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# Public Support for Social Inclusion Policies

## 市民對社會共融政策的支持

Final Report

Submitted by

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**(b) Executive summary**

**Abstract**

Social inclusion indicators inform policy advocacy and intervention. Efforts to enhance social inclusion could backfire if they provoke opinion backlash or intergroup hostilities. Yet, to date there is no comprehensive and regular measurement of public support for different types of social inclusion policies in Hong Kong. Consequently, we cannot determine how they are received by the public. Equally important, existing studies generally do not collect data on respondents' beliefs about social progress and group identities, despite their critical role in attitude formation. This information is particularly crucial as the city struggles through social movements and the COVID-19 pandemic, which are likely to harden the boundaries between social groups.

This project accomplished three objectives to address the existing knowledge gaps. Firstly, it developed a user-friendly survey tool, the Support for Social Inclusion Score (SFSIS), which measures public opinion on social policies that extend rights to five major marginalized groups in Hong Kong: the elderly, new immigrants, ethnic minorities, LGBTQ individuals, and disabled people. The instrument includes 25 rigorously selected policy items that capture the multidimensional aspects of social inclusion attitudes. Using data from a representative telephone survey in Hong Kong (N=1,010) and a parallel online survey (N=1,000), we demonstrated the instrument's outstanding psychometric properties and its potential for use in various research settings. Although designed in the context of Hong Kong, the survey items can be broken down and adapted to suit diverse societies. For the first time, policymakers will be able to identify key areas of policy disagreement in a transparent and systematic manner.

Secondly, to understand public support for social inclusion policies, this project gathered data on the psychological and demographic attributes of respondents that are likely to influence group-based discrimination. Specifically, we investigated whether self-interest or psychological perceptions of deservingness affected an individual's support for social inclusion policies. Self-interest explanations rely on people's socio-economic characteristics to predict attitudes. For instance, individuals competing with marginalized groups for resources might oppose social inclusion policies, while those with higher incomes and greater economic security might support such policies. Conversely, psychological explanations emphasize factors like belief in meritocracy, perceived needs and social progress, identity complexity, and social dominance orientation. These psychological variables influence

attitudes irrespective of one's socio-structural position. Our findings revealed that psychological factors, such as social awareness, domination beliefs, and meritocracy, significantly contributed to shaping policy support. Policymakers can then allocate resources to develop relevant public education campaigns and policy frameworks.

Thirdly, to lay foundation for repeated surveys of social inclusion, and to evaluate the potential of online surveys in Hong Kong, this project fielded the SFSIS to an online sample in parallel with a traditional telephone sample. The high costs of conducting telephone surveys have prompted many survey researchers to consider online non-probability surveys. This project reported significant differences between the non-probability and probability surveys and evaluated one of the latest techniques in survey methodology, which is to supplement inferences based on small probability samples with prior distributions derived from nonprobability data (Wiśniowski et al. 2020). Our results demonstrate the efficacy of the method, suggesting that blending non-probability online and probability telephone samples can help reduce survey costs while achieving model-based estimates comparable to traditional probability telephone surveys.

**Layman summary on policy implications and recommendations**
This project has three policy implications:

First, the SFSIS introduced in this project provides policy makers and researchers with a reliable and valid tool for gauging public support for various social inclusion policies and, by extension, the beneficiaries of the policies. By using the SFSIS, researchers and policymakers could gain a better understanding of the challenges faced by socially excluded groups in their society and develop evidence-based interventions to address the issue. Our list of items was scrutinized by experts and a diverse sample of the Hong Kong population. The finalized SFSIS reflects the dimensionality of social inclusion support, demonstrates excellent psychometric properties, and significantly correlates with people's social awareness. With this new tool, we can observe directional changes in popular perceptions with repeated studies, enabling policymakers to evaluate policy outcomes and emerging threat to social cohesion.

Second, by testing different explanations for attitudes toward social inclusion policies, this project offers insights for rebuilding a cohesive society. Disagreements about social inclusion policies often reflect deep-rooted cleavages along social identities, beliefs about the impact of personal effort, and understandings about the causes and status quo of poverty. To

promote social inclusion, therefore, policy makers must understand the psychological mechanisms that work against it. Public education campaigns and policy framing are important tools but so far have not been guided by solid understanding of public opinion. This project's findings will allow social researchers to design more effective public education campaigns by changing beliefs and perceptions that were often masked in heated political debates.

Third, this project has evaluated a new method for integrating online and telephone survey samples in public opinion research. To track changes in public support towards social inclusion policy, we need to identify a cost-effective method to conduct repeated surveys. Online surveys have gained popularity worldwide because of their low cost and flexibility. However, compared to traditional telephone survey methods, online surveys tend to generate significantly more biases in their population estimates. A promising approach that has emerged in recent years is to combine an online survey sample with a small telephone survey sample. The method has been tested against simulation and real-world data in Germany (Wiśniowski et al. 2020). This project has evaluated and confirmed its efficacy in the context of Hong Kong. Our results will be useful for policy makers and social researchers who need to track public opinion on a regular basis.

The project thus gives rise to the following policy recommendations:

First, the government should track public support for its social inclusion policies regularly. To do this, it can employ the newly developed SFSIS as an effective tool for monitoring changes in public attitudes. By tracking these changes over time, policymakers can identify areas where additional interventions may be required and adjust their strategies accordingly. Furthermore, regular tracking will enable the government to evaluate the effectiveness of implemented policies and make data-driven decisions to improve social cohesion.

Second, policies for LGBTQ individuals received the lowest support among the five marginalized groups. This is concerning. To address this issue, policymakers should develop targeted programs and campaigns to raise awareness about the unique challenges faced by LGBTQ individuals and foster greater empathy and understanding within society. These initiatives may include public education campaigns, workshops, and collaborations with

LGBTQ advocacy groups to promote inclusivity and counteract negative stereotypes and prejudices.

Third, meritocratic beliefs may reduce support for social inclusion policies. In a society that values individual effort and achievement, it is crucial for policymakers to communicate the importance of providing equal opportunities and support for all members of society. This can be achieved through public education campaigns that emphasize the systemic barriers faced by marginalized groups and the benefits of a more inclusive society. By highlighting these issues and reframing them as matters of equal opportunity rather than handouts, policymakers can potentially increase public support for social inclusion policies.

Fourth, further research should be conducted to enhance the ability to combine probability and nonprobability data. To better estimate the bias in nonprobability data, we need the "true" values in the population. The government may incorporate several questions about values and attitudes that are of policy importance into the census. The information will allow researchers and survey agencies to anchor their survey findings with census data and estimate and adjust for biases. This, in turn, would improve the accuracy and reliability of public opinion research, enabling policymakers to make more informed decisions based on a comprehensive understanding of societal attitudes and preferences.

## 中文摘要

推動社會共融往往需要政府主動給予弱勢社群更多的資源和權利。然而，這些努力可能會引起民意反彈或群體間的敵對行為。迄今為止，香港尚無全面而定期的公眾對各類社會融合政策的支持程度的測量數據。因此，我們無法確定公眾對這些政策的接受程度。同樣重要的是，現有研究通常忽略受訪者對社會進步和群體身份的看法，儘管這些因素對人的看法起著關鍵作用。在經歷過社會運動和新冠肺炎之後，香港急需設法減低不同群體之間的隔閡。

是次研究完成了三個目標以彌補現有的知識空白。首先，它開發了一個易於使用的調查工具—香港社會融合指數（SFSIS），用於衡量公眾對向香港五大邊緣化群體（包括老年人、新移民、少數族裔、LGBTQ 和殘疾人士）提供權益的社會政策的看法。該工具包括 25 個經過嚴密過程挑選的政策項目，多角度捕捉市民對社會融合的支持。通過電話調查（N=1,010）和網絡調查（N=1,000）的數據，我們展示這個新調查工具的應用潛力，幫助政策制定者識別政策分歧的關鍵領域。

其次，為了解公眾對社會融合政策的支持程度，是次研究收集了一系列與受訪者心理和社會經濟特徵有關的數據。過往文獻不時依賴人們的社會經濟特徵來預測他們的對社會議題的取態。例如，與邊緣化群體競爭資源的個人可能反對社會融合政策，而收入較高且經濟安全感較強的人可能支持這些政策。這些觀察非常重要，但是次研究發現人們的取態可能亦受到其自身價值觀的影響。例如，擁護公平競爭的受訪者傾向對社會共融政策的取態較為冷漠。這些發現將幫助政策制定者集中資源來處理那些經常在激烈的政治辯論中被掩蓋的核心問題。

最後，為了給往後類似調查奠定基礎，並評估網絡調查在香港的潛力，是次研究將 SFSIS 同時應用於與傳統電話樣本及網絡調查。由於進行電話調查的成本高昂，許多學者已經開始使用網絡調查。是次研究評估了一個由 Wiśniowski 等學者(2020)提議的最新調查方法，該方法結合非隨機與隨機樣本作分析。我們的研究結果顯示該方法或有助於降低調查成本，同時實現與傳統隨機電話調查相當準確度的估計。

**研究項目對政策影響和政策建議的摘要**

是次研究中設計的社會共融指標(SFSIS)為政策制定者和研究人員提供了一個可靠且有效的工具，用於衡量公眾對各種社會融合政策的支持程度，並間接衡量公眾對這些政策所支援的弱勢群體的觀感。通過使用 SFSIS，研究人員和政策制定者可以更系統地了解當前香港社會所面臨的挑戰，並制定合適的措施。具體而言，我們有四項政策建議：


一：政府應定期追踪公眾對其社會融合政策的支持。為此，政府可以使用新開發的 SFSIS 作為監測公眾態度變化的工具。通過追踪這些變化，決策者可以確定需要額外干預的領域並相應調整策略。此外，定期追踪將使政府能夠評估已實施政策的有效性並做出基於數據的決策以改善社會凝聚力。


二：性小眾的政策在五個邊緣群體中得到的支持最低，這情況令人擔憂。政府應著手提高社會對性小眾所面臨的獨特挑戰的認識，並在社會內部培養更大的同理心和理解。這些舉措可能包括公共教育活動、研討會和與性小眾倡導團體合作，以促進包容性並抵制負面刻板印象和偏見。


三：精英主義可能會降低對社會融合政策的支持。在香港這個如此重視個人努力和成就的社會中，政策制定者有必要為社會所有成員提供平等機會和支持，強調邊緣化群體面臨的制度性障礙以及更包容社會的好處。通過突顯這些問題並將它們重新定義為平等機會而非施捨問題，政策制定者可以提高公眾對社會融合政策的支持。


四：應進一步開展研究，以提高非隨機與隨機樣本數據相結合的能力。為了更好地估計非概率數據中的偏差，我們需要瞭解人口中某些價值觀的分布。政府可以將一些與政策相關的價值觀問題納入人口普查，這些信息將幫助研究人員和調查機構把他們的調查結果與人口普查數據掛鈎，估計並調整偏差，從而提高公眾意見研究的準確性和可靠性，使政策制定者能夠根據對社會態度和偏好的全面理解做出更明智的決策。

**(c) Main Body**

## 1. Introduction

Social exclusion and the resultant problems have destabilised urban societies across the globe. A large body of research suggests that socially excluded groups are more likely to suffer from poverty (Chan and Wong 2020; Sen 2000), exhibit depressive symptoms (Marinucci and Riva 2021), feel disconnected (Hommerich 2015), and, in extreme cases, use violence (Treistman 2021). Therefore, developing a society that is inclusive to all of its members, regardless of their race, gender, religion, and generation, has become a policy priority with universal appeal (World Bank 2023). Over the years, the social policy literature has also made significant progress in articulating the meaning of social inclusion (Chan and Huxley 2022), describing the severity of social exclusion (Atkinson et al. 2002), and understanding the experience of selected vulnerable groups (Gross-Manos 2015; Redmond et al. 2022). Meanwhile, more governments have stepped up public awareness campaigns, targeted subsidies, and even affirmative action programs to improve access to education and employment opportunities for marginalised groups (Cassan 2019; Raya Diez and Fumanal 2023).

