive to our comparative purpose. Third, we did not ask our participants to report motives for each of the apps they had been using (if they had been using several apps). As a result, we could not provide insights into the differentiated use of various gay dating apps.

Overall, this study is among the first of its kind to compare the motives for using gay dating apps among GBMSM across several cities. By considering cultural-psychological and social differences, we show the importance of cultural and regional specificity in predicting these motives. In this study, we proposed hypotheses and research questions to predict motives for using gay dating apps in Hong Kong, Taipei, and Osaka. Among the three predictors, *only* communication apprehension had a consistent relationship with ease of communication across the three cities. As Table 3 illustrates, inconsistent relationships are the norm, not the exception. On a positive note, these observations may remind all future researchers that when considering any associations between individual traits and outcomes, they must pay attention to the regional specificity of their samples. Future dating app researchers have to take precautions not to make generalized claims about human nature, or the nature of GBMSM, based on a finding from a particular cultural or regional context. Further research could also explore differences in motives for using dating apps beyond just the three cities of our study. Advanced statistical methods such as multi-level modeling could be used when more regions are considered simultaneously.

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## ORCID

Lik Sam Chan  <http://orcid.org/0000-0002-9153-2234>  
 Don Lok Tung Chui  <http://orcid.org/0000-0002-1677-6044>  
 Junya Yanagi  <http://orcid.org/0000-0002-2270-5859>

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