Despite significant investment in social inclusion policies, there is currently no comprehensive and regular measurement of public support for these policies. Existing indicators of social inclusion tend to focus on either the representativeness of key social institutions or the experience of the marginalised groups (Cordier et al. 2017; Cordier and Martin 2022). This is a problem because of three reasons. First, the realisation of an inclusive society hinges not just on the government's willingness to grant additional resources and rights to marginalised groups, but also on the general public's acceptance of such groups and their needs. A society can only be considered inclusive when marginalised groups feel valued and respected. Well-received social inclusion policies would instil the values of mutual respect and support among the citizens during the process of policy co-creation (Osborne 2018). Conversely, policies that lack public support may trigger sentiments of unfairness, intergroup competition for resources, or discrimination against the recipients of the services – a phenomenon that has been widely reported in the literature (Rhodes 2010). In fact, while the policy and scholarly communities have strong consensus over the normative importance of social inclusion, the same cannot be said for the public. People often hold divisive views about policies that support marginalised groups such as ethnic minorities, LGBTQ individuals, elderly, and the poor (Taylor-Gooby 2016).

Second, the public makes distinctions in their attitudes toward marginalised groups (Lee 2014). Existing studies have separately assessed public attitudes toward those groups, but only a few of them adopt a comparable set of metrics. From a policy making perspective, it is important to differentiate and compare public attitudes towards different marginalised groups so as to rank policy priorities. Third, people's support for social inclusion is not static but is heavily shaped by their changing beliefs and perceptions toward the malleability of social groups, which are in turn shaped by current events. The threat of contagious diseases, for example, may harden intergroup boundaries, and thus undermine the willingness to support immigrants (Faulkner et al. 2004). The lack of data means that social policy scholars and advocates have limited ability to identify emerging threats and hostilities caused by changing global and local contexts.

1.1 Measuring Social Inclusion

The importance of social inclusion is evidenced by the sizable body of literature that develops the concept and its measurements (e.g., Atkinson et al. 2004; Raya Diez and Fumanal 2023; World Bank 2023). Conceptually, social inclusion concerns about the terms of participation of different groups and individuals in society (Barnes 2019). To effectively participate in society, one needs to have access not only to material resources and wealth, but also to work and communicate with others. Also, an inclusive society should uphold diversity and equality between groups with different characteristics (Huxley et al. 2012).

Empirically, there are two widely-used approaches to measure social inclusion. The first approach focuses on the experience of potentially vulnerable groups (e.g., Coombs et al. 2016; Faulkner et al. 2020; Gross-Manos 2015; Jenkinson et al. 2019). It usually begins by identifying a list of items of activities and resources (e.g., a television at home) that are deemed essential for social participation, and then assessing to what extent they are available to the groups or populations of interest. One of the most notable instruments of this approach is the Social and Community Opportunities Profile (SCOPE) index developed by (Huxley et al. 2012), which is based on a questionnaire that consists of objective questions about opportunities and participation, along with subjective rating of perceived opportunities.

Initially developed in the United Kingdom for mental health service users, the index has been adapted and validated in Hong Kong, Poland, and Brazil (Chan and Huxley 2022).

The second approach relies on national or state level data to measure social inclusion (e.g., Gambhir et al. 2019; Giambona and Vassallo 2014; Rogge and Konttinen 2018). This approach requires researchers to first source reliable indicators that reflect the key dimensions of social inclusion, such as income inequality, poverty rate, availability of public services, anti-discrimination laws, and immigration policies. The data are then standardised and aggregated to form a composite index of social inclusion that can be used for cross-national and time series analysis.

The two approaches have contributed valuable insights. Nonetheless, they offer limited information regarding public support for social inclusion. By focusing on individual experience of social inclusion, the first approach helps identify key areas of needs. Yet, it is unclear whether those needs are caused by lack of public understanding or support. If it is the latter, governmental efforts to rectify social inequities may provoke public opposition and exacerbate intergroup conflicts (Traunmüller and Helbling 2022). The second approach might partially address this issue because it could use indicators that reflect public support for social inclusion. Those indicators, however, contain a lot of noises and react slowly to changes in public support. Anti-discrimination laws, for example, would create an inclusive environment but their relationships with public attitudes are complex (England 2022). The time required for legislation also means that the laws would at best provide a lagged reflection of public support for social inclusion. Finally, to facilitate international comparison, existing indices are constrained by the availability of data from cross-national surveys.

Of course, there are studies that examine public attitudes towards marginalised groups and the policies that promote their inclusion. Research on welfare attitudes and tolerance, for instance, provides valuable information about public perceptions towards marginalised groups (e.g., Lee 2014; van Oorschot 2006). Yet, this body of work does not usually distinguish between different types of social inclusion policies, such as subsidies, affirmative actions, and anti-discrimination laws. Research that focuses on specific groups may reveal the

multifaceted nature of attitudes, but it does not allow for systematic comparison across marginalised groups.

Taken together, existing research has underscored the significance of social inclusion. However, to guide policy formulation and research, we need to develop a new survey instrument that:

1) assesses public attitudes towards social inclusion policies directly;

2) incorporates policies designed to support various marginalised groups;

3) encompasses a range of social inclusion policies targeting each marginalised group;

4) demonstrates robust psychometric properties; and

5) is not prohibitively time-consuming for respondents to complete.

## 1.2. Explaining support for social inclusion

Having a new survey instrument will allow us to test the key explanations for attitudes towards social inclusion policies. This is important not only because those explanations have competing policy implications, but also because attitudes towards social inclusion are multidimensional. Those dimensions, if any, can be effectively detected by the clustering of correlations between social inclusion policy preferences and different explanatory variables (van Oorschot and Meuleman 2012).

Broadly speaking, research on public attitudes towards social inclusion policies has long centered around socio-structural and psychological explanations. The former implies that people's attitudes towards social inclusion policies are difficult to change without redistribution of resources. The latter, in contrast, suggests that through strategic policy framing and public education campaigns, social inclusion policies may attract more popular support.

An important premise of many socio-structural explanations is that attitudes are reflection of people's self-interest, which are in turn determined by their socio-economic characteristics (Kumlin 2004). People who are in competition for scarce resources with the recipients of social inclusion policies are likely to oppose those policies. Following this logic,

some argue that low-income groups would oppose social inclusion policies if they see their recipients as competitors for welfare recourse (Jeene et al. 2013). In contrast, well-paid individuals may have a higher sense of economic security and thus are less likely to see policies that support marginalized groups as a threat (Lee 2014). In addition to income, age and work status may also shape one's self interest. Older people have stronger interest in social inclusion policies for the elderly. People who are unemployed might oppose employment aids targeting new immigrants and ethnic minorities (Arzheimer 2009; van Oorschot and Meuleman 2012).

Of course, it must be noted that socio-structural explanations have sometimes yielded contradictory theoretical predictions. For example, high income groups may support social inclusion policies due to their higher sense of economic security, but may also reject those policies because of tax burden concerns. As our previous studies have shown, a critical challenge with socio-structural explanations is the complex relationship between a person's socio-structural position in society and their self-interest (Lee and Chou 2018).

A very different body of scholarship contends that people's attitudes are not a result of rational calculation of self-interest. Generally, these studies argue that attitudes, including perceptions about resource competition, are emanated from psychological sources, ideological orientation, political attachments, and social identification. In this study, we focused on four explanations.

First, belief in meritocracy. People who emphasize the impact of personal effort, and understate the role of inherited socio-economic position in determining future outcomes are usually less likely to see marginalized groups as deserving for help (Feldman et al. 2020). Previous studies found that the belief also reduces support for states' welfare responsibility (Jeene et al. 2013; Peng 2023). Worrying that unearned state benefits creates habitual dependency and undermines the ability for self-determination, the belief may drive people to oppose the provision of social welfare, even if they sympathize with the needs of the marginalized groups (Feldman et al. 2020).

Second, perceived needs and social progress. Policy preference is inexplicably tied to individuals' perceived saliency and severity of a social problem (Eibach and Ehrlinger 2006). People are less likely to support social inclusion policies if they do not believe in the marginalization of the target groups. For example, in America, people who see significant progress in racial equality are less likely to support affirmative action on racial disparities in education (Brodish et al. 2008). Individuals who perceive equality has been achieved for all

have little incentive to extend additional social resources for marginalized groups as further social justice policies are interpreted as an unfair advantage for minorities (Brannon et al. 2018).

Third, identity complexity. Research in socio-psychology has further suggested that people differ in their social identity complexity (Brewer and Pierce 2005). Some people are aware of the diversity between the social groups that they identify with. Others may embed multiple identities in a single ingroup representation. This difference in the subjective understanding of social identity plays a significant role in intergroup relations (Gaertner et al. 1993). People who are aware of the complexity of social identities are more likely to find connection between groups that are different in some key dimensions, and thus exhibit more tolerance and empathy towards members of the outgroups (Brewer and Pierce 2005). For example, Roccas and Brewer (2002) found that identity complexity is associated with social tolerance and positive feelings towards racial out-groups. Similarly, people with higher levels of identity complexity are more likely to support social inclusion policies and view affirmative action positively (Brewer and Pierce 2005).

Fourth, social dominance orientation. Believing that society is organized by hierarchies, some people may see their groups as superior to other groups (Pratto et al. 1994). Studies in political science and psychology have found that the desire for social domination is significantly associated with negative attitudes towards marginalized groups (e.g., Bishin et al. 2016).

Other factors such as social contact and religion that may be relevant to specific marginalized groups should also be considered. Taken together, the aforementioned variables are important not just for explaining social inclusion attitudes, but also for understanding people's beliefs about groups and social progress. With repeated surveys, which the research team has planned to conduct following this project, we will be able to observe how those important beliefs change in response to significant social and political events such as social movements and the outbreak of COVID-19.

Overall, existing theories have presented completing explanations of attitudes towards social inclusion policies. Socio-economic characteristics shape people's self-interest and sense of competition over scarce resources, yet psychological variables such as beliefs, orientations, and identities also profoundly impact attitudes independent of structural position. The multidimensional data generated from this project offer us an excellent opportunity to test hypotheses from the theories discussed here.

1.3. The growing popularity of online surveys

To facilitate policy evaluation, it would be best to survey public support for social inclusion policies regularly. Telephone surveys have long been used in public opinion research internationally. However, in recent years, online surveys have emerged as an unignorable rival. The key strength of online survey is its low cost (Wiśniowski et al. 2020). Established survey firms maintain a sizeable and diverse online panel to which surveys are fielded. In Hong Kong, with the same sample size, the cost of online survey is roughly 60% lower than telephone survey based on the previous quotations we received from reputable survey firms. Furthermore, the internet penetration rate is high in Hong Kong. According to the World Banks' Data Commons report (2019), 91.7% of the population are internet users.

Unfortunately, the weakness of online surveys is also obvious. The use of online panel often implies that the chance that a member of a population would be selected for the survey is unknown. This poses a serious threat to inference. Voluminous empirical studies have shown that compared to probability telephone surveys, nonprobability online surveys have produced largely biased population estimates (e.g., Dutwin and Buskirk 2017; Malhotra and Krosnick 2007). Therefore, it is usually suggested that the use of nonprobability online sample be restricted to the evaluation of relationships between variables, in which the difference between nonprobability and probability samples is small (Pasek 2016).

Meanwhile, due to the potential benefits and flexibility of online surveys, the scholarly community has continued to explore ways to use nonprobability online sample to estimate population values, including quota sampling, propensity score adjustment (Castro-Martín et al. 2022), and calibration (Lee and Valliant 2009). These methods, however, have different limitations. Some does not actually reduce survey cost because they remain heavily reliant on costly probability data, while others may only improve the accuracy of estimations under very specific circumstances.

A more promising avenue seems to have emerged in recent years due to the work of Sakshaug, Wiśniowski, and their colleagues, who propose to integrate nonprobability online sample with a parallel, small probability telephone sample within a Bayesian framework (Wiśniowski et al. 2020). Unlike the more common frequentist analysis, Bayesian inference allows one to include and distinguish information of different quality. Prior information or beliefs about an unknown quality (prior) is updated by supposedly higher quality evidence via weighted averaging of the prior and likelihood functions, with weights corresponding to

certainties (Gelman et al. 2013). The posterior probability distribution (posterior) represents the updated belief about the unknown quantity given both prior information and the evidence. Figure 1 visually illustrates how the posterior (blue line) changes as evidence accumulates. It reflects growing certainty about the range where the true quantity (=3 in Figure 1) lies (for a detailed description of Bayesian inference, see Gelman et al 2013).

**Figure 1. Prior and posterior distributions in different sample size scenarios**
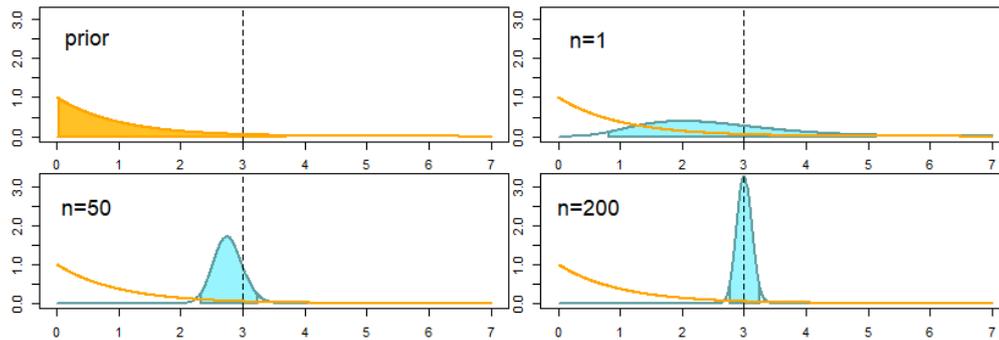


Given the importance of public support for social inclusion, there should be regular surveys on the subject. Therefore, as an extended task of this project, we adapted the method developed by Wiśniowski et al. (2020) and evaluated its effectiveness in the context of Hong Kong and social inclusion measurement. Specifically, the method uses the less costly and lower quality data from nonprobability samples to construct an informative prior, which is then updated by the expensive but higher quality data from probability samples to form the posterior estimations. As the size of the probability samples increases, prior information from the nonprobability samples is given less weight in the posterior estimations. This Bayesian framework is ideal for integrating nonprobability and probability samples because it leverages on the key strength of nonprobability samples, which is inexpensive and abundant in quantity, to address the key issue in small (probability) sample inference: high uncertainty (variance) in its estimates. Although the use of nonprobability sample data would introduce bias, the accuracy of the final estimation may not be compromised due to a reduction in variance—the classic bias-variance trade-off.

Previous studies have also tried to combine nonprobability and probability samples using propensity score methods or calibration weighting (e.g., Lee & Valliant 2009; DiSogra et al. 2011). Yet, the approach proposed by Sakshaug and Wiśniowski represents a breakthrough because instead of using a probability sample to adjust for biases in a nonprobability sample, which often requires a sizeable probability sample, it "skews the

probability sample towards the nonprobability sample" (Wiśniowski et al. 2020). To evaluate the performance of the method, the developers tested it against actual survey data collected in Germany, which included two probability surveys and eight parallelly conducted nonprobability online surveys (Sakshaug et al. 2019). Compared to a probability-only samples, the method was found to be effective in enhancing the accuracy of estimation of a variety of parameters, including height, weight (Sakshaug et al 2020), an additive index of a subset of Big Five, and an additive index of a subset of Need for Cognition scale items (Sakshaug et al. 2019). Given that the outcome variable of interest in this proposed study is also an additive index, the method should be of relevance. Most importantly, it was estimated that the method could reduce survey cost by 55 to 60% (Sakshaug et al. 2019, 2020).

Whether this method could achieve similar outcomes for this proposed project and in the context of Hong Kong remains unknown. Also, the discrepancy between probability and nonprobability samples varies across topics of interest. As noted by the developers, the effectiveness of the method hinges on the size of bias in the nonprobability sample, which cannot be ascertained without actual data collection. It is therefore necessary for this proposed project to collect data through both telephone and online surveys, and determine the minimum size of telephone sample required for future surveys.

1.4 The specific needs of Hong Kong

The Hong Kong society has long suffered from serious social and economic inequalities. In 2020, 23.6% of the city's 7 million population fell below the government's poverty line (Hong Kong Government 2021). Additionally, according to Piketty and Yang (2021), from 1981 to 2020, the income and wealth gaps have risen significantly, making the city one of the most unequal in the world. Local scholars have documented the severity and prevalence of social exclusion. A study by Saunders et al. (2014), for example, estimates that around three-quarters of the population experience some form of exclusion. This exclusion has in turn reduced life satisfaction, increased suicide risks, and worsened psychical and mental health (Cheung and Chou 2019; Chung et al. 2023; Yeung et al. 2022). Not surprisingly, therefore, in 2022, the Hong Kong government declared its commitment to "embrace social inclusion" through its policies, including rehabilitation, education, employment, poverty relief, housing, and immigration (Hong Kong Government 2022).

While the primary objective of this project is to enhance Hong Kong's ability to track public support for social inclusion, Hong Kong possesses certain characteristics that lend generalizability to its case and add value to its data. Firstly, as is common in many major cities, Hong Kong's high population density exacerbates issues of social and economic deprivation (Massey 1996). Secondly, as we will demonstrate below, there are clearly identifiable group-based social exclusion in Hong Kong. To the extent that marginalised groups require broadly comparable policy support, the survey instrument derived from Hong Kong can be adapted to examine social inclusion dynamics across other urban contexts. Finally, the city has experienced rapid social and political changes due to the outbreak of COVID-19 and social movements. Our data thus offer valuable insights into how group boundaries are perceived by the public following these transformative events.

This study focuses on public support for social inclusion policies toward five major marginalised groups in the city, namely ethnic minorities, new immigrants from mainland China, LGBTQ individuals, persons with disabilities, and elderly. These groups are selected because they largely represent the most pressing needs for social inclusion in Hong Kong. Older adults in Hong Kong are exposed to high risk of depression caused by social exclusion and poverty (Chou 2018; Lee and Chou 2019). Similarly, new immigrants from mainland China and ethnic minorities have reported more depressive symptoms than the general population, partly due to the severe challenges they encounter in the education system and labour market (Lee and Chou 2020; Ng 2020). LGBTQ people, meanwhile, are often barred from accessing equitable health care, legal employment protection and marriage rights (Lau and Stotzer 2011). Finally, persons with disabilities have long been systematically excluded from equal working opportunities and social support (Chau et al. 2018). In sum, the social deprivation encountered by the five marginalised groups is well-documented by local studies. However, currently there is no data that allow for systematic tracking and comparison of how these groups are received by the population at large.

**2. Objectives of the study**

This project has three objectives:

1) to construct a rigorous index to measure public support for social inclusion policies toward five major marginalized groups in Hong Kong, namely, ethnic minorities, new immigrants from mainland China, homosexual persons, persons with disabilities, and elderly;

2) to test the key socio-structural and psychological explanations for attitudes towards social inclusion policies;

3) to lay a foundation for long-term tracking of public opinion on social inclusion by examining the potential of online non-probability in survey cost reduction

These objectives are the same as those listed in the original proposal and, as we will demonstrate below, have been fully achieved.

**3. Research methodology**

We describe the methodology of this study in three sections. First, we explain how we selected and reduced the items for the Support for Social Inclusion Score (SFSIS) and describe the methods to validate the instrument. Second, we articulate the hypotheses for explaining individual variations in SFSIS and operationalized the key concepts. Third, we describe the method developed by Wiśniowski et al. (2020) for combining probability and non-probability samples.

3.1 Developing the Support for Social Inclusion Score (SFSIS)
Our objective for the "Support for Social Inclusion Score" (SFSIS) is to create a composite survey instrument that enables the versatile combination and aggregation of various single indicators and sub-indices. Instead of merely asking respondents to rate their support toward different marginalised groups in principle, the SFSIS employs specific policy items to gauge respondents' support for enhancing the respective groups' terms of participation in society. This emphasis on policy is crucial as research in psychology has consistently demonstrated substantial discrepancies between individuals' support for abstract normative values (such as

equality) and the policies that actualize those values (Dixon et al. 2007). Also, given the diverse policy tools available, the SFSIS will be able to capture the multidimensional aspects of social inclusion attitudes and generate insights that are more useful for policy advocacy and evaluation.

To ensure that the policy items we select for the SFSIS are sufficiently comprehensive, we began by compiling an extensive list of 100 social inclusion policies for the five selected marginalised groups. Each group had a roughly equal number of items, ranging from 19 to 21. The policies are either real-world policies or prominent proposals from policy advocates and researchers. The list was reviewed for relevance and face validity by members of the research team, who have extensive experience researching different marginalised groups in Hong Kong, as well as by policy advocates and student helpers. We finetuned the items based on their suggestions. Table 1 lists the policy items for disabled persons, which is one of the five marginalised groups included in this study. The full list of policies is available in the Appendix Table A1.

**Table 1: survey items for disabled persons**

1. Ordinary schools accept children with special needs
2. Exempt disabled drivers from payment of parking charges for using on-street metered parking spaces
3. Subsidise employers of persons with disabilities for procurement of assistive devices (maximum $40,000 per each disabled employee)
4. Increase the number of rehabus (transport service for persons with mobility difficulties)
5. Setting up a sheltered workshop in your neighbourhood
6. Open a hostel for severely mentally handicapped persons in your neighbourhood
7. Require government agencies to adopt the goal of having 3% of its workforce be people with disabilities
8. Provides additional resources to schools that admit students with special needs
9. Criminalise discrimination against a person on the ground of disability
10. Offer short-term pre-employment training for job seekers with disabilities
11. Provide on-site rehabilitation services for pre-school children with mild disabilities
12. Subvent peer support service for persons with autism
13. Provide living allowance for low-income carers of disabilities
14. Fund the development of sporting career of disabilities
15. Disabilities can travel at a lower price on public transport
16. Encourage participation of disabilities in society in communities decision making
17. Person with communication difficulties can get money to hire a support worker to go to interview with the person
18. Host leisure activities for young people with a learning disability and autism (Holiday Play Scheme)
19. Educational institutions are required to ensure there is support in place for children with special education needs
20. Produce public education materials for promoting awareness on mental illness

*Note: the order of the items were randomised in the survey to avoid order-effects. Responses were recorded on a five-point scale: 1=strongly disagree; 6=strongly agree. The full list is available in Appendix Table A1.*

Through a professional online survey agent, we fielded the first survey in June 2022 to 350 Hong Kong adults coming from diverse backgrounds. This sample size is recommended by Rouquette and Falissard (2011) for achieving a Cronbach's alpha of 0.7 or above. It also makes reference to the Principal Component Analysis (PCA) done by Huxley and his colleagues (2012) for the construction of the SCOPE index, which identifies key components of social inclusion from around 120 items. Noted in the earlier discussion that nonprobability samples alone are not ideal for estimating population values. However, the purpose of the first survey is to examine the relationships amongst different policy items. Therefore, using an online nonprobability sample is acceptable (Ansolabehere and Schaffner 2014; Pasek 2016). Given the length of the survey, it will be prohibitively costly to field it to a probability sample through traditional means, such as telephone surveys or household surveys.

During the survey, the 100 policy items were presented in a random order to reduce order effects (Strack 1992). To ensure that the final instrument can be implemented cost effectively, we reduced the total number of items to 25, so that support for each marginal group would be measured by five questions covering different types of policies. To achieve this goal, we followed Huxley and his colleagues (2012) and removed items that contained more than 10% missing data, lacked variance (> 90% of respondents choose the same option), and overlap considerably ($r > 0.7$) with other item(s). Then, based on the result from Kaiser-Meyer-Olkin (KMO) tests, we conducted a PCA to reduce partly collinear policy items within and across marginalised groups to a smaller number of uncorrelated components (Abson et al. 2012).

To evaluate the psychometric properties and validity of the instrument, we fielded the finalised policy items, again presented in a random order, along with a range of explanatory variables of interest, to the Hong Kong population through another survey in late 2022 (N=1,010). Our sample size allowed us to obtain a 3% margin of error at 95% confidence level. To obtain the most representative sample, respondents were selected on a probability basis. Specifically, the survey agency randomly drew a fixed set of telephone numbers from the latest residential telephone directories as "seed" numbers and generated another set of numbers by randomly adding or subtracting 1 or 2 from the originally selected numbers to capture new and unlisted numbers. If there was more than one eligible respondent in a

household, one will be randomly selected for the interview using the next birthday rule, which selected the person whose birthday was soonest. All interviews were conducted anonymously.

The presence of an interviewer may induce respondents to give strong support for social inclusion policies. However, we believe that this possibility does not warrant the use of sophisticated measurement techniques, such as list experiment, because they will increase variance, a cost that may be insufficiently compensated by the possible reduction in bias (Blair et al. 2020). Blair et al. (2020) also found little evidence of bias for direct questions related to racial, sexual and religious prejudices.

We evaluated the dimensionality and internal reliability of the SFSIS using findings from an Exploratory Factor Analysis (EFA) and Mcdonald's Omega coefficients. We also examined the instrument's correlations with social awareness – a closely related concept that denotes the capacity to comprehend the needs and concerns of others (Goleman 1998) – via five questions adapted from van Oorschot (2006). These questions gauged how invested respondents were in the living conditions of the five marginalised groups in Hong Kong (1 = not at all, 5 = very much; with one question for each group). Although individuals who are attentive to the needs of a marginalised group may not necessarily lend support to specific policies – which is why the SFSIS was developed – we should expect a positive and significant association between social awareness and the SFSIS given their conceptual proximity.

3.2 Explaining support for social inclusion policies

This section describes how we tested the theoretical explanations for people's attitudes toward social inclusion policies.

We used standard measures of demographic characteristics, including household income, age, and education level to test the socio-structural explanations. In line with the previous discussion, we expected that:

$H_{1a}$: Income is positively associated with support for social inclusion policies;
$H_{1b}$: Education is positively associated with support for social inclusion policies;

Household income was ordered into 5 levels: 1=HK$ 10000 or below per month, 5=HK$ 70001 or above per month. Education was measured by the respondents' highest educational attainment: 1= primary school or below; 3= college or above. Social contact with the marginalized groups, employment status, and age were also included in the demographic questions as control variables.

Regarding the psychological explanations, beliefs in meritocracy were measured by four items adopted from Feldman et al. (2020). Respondents rated to what extent they agree with the following statements: "Even if people try hard they often cannot reach their goals", "Any person who is willing to work hard has a good chance of succeeding", "Even if people are ambitious they often cannot succeed" (reverse coded), "If people work hard they almost always get what they want" (1=strongly disagree; 5=strongly agree). We hypothesized that:

$H_2$: the belief in meritocracy is negatively associated with support for social inclusion policies

Social awareness was measured by questions modified from van Oorschot (2006), which asked respondents the extent to which they feel concerned about the living conditions of the five marginalized groups in Hong Kong (1= not at all; 5= very much. One question for each group). In addition, following Eibach and Ehrlinger (2006), we also asked respondents in general how much progress had been made toward social equality in Hong Kong in the past ten years (1=very little progress; 5=a great deal of progress). We hypothesized that:

$H3_a$ : Social awareness is positively negatively associated with support for social inclusion policies;

$H3_b$ : Perceived social equality is negatively associated with support for social inclusion policies

Social identity was measured in two stages. First, to see if the respondents see themselves as a member of the marginalized groups, we asked them to name four social groups that describe them as a person. Examples of social groups were given to aid respondents to make sense of the concept. Then we examined their identity complexity by the overlap complexity scale (Roccas & Brewer 2002). For each pairing of the four social groups, respondents needed to estimate the overlap between the groups as they perceived them on a

scale from 0 to 10. The scores were averaged to reflect the overlap of the four groups listed. A high score indicates little perceived overlap of group memberships (i.e., high level of identity complexity). Following previous studies (Brewer and Pierce 2005), we hypothesized that:

H4: Social identity complexity is positively associated with support for social inclusion policies.

Social dominance orientation was measured by four items adopted from the scale used in Bishin and his colleagues (2016). Respondents were asked on a five-point scale to indicate how strongly they agree or disagree with statements such as "some groups of people are simply not the equals of others" and "it is not a problem if some people have more of a chance in life than others". Based on our previous discussion, we hypothesized that"

H5: Social dominance is negatively associated with support for social inclusion policies.

These hypotheses are non-exhaustive, but they allowed us to test some of the key insights in the literature, and derive a model to predict SFSIS – a crucial task for applying the method developed by Wiśniowski et al. (2020). Finally, we also measured online social and social participation (1= active; 6=inactive) and exposure to new things (1=slow to try new things; 4=fast to try new things). These items are suggested by Fahimi et al. (2015) for differentiating (nonprobability) online survey participants and the broader population. They were added to some of our regression models as additional control variables.

The SFSIS and the data we have collected support a wide range of analyses. For example, differences in scores can be used to measure the extent to which people's support was conditioned by policy types and beneficiaries. We can also decompose the scores into groups to test more specific hypotheses, such as the relationship between age and support for elderly policies. In this report, we adhere to the analytical plan outlined in the proposal and focus on $H_{1-5}$. To test the hypotheses, we simply constructed multiple linear regression models and regressed the mean of SFSIS on the variables of interest. These analyses were straightforward but would generate useful information for understanding potential resistance to the social inclusion effort. Specifically, if psychological factors are found to be more influential than socio-structural characteristics in attitude formation, then policy makers

should direct resources to public education programmes that may change the beliefs in question. Belief in meritocracy, for example, could be attenuated by interventions that strategically highlight structural discrimination in society (Carter and Murphy 2015). Similarly, social identity complexity could potentially be enhanced by information that emphasises the malleable nature of social groups (Lee and Chou 2020).

The full questionnaire (in Chinese) is available in the Appendix.

3.3. Combining online non-probability and telephone probability surveys

To investigate the potential of employing online non-probability samples to decrease survey costs in the future (Objective 3), we conducted an online survey (N=1,000) using a non-probability based online panel in parallel with the telephone survey in late 2022 through a professional survey agency. Online survey agencies differ greatly in terms of panel member recruitment and fees. As our goal was to reduce survey costs while maintaining the quality of estimates, we specifically requested a diverse sample in our tender to match the age, gender, and educational characteristics of the Hong Kong population. Furthermore, we only considered bids that cost less than the standard prices of telephone surveys (~HKD 140,000 for 1,000 interviews). Based on these criteria, we selected a survey agency that charged the lowest fees (<HKD 50,000) and guaranteed a diverse sample. The survey agency does not permit us to disclose the details of their bid and panel to the public. Nonetheless, we were allowed to review their recruitment strategies, quality assurance mechanism, panel composition, and size, and did not identify any particularly concerning issues.

Members of the panel were recruited by the survey agency from a variety of channels (e.g., social media platforms) and examined in both registration and reimbursement (in "points") stages for authenticity. To enhance the diversity and quality of the sample, we set recruitment quotas for different age groups and conduct multiple attention checks. To exclude respondents who were not attentive, we implanted two instructions in the questionnaire that specified the requisite options.

Certainly, these methods alone do little to improve the accuracy of the online sample (Kennedy et al. 2016). We therefore needed to test the method developed by Wiśniowski et al. (2020).

The method is rooted in the Bayesian framework and can be implemented in R. Following the guidelines from Wiśniowski et al. (2020), we constructed three models, each with a different prior probability distribution (prior). These priors were constructed using data

from the online nonprobability survey. They were then integrated with telephone survey data, which are supposed to be of higher quality, to form the posterior probability distribution (posterior). In nontechnical terms, the three models represent different ways to integrate probability (telephone) and nonprobability (online) samples:

Model 1, the non-informative (NI) model, adopts a weakly informative prior in which the estimation of posteriors is dominated by the telephone (probability) sample. The online survey adds no or little unique information. The NI model thus provided us a scenario in which only telephone survey data are available for analysis.

Model 2, referred to as "conjugate-distance" (CD) by Wiśniowski et al. (2020), was constructed on the basis of the squared distance between the maximum likelihood (ML) coefficients derived from the telephone and online samples, as well as the standard error of the ML coefficients based on online (nonprobability) data. It gave greater weight to the telephone survey data and thus allow for larger variability if the discrepancies between the regression coefficients of the two samples are large, as indicated by the result of a Hotelling $T^2$ test for equality of two vectors.

Model 3, denoted as "Zellner-distance" (ZD), used the inverse covariance matrix of covariates, which measures the degree to which one variable changes with respect to another variable, or the standard error of the coefficient based on non-probability data, whichever is larger, to adjust the prior variance. The purpose of this adjustment is to account for the scale and correlation structure of the covariates in the posterior. This model would be more useful when the variables are highly correlated with each other and different scales are used for different variables (Wiśniowski et al. 2020).

The formal specifications of the models are available in Sakshaug et al. (2019) and Wiśniowski et al. (2020). In short, Models CD and ZD utilised information from the online sample to aid inference, whereas Model NI, similar to existing practices, relies only on the telephone sample. Therefore, if CD or ZD outperformed NI, we may justify the combination of online and telephone samples in future research.

The performance of the models was evaluated by the mean-squared error (MSE) of their model-based predictions. Here, MSE is the average squared difference between the model-based predictions and their corresponding parameters in the full telephone sample (n~1,000). A smaller MSE denotes better performance (more accurate estimates). Following Wiśniowski et al. (2020), we randomly drew subsamples of various sizes (n = 100, 200, 300, 400, 500, 600, 700, 800) from the full telephone sample to simulate situations in which we

could only afford to conduct a small telephone survey to supplement an online survey (n~1,000). Under the different scenarios, we estimated posterior estimations of the three models. This procedure was repeated 10 times, and the estimations were averaged for comparing the performance of the three models.

MSE can be decomposed into variance and squared bias. Recall that the method under consideration reduces errors in a small telephone sample inference by leveraging on the size of online sample to reduce variance. The expectation is that the reduction in variance would be sizeable enough to outweigh the increase in bias caused by the use of an online nonprobability sample (Sakshaug et al. 2019; Wiśniowski et al. 2020).

The method requires users to first specify a linear regression model. In our application, the outcome variable was mean SFSIS, which measures respondents' average support for social inclusion policies. The independent variables were the same as those we tested in section 2 (see Table 9 Model 2), except that dropped identity complexity due to its weak and statistically non-significant association with the outcome variable.

We then fitted the regression models and our datasets to the R functions written by Wiśniowski et al. (2020) and compared the squared bias and variance under different telephone sample size scenarios. On the basis of the results, we could determine the minimum telephone sample size required to yield estimates, which are of comparable accuracy to those from a standard telephone survey (n~1,000) for our future research. We could also examine to what extent the method can indeed reduce survey costs meaningfully.

## 4. Results

Again, we present the results of this study in three sections. The first section reports the development and validation of our key instrument, Support for Social Inclusion Score (SFSIS). The second section reports findings from the linear regression models that we constructed to test different explanations for individual variations in SFSIS. The third section reports the significant differences between probability and non-probability samples, and the performance of the method developed by Wiśniowski et al. (2020).

4.1 Validation of the SFSIS

Table 2 reports the demographic characteristics of the sample in our first survey. Overall, the respondents were more educated than the general population of Hong Kong. However, this should not be a problem since our goal at this stage was simply to explore the relationships between items in a diverse sample (Lehdonvirta et al. 2021).

**Table 2: demographic characteristics of the sample (1ˢᵗ survey)**

|  | % |
|---|---|
| Male | 52 |
| Female | 48 |
|  |  |
| Age |  |
| 18-29 | 6 |
| 30-39 | 18 |
| 40-49 | 23 |
| 50-59 | 27 |
| 60-69 | 21 |
| 70 or above | 4 |
|  |  |
| Education |  |
| Primary or below | 1 |
| Secondary | 35 |
| University of above | 64 |

*N= 350*

Figure 2 displays the items' mean scores in the first survey. There are significant variations in public support across policy items and marginalised groups, confirming our earlier discussion that people's support for social inclusion is multidimensional.

**Figure 2: average support for social inclusion policies in the 1st survey**
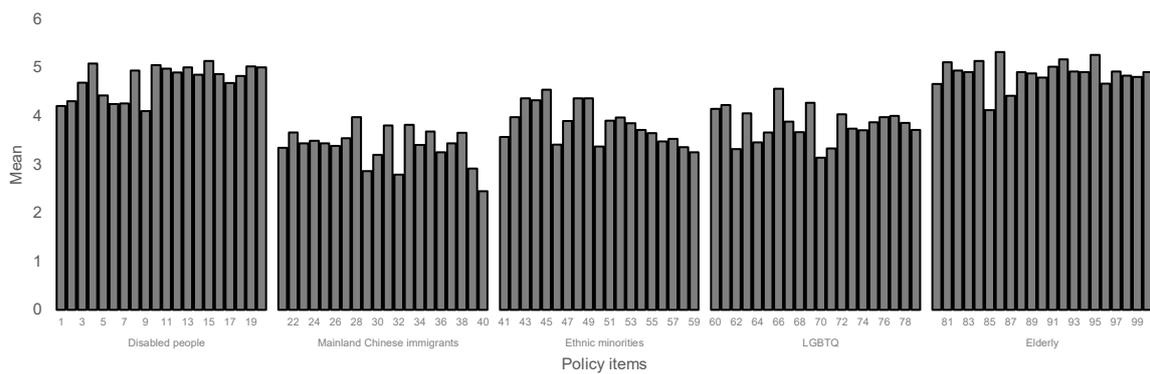


*Note: The corresponding policy items are available in Appendix Table A1.*

Based on the result from Kaiser-Meyer-Olkin (KMO) tests, which suggest that the data are suitable for factor analysis,[1] we conducted a PCA to reduce partly collinear policy items within and across marginalised groups to a smaller number of uncorrelated components (Abson et al. 2012). We identified a single component structure within most marginalised groups, and a 7- component structure when all the 100 items were analysed. Policy items that have a loading above 0.7 in both cross-group and within-group principal components were retained.

The PCA alone was not able to reduce the number of items to 25. For the remaining items, we retained those that had broad similarities across marginalised groups and, potentially, societies. In particular, all groups had one similarly phrased item on anti-discrimination legislation (highlighted in Table 3). Other policies included subsidised services, as well as the extension and affirmation of rights. In terms of social services, we focused on measures that facilitate intergroup contact, such as increasing the presence of marginalised groups in respondents' neighbourhoods. Measures to affirm or extend rights generally focused on social participation (e.g., community decision making) and varied only according to each group's representative needs. We decided to retain one item that was more specific to the Hong Kong context (Item 22: "subsidise elderly people to travel on public transport at a concessionary fare <u>of $2 per trip</u>") due to its significance to the city's ongoing

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[1] The KMO values were all higher than 0.9.

policy discussion (Rowse 2023). Table 2 lists the items included in the finalised survey instrument.

Table 3 reports the demographic characteristics of the online and telephone samples. Compared to the Hong Kong population, the telephone sample contains more elderly aged 70 or above, whereas the online sample has a higher percentage of respondents aged between 18 and 39. These patterns are in line with those reported by similar surveys conducted in Hong Kong. We were aware of the limitations of online surveys and, therefore, in the assessment of the instrument's psychometric properties below, we will predominantly draw on the higher-quality probability-based telephone survey sample. Findings from the online survey will only be presented for assessing the method proposed by Wiśniowski et al. (2020).

**Table 2: Finalized items in the SFSIS**

**Please rate, on a scale of 1 (strongly oppose) to 7 (strongly support), how much you support or oppose the following policies designed to enhance social inclusion. Please rate "strongly support" if you think that the provision to the societal groups concerned could be even more generous.**

1) Setting up a sheltered workshop in your neighbourhood
2) Expand peer support service for persons with autism
3) Encourage participation of disabilities in society in communities' decision making
4) Criminalise discrimination against a person on the ground of disability [A]
5) Educational institutions are required to ensure there is support in place for children with special education needs

6) Establish career training courses specialised for new arrivals from mainland
7) Setting up a community centre for the new mainland arrivals in your neighbourhood
8) Encourage participation of new arrivals in communities' decision making
9) Criminalise discrimination against new arrivals from mainland China [A]
10) Host multicultural activities in schools with the assistance of new immigrants parents

11) Criminalise discrimination against ethnic minorities [A]
12) Subsidise ethnic minorities to participate in Chinese language courses
13) Public campaign to encourage respect for human rights and fundamental freedoms for ethnic minority groups
14) Granting right to work to asylum seekers and refugees
15) Setting up a community centre for the ethnic minority in your neighbourhood

16) Legalize same sex marriage
17) Requires all employers to include a clear declaration of non-discrimination toward employees of all sexual orientations
18) Support for laws against LGBTQ discrimination [A]
19) Public campaign to encourage respect for human rights and fundamental freedoms for homosexual people
20) Encourage participation of homosexual people in communities' decision making

21) Encourage older residents to join the discussion on city development with various parties
22) Subsidise elderly people to travel on public transport at a concessionary fare of $2 per trip.
23) Criminalise age discrimination in workplace [A]
24) Open an elderly hostel in your neighbourhood
25) Offer visiting service to elders

Notes: [A] = anti-discrimination legislation

**Table 3: Demographic characteristics of respondents in the final surveys**

|  | Telephone | Online | HK Population |
|---|---|---|---|
| **Age** | | | |
| 18-29 | 12.2% | 21.5% | 11.9% |
| 30-39 | 11.0% | 25.3% | 14.9% |
| 40-49 | 14.3% | 15.5% | 15.7% |
| 50-59 | 15.3% | 19.7% | 16.2% |
| 60-69 | 17.6% | 15.2% | 14.8% |
| 70 or above | 28.7% | 2.8% | 13.1% |
| **Education** | | | |
| Primary or below | 17.8% | 1.5% | 25.3% |
| Secondary | 42.5% | 29.2% | 43.9% |
| College or above | 38.8% | 69.3% | 30.8% |
| **Female (%)** | 54.6% | 54.0% | 52.3% |
| **N** | 1,010 | 1,000 | |

*Notes: unweighted samples from the telephone and online surveys. The figures of the population were obtained from the 2021 population census.*

Focusing on the telephone poll data, Table 4 displays the correlations between attitudes toward social inclusion policies for different groups. While all the correlations are statistically significant, they do vary substantively in magnitude, ranging from 0.11 (between LGBTQ and new immigrants from mainland China) to 0.51 (between ethnic minorities and persons with disabilities). These heterogeneous correlations suggest that the final instrument has successfully preserved the ability to detect the multidimensionality in people's support for social inclusion.

**Table 4: Correlations between attitudes toward different types of social inclusion policies (telephone survey)**

|  | New immigrants | Ethnic minorities | LGBTQ | Disabled persons | Elderly |
|---|---|---|---|---|---|
| New immigrants | / | 0.37 | 0.11 | 0.37 | 0.39 |
| Ethnic minorities | 0.37 | / | 0.45 | 0.51 | 0.43 |
| Homosexuals | 0.11 | 0.45 | / | 0.36 | 0.30 |
| Disabled persons | 0.37 | 0.51 | 0.36 | / | 0.62 |
| Elderly | 0.39 | 0.43 | 0.30 | 0.62 | / |

*Note: the coefficients indicate Spearman's rank correlation between different variables. The data were unweighted.*

We conducted an EFA to gain further insights into the instrument's dimensionality. The EFA classified the items into six factors (refer to Table 5). Corresponding to our design, the first five factors neatly align with the five marginalised groups covered by the index. The final factor comprises items related to anti-discrimination law in each marginalised group. Thus, the EFA confirms the core theoretical motivation underlying the SFSIS, that people's support for social inclusion policies is not only influenced by whom the policies are intended to assist, but also by how the policies aim to achieve their objectives.

**Table 5: Exploratory factor analysis (telephone survey)**

| Items | Component loadings | | | | | |
|---|---|---|---|---|---|---|
| | RC 1 | RC 2 | RC 3 | RC 4 | RC 5 | RC 6 |
| 1 | | | 0.461 | | 0.404 | |
| 2 | | | 0.687 | | | |
| 3 | | | 0.525 | | | |
| 4 | | | 0.447 | | | 0.482 |
| 5 | | | 0.656 | | | |
| 6 | 0.796 | | | | | |
| 7 | 0.795 | | | | | |
| 8 | 0.772 | | | | | |
| 9 | 0.684 | | | | | 0.331 |
| 10 | 0.786 | | | | | |
| 11 | | | | 0.532 | | 0.556 |
| 12 | | | | 0.616 | | |
| 13 | | | | 0.643 | | |
| 14 | | 0.31 | | 0.391 | | |
| 15 | | | | 0.731 | | |
| 16 | | 0.804 | | | | |
| 17 | | 0.507 | | | | |
| 18 | | 0.629 | | | | 0.329 |
| 19 | | 0.816 | | | | |
| 20 | | 0.815 | | | | |
| 21 | | | | | 0.521 | |
| 22 | | | | | 0.409 | |
| 23 | | | | | 0.448 | 0.378 |
| 24 | | | | | 0.665 | |
| 25 | | | | | 0.479 | |

*Notes: extraction method: maximum likelihood; Rotation method: Varimax standardisation with Kaiser. Only loadings above 0.3 are shown. The data were unweighted.*

The internal reliability of the instrument is excellent. Table 6 reports the McDonald's omega coefficients (ω) of the SFSIS, which is close to 0.90, as well as the five marginalised groups covered by the index. With the exception of the elderly group, which has a ω of 0.72, all scores have a ω greater than 0.80.

**Table 6: Reliability analysis (telephone survey)**

|  | McDonald's Omega Coefficients |
| --- | --- |
| Disabled | 0.80 |
| New immigrants | 0.90 |
| Ethnic minorities | 0.80 |
| LGBTQ | 0.86 |
| Elderly | 0.72 |
| Overall | 0.89 |

*Note: We also calculated the Cronbach's alpha coefficients, with nearly identical results. The data were unweighted.*

The SFSIS is significantly and positively associated with respondents' social awareness. Table 7 reports results from a series of linear regressions. Models 1 regresses the mean SFSIS on social awareness. In Model 2 we added the usual demographic controls, including education, age, sex, and income.

**Table 7: Association between mean SFSIS and social awareness**

|  | DV = Mean SFSIS | |
| --- | --- | --- |
|  | 1 | 2 |
| Social awareness | 0.36*** | 0.41*** |
| Education | / | 0.12** |
| Age | / | -0.04 |
| Female | / | 0.10 |
| Household income | / | -0.02 |
| N | 1008 | 906 |

*Notes: Coefficients from linear regression models predicting mean SFSIS; \*\*\* p<0.001; \*\* p< 0.01, \*p<0.05. The data were unweighted. Education, sex, and age were categorised into levels as shown in Table 3. Household income was ordered into 5 levels: 1=HK$ 10000 or below per month, 5=HK$ 70001 or above per month.*

Taken together, the findings evince excellent internal consistency in each of the five subgroup indices, and their substantive contribution to the overall multidimensional SFSIS. Given the sound psychometric properties and construct validity of the SFSIS, we conclude that the project has achieved its first objective.

4.2. Explaining support for social inclusion policies

Figure 3 displays the mean SFSISs in both online and telephone surveys for each marginalised group. Overall, the respondents in both surveys seemed to be supportive of social inclusion, with an average SFSIS of 5.39 and 4.80 in the telephone and online surveys respectively. However, we also noted significant differences in the scores across the two samples. These differences were expected, and we will delve into them in the next section when we test the method developed by Wiśniowski et al. (2020). In this section, we will use the higher quality probability-based telephone survey data to perform hypothesis testing.

**Figure 3: Mean SFSIS obtained from telephone and online surveys**
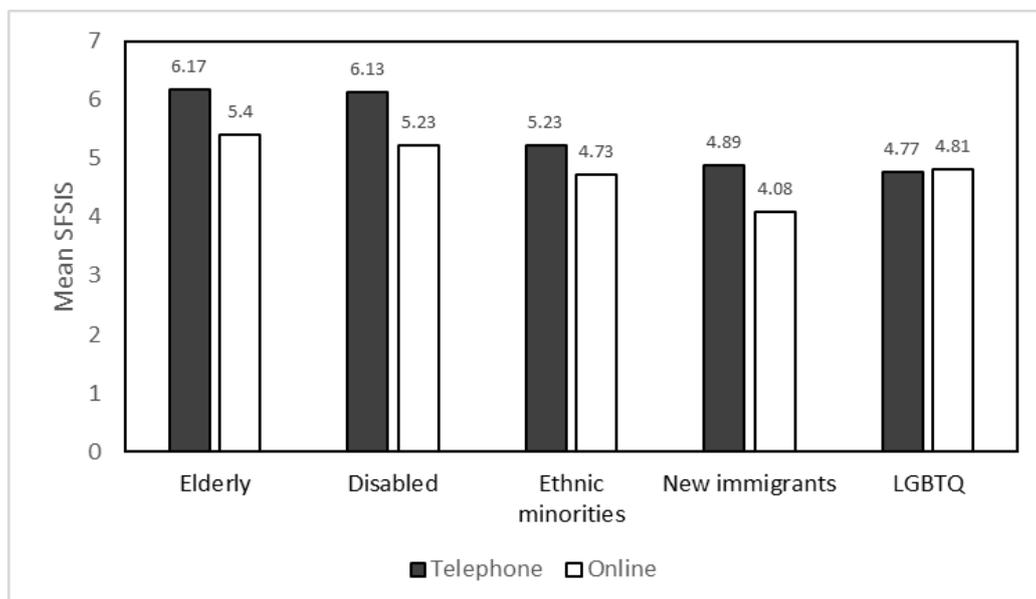


*Note: We weighted the telephone and online survey data to match the age and education characteristics of the population in the 2021 census.*

Table 8 reports the summary statistics of the key variables in the telephone survey, which were used for conducting the analyses in this section.

**Table 8: Summary statistics for key variables (telephone survey)**

| Variable | Mean | S.D. |
|---|---|---|
| Belief in meritocracy | 3.07 | 0.74 |
| Social awareness | 3.27 | 0.78 |
| Dominance | 2.80 | 0.89 |
| Identity complexity | 4.27 | 1.52 |
| Perceived social equality | 3.93 | 1.32 |
| Online social participation (1= politically active; 6=inactive) | 5.37 | 1.24 |
| Exposure to new things (1=slow to try new things; 4=fast to try new things) | 2.52 | 0.99 |
| N= 1010 | | |

Table 9 reports the results from our main OLS models. Model 1 regressed mean SFSIS on the demographic variables, Model 2 added the psychological explanations. Both models controlled for two attributes that may distinguish online survey respondents and the general public.

Regarding the relationships between income and support for social inclusion (H1a), our results did not find a consistently positive and significant relationship. Instead, income was negatively associated with mean SFSIS, and was statistically significant only in Model 2. In other words, high-income respondents did not seem to be more willing to support social inclusion policies. I

As for the association between education and SFSIS (H1b), our analysis revealed a positive and significant association. This finding confirmed that higher levels of education are associated with greater support for social inclusion policies.

Concerning the psychological explanations, three of the hypotheses were supported. Specifically, we found supportive evidence that beliefs in meritocracy (H2) and social dominance (H5) were negatively associated with support for social inclusion policies. Also, social awareness and support for social inclusion policies were positively associated (B = 0.34, p = 0.00) (H3a). In contrast, perceived social progress (H3b) and identity complexity (H4) did not seem to be associated with mean SFSIS.

Regarding our online participation controls, we did not find convincing evidence that respondents who were more active in online social participation and open to new ideas were significantly different from other respondents in their support for social inclusion policies.

In summary, the findings confirm most of the psychological explanations. Specifically, people's support for social inclusion was positively associated with social awareness, dominance orientation, and meritocracy. Only identity complexity, in its current formulation, was found to be unrelated to support for social inclusion. In contrast, except for education and contact with marginalised groups, people's demographic characteristics did not seem to have a strong influence on their support for social inclusion. To the extent that social inclusion attitudes are shaped by psychological factors, policy makers may design public campaigns to build people's sense of justice and reduce the harmful effects of social dominance orientation.

It is important to acknowledge that these are preliminary findings from our study and that the analysis was conducted in accordance with the specifications outlined in the proposal. Our dataset enables a more comprehensive exploration of the interplay between self-interest, psychological factors, and support for social inclusion policies. We will continue to scrutinize the data and compose journal manuscripts to disseminate our discoveries to the academic community.

**Table 9: Associations between SSFIS with potential explanatory variables**

| | DV= mean SFSIS | |
| --- | --- | --- |
| | 1 | 2 |
| Age | 0.00 | -0.03 |
| | (0.03) | (0.02) |
| Education | 0.19*** | 0.23*** |
| | (0.06) | (0.06) |
| Income | -0.04 | -0.06* |
| | (0.03) | (0.03) |
| Sex | 0.16* | 0.10 |
| | (0.06) | (0.06) |
| Born in HK | 0.15* | 0.16* |
| | (0.06) | (0.06) |
| | | |
| Awareness | / | 0.34*** |
| | | (0.04) |
| Perceived social progress | / | -0.03 |
| | | (0.03) |
| Dominance | / | -0.10** |
| | | (0.03) |
| Meritocracy | / | -0.14*** |
| | | (0.03) |
| Identity complexity | / | 0.00 |
| | | (0.00) |
| Contact | / | 0.12*** |
| | | (0.03) |
| | | |
| Online social participation | -0.01 | 0.02 |
| | (0.03) | (0.02) |
| Exposure to new things | 0.07* | 0.03 |
| | (0.03) | (0.03) |
| Adjusted $R^2$ | 0.04 | 0.21 |
| SSE | 0.87 | 0.80 |

*Notes: unstandardised OLS regression coefficients with standard errors in parentheses: \*\*\*$p < 0.001$; \*\*$p <$ 0.01; \*$p<0.05$. We weighted the survey data to match the age and education characteristics of the population in the 2021 census. Constant was estimated but not reported here.*

All the hypotheses stated in the proposal have been tested. Therefore, we conclude that the project has achieved its second objective.

4.3 Blending online and telephone surveys

With the new instrument developed through this project, we can now obtain a thorough understanding of public endorsement for social inclusion in Hong Kong (Figure 2). In this section, we compare the estimates derived from online and telephone surveys and utilize the method developed by Wiśniowski et al. (2020) reduce the disparities between the two modes.

First, we weighted the two samples using the raking method to match the education and age characteristics of the Hong Kong population. This did not eliminate the differences between the online and telephone samples, as shown in Figure 2.

To further illustrate the differences between online and telephone surveys, we conducted EFA, examined the instrument's McDonald's omega coefficients, and checked the association between mean SFSIS with social awareness. The instrument's internal reliability, as assessed by McDonald's omega, was good, ranging from 0.80 (elderly) to 0.91 (new immigrants). The McDonald's omega for the instrument as a whole is 0.93 (Table 10). Moreover, controlling for age, education, sex, and income, mean SFSIS was significantly and positively associated with social awareness (F=1.45, p<0.001). Taken together, the psychometric properties of the instrument remain quite robust. However, as Table 11 shows, the EFA yielded a 5-factor structure for the SFSIS. Also, the factors did not align neatly with the marginalised groups. These suggested that the results generated from the online survey deviated quite significantly from those of the telephone survey.

In short, the SFSIS remained psychometrically robust in our online survey. However, there were also significant differences between the online non-probability sample and the telephone probability sample in terms of estimates and variable structure. The online survey yielded lower levels of support for social inclusion policies than the telephone survey, except for LGBTQ policies, which received a slightly more favourable score in the online survey.[2]

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[2] The difference was statistically nonsignificant (p>0.05).

Again, these differences were not unexpected. As stated in our proposal and also in the introductory section of this report, a large body of literature in public opinion research has shown that online samples are a biased representation of the general population (Brühlmann et al. 2020; Kennedy et al. 2016).

**Table 10: Reliability analysis (online survey)**

|  | McDonald's Omega Coefficients |
| --- | --- |
| Disabled | 0.84 |
| New immigrants | 0.91 |
| Ethnic minorities | 0.81 |
| LGBTQ | 0.86 |
| Elderly | 0.79 |
| Overall | 0.93 |

*Note: The online sample was weighted to match the age and education characteristics of the Hong Kong population using 2021 census data. We also calculated the Cronbach's alpha coefficients, with nearly identical results.*

We now evaluate the method proposed by Wiśniowski et al. (2020). We focused on the marginal squared error (MSE) of the coefficients derived from the linear regression model that we developed in the last section. The outcome variable was mean SFSIS, and the independent variables were age, income, sex, birthplace (born in Hong Kong or not), social awareness, perceived social progress, attitudes towards social domination, meritocratic beliefs, contact with the marginalized groups, online social participation, and exposure to news things and ideas. We dropped identity complexity due to its weak association with the outcome variable.

**Table 11: Exploratory factor analysis (online survey)**

| Items | Component loadings | | | | |
|:-----:|:-----:|:-----:|:-----:|:-----:|:-----:|
| | RC 1 | RC 2 | RC 3 | RC 4 | RC 5 |
| 1 | 0.405 | | | 0.479 | |
| 2 | 0.692 | | | | |
| 3 | 0.622 | | 0.308 | | |
| 4 | 0.54 | | | | 0.572 |
| 5 | 0.671 | | | | |
| 6 | | 0.79 | | | |
| 7 | | 0.821 | | | |
| 8 | | 0.847 | | | |
| 9 | 0.736 | 0.333 | | | |
| 10 | | 0.763 | | | |
| 11 | | | | 0.35 | 0.625 |
| 12 | 0.411 | | | 0.496 | |
| 13 | 0.451 | | 0.317 | 0.487 | |
| 14 | | 0.358 | 0.304 | | |
| 15 | | 0.355 | | 0.603 | |
| 16 | | 0.803 | | | |
| 17 | 0.375 | 0.516 | | 0.33 | |
| 18 | | | 0.502 | | 0.486 |
| 19 | | 0.796 | | | |
| 20 | | 0.795 | | | |
| 21 | 0.567 | | | | |
| 22 | 0.589 | | | | |
| 23 | 0.506 | | 0.461 | | |
| 24 | 0.631 | | | | |
| 25 | 0.734 | | | | |

The results are displayed in the right column of Figure 4. Here, we focus on the five primary explanatory variables in the regression model. Results for additional variables can be found in the Appendix. Each plot features three lines, illustrating the variations in posterior coefficients for the Non-informative (NI – blue line), Conjugate-distance (CD – red line), and Zellner-distance (ZD – green line) priors as the probability sample size increases. A comparison across all coefficients and nearly all sample size levels reveals that both CD and

ZD priors outperformed the NI (reference) prior. This suggests that incorporating information from non-probability data effectively reduced the MSEs in our regression model.

Of particular note, the CD prior yielded the most substantial decrease in MSE. Even with a probability sample size as small as 100, the MSEs resulting from the CD prior were comparable to, or even smaller than, those produced by the reference NI prior in large sample size scenarios (N>700). This result confirms that researchers can substantially reduce survey costs by combining a large online non-probability survey with a small (N = 100 ~ 300) probability sample to achieve MSEs similar to those obtained from a traditional probability telephone survey (N ~ 1000).

MSE could be decomposed into bias and variance to gain more insights into how the two priors achieved their goal of reducing MSE. The left column of Figure 4 displays the biases of the coefficients generated under different priors in different sample size scenarios. We calculated biases by comparing the difference between the posterior mean, obtained from the method proposed by Wiśniowski et al. (2020), and the "true" coefficient, which we assume to be represented by the Maximum Likelihood Estimator (MLE) calculated using a large (N=800) probability telephone sample. As expected, the use of non-probability data introduced biases. This was particularly the case in the psychological variables (e.g., social domination, social awareness). The biases were most pronounced for small probability sample sizes when information from the non-probability sample exerted greater influence. Similar to what Wiśniowski et al. (2020) have found, the impact of CD and ZD on bias was similar. Finally, the demographic variables such as income and education appeared less biased. This may explain why weighting by respondents' demographic characteristics did not eliminate the differences between our probability and non-probability samples.

Nonprobability data introduces biases, but it simultaneously reduces variance. If the decrease in bias can offset the increase in bias, the overall MSE may still be lowered. This

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rationale underpinned the method developed by Wiśniowski et al. (2020) and helped explain the results of this study. The middle column in figure 4 shows the variances of the coefficient estimates. The CD and ZD priors, which benefited from the information from nonprobability data, have generated considerably smaller variances relative to the estimates derived under the NI prior. The reductions were most significant when the size of the probability sample was small (N=100). This finding is consistent with the demonstration performed by Wiśniowski et al. (2020). What is notable here is that the reductions of variance continued, though at a decreasing rate, even after the probability sample size reached 800. Overall, due to the significant reduction in variance, we were able to obtain MSEs with a small probability sample that are comparable to those from traditional probability telephone surveys.

In conclusion, we have employed and demonstrated the efficacy of the method developed by Wiśniowski et al. (2020) for integrating non-probability and probability samples within the Hong Kong context. Future local research focusing on model-based estimations may use similar methods to reduce survey expenses. We therefore conclude that the third and final objective of this project has been accomplished.

Figure 4. Bias, Variance and MSE for Selected Regression Coefficients (Averaged Over Ten Samples) in Bayesian Model of Mean SFSIS on Respondent Covariates
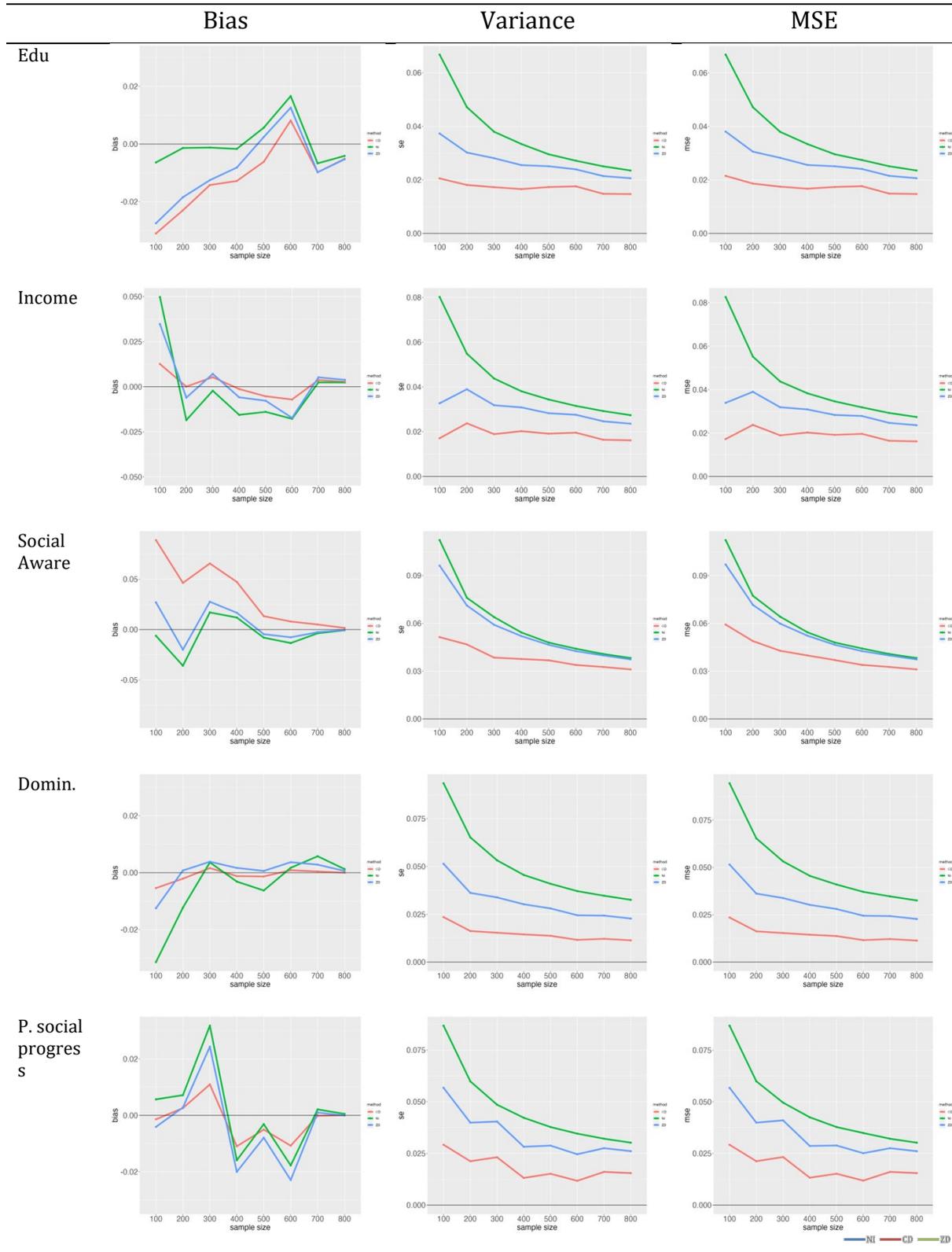
**5 Policy implications and recommendations**

It is widely acknowledged that social inclusion is of paramount importance; however, there are disagreements regarding the best strategies to achieve it. This project has made three policy contributions:

Firstly, it developed a user-friendly survey tool, the Support for Social Inclusion Score (SFSIS), which measures public opinion on social policies that extend rights to five major marginalized groups in Hong Kong: the elderly, new immigrants, ethnic minorities, LGBTQ individuals, and disabled people. The instrument includes 25 rigorously selected policy items that capture the multidimensional aspects of social inclusion attitudes. Using data from a representative telephone survey in Hong Kong (N=1,010) and a parallel online survey (N=1,000), we demonstrated the instrument's outstanding psychometric properties and its potential for use in various research settings. The survey instrument SFSIS produced by this project offers a clear perspective into the state of social inclusion, allowing for the identification of extremity, pattern, and outlier. Although designed in the context of Hong Kong, the survey items can be broken down and adapted to suit diverse societies. For the first time, policymakers will be able to identify key areas of policy disagreement in a transparent and systematic manner.

Secondly, to understand public support for social inclusion policies, this project gathered data on the psychological and demographic attributes of respondents that are likely to influence group-based discrimination. Specifically, we investigated whether self-interest or psychological perceptions of deservingness affected an individual's support for social inclusion policies. Self-interest explanations rely on people's socio-economic characteristics to predict attitudes. For instance, individuals competing with marginalized groups for resources might oppose social inclusion policies, while those with higher incomes and greater economic security might support such policies. Conversely, psychological explanations emphasize factors like belief in meritocracy, perceived needs and social progress, identity complexity, and social dominance orientation. These psychological variables influence attitudes irrespective of one's socio-structural position. Our findings revealed that psychological factors, such as social awareness, domination beliefs, and meritocracy, significantly shape policy support. Policymakers can then allocate resources to develop relevant public education campaigns and policy frameworks.

Thirdly, we have evaluated the potential of online surveys in Hong Kong. This project fielded the SFSIS to an online sample in parallel with a traditional telephone sample. The high costs of conducting telephone surveys have prompted many survey researchers to consider online non-probability surveys. This project reported significant differences between the non-probability and probability surveys and evaluated one of the latest techniques in survey methodology, which is to supplement inferences based on small probability samples with prior distributions derived from nonprobability data (Wiśniowski et al. 2020). Our results demonstrate the efficacy of the method, suggesting that blending non-probability online and probability telephone samples can help reduce survey costs while achieving model-based estimates comparable to traditional probability telephone surveys. Due to their cost advantage, online surveys will remain a valuable tool for future research. Within-person comparisons in a panel survey can provide valuable information for detecting changes in perceptions toward social inclusion and testing hypotheses of theoretical importance.

The project thus gives rise to the following policy recommendations:


First, the government should track public support for its social inclusion policies regularly. To do this, it can employ the newly developed SFSIS as an effective tool for monitoring changes in public attitudes. The SFSIS was rigorously derived from an extensive list of existing and potential social inclusion policies, allowing policy makers to gauge the popularity of existing policies, and identify key areas of policy disagreement where more targeted interventions are needed. By tracking public attitudes over time, policymakers can identify areas where additional interventions may be required and adjust their strategies accordingly. Furthermore, regular tracking will enable the government to evaluate the effectiveness of implemented policies and make data-driven decisions to improve social cohesion.

Second, our results reveal substantial variations in public support for policies targeting different marginalised groups. On average, policies directed toward the elderly garnered the strongest support from Hong Kong citizens. This discovery aligns with Oorschot's (2006) findings, which suggest that older persons are more likely to be considered "deserving" of social welfare. Conversely, policies supporting LGBTQ individuals received the weakest support from the respondents. This is concerning, particularly because some recent studies have reported significant progress in public acceptance of LGBTQ rights in Hong Kong (Lau et al. 2023). Our results call for further public campaigns to enhance the

public acceptance of LGBTQ people's rights and social participation. Policymakers should develop targeted programs and campaigns to raise awareness about the unique challenges faced by LGBTQ individuals and foster greater empathy and understanding within society. These initiatives may include public education campaigns, workshops, and collaborations with LGBTQ advocacy groups to promote inclusivity and counteract negative stereotypes and prejudices.

Third, meritocratic beliefs may reduce support for social inclusion policies. Meritocratic beliefs are deeply rooted in Hong Kong's culture, which values individual effort and achievement. The highly competitive education system, for instance, has been hailed as beneficial for grooming elites and talents, despite the existence of significant intergenerational inequalities. However, if social inclusion is to be truly achieved, it is essential for policy makers and the society at large to critically reflect on the unwavering belief in competition and meritocracy, and work towards a more inclusive approach. This can be accomplished through public education campaigns that emphasize the systemic barriers faced by marginalized groups. By highlighting these issues and reframing them as matters of equal opportunity rather than mere handouts, policymakers can potentially increase public support for social inclusion policies. Additionally, it is crucial to reassess the education system and other institutions that perpetuate meritocratic beliefs in order to create a more equitable environment for all members of society, regardless of their background or socioeconomic status.

Fourth, further research should be conducted to enhance the ability to combine probability and nonprobability data. The method developed by Wiśniowski et al. (2020) assumes that the probability sample is unbiased. This usually is not the case. People who are willing to respond to survey invitations are likely different from the general population in some important but unknown ways. The government may incorporate several questions about values and attitudes that are of policy importance into the census. The information will allow researchers and survey agencies to anchor their survey findings with census data and estimate and adjust for biases. This, in turn, would improve the accuracy and reliability of public opinion research, enabling policymakers to make more informed decisions based on a comprehensive understanding of societal attitudes and preferences.

## 6. Public dissemination

The PI presented the findings of this project at the 15th Biennial Conference of the Asian Association of Social Psychology at the Education University of Hong Kong on 13th July 2023. The presentation was delivered in a symposium titled "Identity and Intergroup Relations in Post-2019 Hong Kong," which has been selected by the conference organizer as one of the five featured symposia. Around 600 scholars have registered for the conference.

Additionally, we have prepared a journal manuscript to introduce the SFSIS to the international academic community. The manuscript is currently under review by a journal. In the upcoming year, subject to the availability of resources, we plan to conduct more advanced analyses of the data collected and produce another journal manuscript.

In addition to academic dissemination, as stated in the proposal, we will share our findings with the public through press releases and op-eds. We will create infographics to visualize some of our findings, encouraging public discussions on topics such as the dimensionality of social inclusion attitudes, preferred scope of social inclusion policies, perceptions about deservingness, public images of different marginalized groups, and differential support for targeted and universal rights. We will share the graphs on social media platforms. The data used in our analysis will be deposited in a public repository and a webpage following the publication of our academic papers. The full dataset will be uploaded to the Public Policy Research Funding Scheme's website for data archiving five years after the completion of the research project.

In the original proposal, we proposed to share the findings with secondary school students through workshops organized by the PI's department. However, due to the PI's departure from the Education University of Hong Kong and the restructuring of his original department, those workshops are no longer operating. Additionally, the restructuring of the Liberal Studies curriculum may lead to decreased interest in the workshops among secondary schools. While we will continue to seek opportunities to re-launch the workshops, we are also prepared to incorporate the findings into their lecture materials and share them with university students instead. We will provide further updates in the completion report.

Finally, the original proposal stated that regular surveys on social inclusion could be conducted "*subject* to the findings of this project and the availability of resources" (p. 25). While the findings of this project show promise, the internal survey grants that the PI had access to at the Education University of Hong Kong are no longer available. Therefore,

unless we can secure a new grant, we cannot guarantee the continuation of the survey program.

**7. Conclusion**

This project has successfully accomplished all of its objectives. Firstly, it developed and evaluated a flexible, psychometrically sound, and cost-effective survey instrument, the SFSIS, for tracking public support for social inclusion. Secondly, it tested potential explanations for individual variations in attitudes towards social inclusion policies, demonstrating the relevance of psychological factors such as meritocratic beliefs and social awareness. Thirdly, it tested and showcased the effectiveness of the method proposed by Wiśniowski et al. (2020), indicating that integrating non-probability online and probability telephone samples may reduce survey costs while producing model-based estimates comparable to traditional probability telephone surveys.

Across the world, persons with disabilities, immigrants, ethnic minorities, LGBTQ, and elderly – the five groups covered by the SFSIS – often face discrimination, stigmatisation, and lack of resources and access to opportunities (United Nations 2023). The SFSIS could thus be adapted to track public support for social inclusion in other societies. Researchers may select groups that they deem most relevant for their study and use our items to track how those groups are received by the public. New groups (e.g., women and children) could be added to the index by modifying the generic policy items in the SFSIS. With only five policy items per group, the SFSIS instrument could be feasibly incorporated into regular social surveys to measure policy effectiveness and public acceptance. For academic research, our instrument would be especially valuable in examining the phenomenon of welfare rationing – the varying attitudes that individuals hold toward different welfare recipients (Buss 2019; Magni 2021; van Oorschot 2006). Our instrument could enrich this discussion by enabling comparisons not only across marginalised groups but also across policy types.

We need to note three potential limitations. First, the selection of items in the SFSIS was guided by the responses of our survey conducted in Hong Kong. Although this method ensures the local relevance of the final instrument, it may exclude policy items that are of significance in other societies. Future attempts to adapt and validate the SFSIS in other contexts will enhance the instrument's generalisability. Second, the goal of the SFSIS is to obtain a comprehensive snapshot of public opinion on social inclusion. The items were selected to reflect different types of social inclusion policies. However, with a total of 25 items, the SFSIS may still be too long for some research programmes that have a narrower focus or smaller budget. Future research may shorten the SFSIS, but this decision should be guided by statistical evidence and theoretical reasons. Third, the Bayesian method proposed

by Wiśniowski et al. (2020) only supports model-based estimation. Compared to traditional design-based estimation, model-based estimation is prone to model misspecification (Anjum et al. 2022). Practitioners must exercise caution and understand the differences between different approaches of estimation when applying the method to their surveys.

Caveats aside, our study highlights the need to go beyond existing measurements based on the experience of the socially excluded to track public opinion toward social inclusion policies regularly and comprehensively. Most people would agree that social inclusion is important, albeit the means to achieve it remain contentious. Knowing the relative public support that different groups and types of policies receive is important because it allows policy makers to set priorities and justify policy decisions when resources are limited. Effective social inclusion policies would require the public's understanding and, increasingly, co-creation (Chui et al. 2023). Involving citizens in the policymaking process not only encourages a diverse exchange of ideas, but also instils the values of social inclusion in the public and bolsters the perceived legitimacy of resulting policies (Arnesen and Peters 2018; Osborne 2018; Osborne et al. 2016). By introducing the SFSIS, we hope to foster a more participatory approach to promoting social inclusion.

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# Appendix

A1: Full list of initial items included in the 1<sup>st</sup> survey

| | |
|---|---|
| 1 | Ordinary schools accept children with special needs |
| 2 | Exempt disabled drivers from payment of parking charges for using on-street metered parking spaces |
| 3 | Subsidize employers of persons with disabilities for procurement of assistive devices (maximum $40,000 per each disabled employee) |
| 4 | Increase the number of transport services for persons with mobility difficulties |
| 5 | Setting up a sheltered workshop in your neighborhood |
| 6 | Open a hostel for severely mentally handicapped persons in your neighborhood |
| 7 | Require government agencies to adopt the goal of having 3% of its workforce be people with disabilities |
| 8 | Provides additional resources to schools that admit students with special needs |
| 9 | Criminalize discrimination against a person on the ground of disability |
| 10 | Offer short-term pre-employment training for job seekers with disabilities |
| 11 | Provide on-site rehabilitation services for pre-school children with mild disabilities |
| 12 | Subvert peer support service for persons with autism |
| 13 | Provide living allowance for low-income carers of disabilities |
| 14 | Fund the development of sporting career of disabilities |
| 15 | Disabilities can travel at a lower price on public transport |
| 16 | Encourage participation of disabilities in society in communities decision making |
| 17 | Person with communication difficulties can get money to hire a support worker to go to interview with the person |
| 18 | Host leisure activities for young people with a learning disability and autism (Holiday Play Scheme) |
| 19 | Educational institutions are required to ensure there is support in place for children with special education needs |
| 20 | Produce public education materials for promoting awareness on mental illness |
| | |
| 21 | Provide additional resources to schools with intake of children newly arrived from the mainland |
| 22 | Subsidize new arrivals from mainland to participate in language courses |
| 23 | Fund NGOs to offer outreach services of home visits to new arrivals |
| 24 | Establish career training courses specialized for new arrivals from mainland |
| 25 | Set up job seeking page specialized for new arrivals from mainland |
| 26 | Free legal advice scheme for new arrivals from mainland China |
| 27 | Set up job seeking counter and information center specialized for new arrivals from mainland |
| 28 | Ordinary schools accept children newly arrived from the mainland |
| 29 | Require government agencies to adopt the goal of having 3% of its workforce be new arrivals from mainland China |
| 30 | Setting up a community center for the new mainland arrivals in your neighborhood |
| 31 | Train new mainland arrivals to fill the shortage of care workers |
| 32 | Criminalize discrimination against new arrivals from mainland China |
| 33 | Offer induction programs containing basic knowledge of Hong Kong's language, history, and institutions to new arrivals from mainland China |
| 34 | Promote entrepreneurship among new arrivals through networking opportunities |
| 35 | Offer service information website for new arrivals from mainland China |

| 36 | Encourage participation of new arrivals in communities decision making |
|----|---|
| 37 | Subsidize counselling service for new arrivals |
| 38 | Host multicultural activities in schools with the assistance of new immigrants parents |
| 39 | Distribute HK$10000 electronic spending coupons to both permanent residents and new immigrants (from mainland China) to Hong Kong |
| 40 | Shorten the time for new immigrants from mainland China to acquire permanent residency in Hong Kong |
| | |
| 41 | All UGC-funded institutions accept alternative qualifications in Chinese Language for non-Chinese speaking students |
| 42 | Increase funding to schools that admit ethnic minority students |
| 43 | Ordinary schools accept ethnic minority children |
| 44 | Set up hotline service and simultaneous interpretation services for ethnic minorities |
| 45 | Subsidize ethnic minorities to participate in Chinese language courses |
| 46 | Criminalize discrimination against ethnic minorities |
| 47 | Allow asylum children to attend public schools |
| 48 | Public campaign to encourage respect for human rights and fundamental freedoms for ethnic minority groups |
| 49 | Offer service information website for ethnic minority |
| 50 | Require government agencies to adopt the goal of having 3% of its workforce be ethnic minority |
| 51 | Offer induction programs containing basic knowledge of Hong Kong's language, history, and institutions to asylum seekers |
| 52 | Free legal advice scheme with interpretation service available to ethnic minority |
| 53 | Encourage participation of ethnic minority in communities' decision making |
| 54 | Setting up a community center for the ethnic minority in your neighborhood |
| 55 | Kindergarten and Child Care Centre Fee Remission Scheme for ethnic minority Kindergarten Students |
| 56 | Offer medical waiver to asylum seekers and refugees |
| 57 | Granting right to work to asylum seekers and refugees |
| 58 | Granting right of abode to the asylum-seeking children |
| 59 | Granting right for domestic helpers to live on their own |
| | |
| 60 | Extend the scope of Domestic and Cohabitation Relationships Violence Ordinance (家暴條例) to cover same-sex cohabitants |
| 61 | Clarify that same-sex widows and widowers would be treated equally by various government departments with respect to handling after-death arrangements of spouses |
| 62 | Allow transsexual persons who have not completed sex reassignment surgery to change their legal gender status |
| 63 | Mandate all schools to provide a safe environment to persons with different sexual orientations |
| 64 | Criminalize discrimination against homosexual in working or school area |
| 65 | Legalize same-sex marriage |
| 66 | Include sexuality education to compulsory courses for secondary school students |
| 67 | Enhance the medical services available in public hospitals for homosexual people |
| 68 | Fund organizations which support LGBT people in education, healthcare and the community |
| 69 | Provide training for teachers on anti-homophobic, biphobe and transphobic bullying interventions in schools |
| 70 | Setting up a community center for the homosexuals in your neighborhood |

| 71 | The government supports the organization of outdoor events that celebrate LGBT achievement (e.g., Pride parade) |
|---|---|
| 72 | Requires all employers to include a clear declaration of non-discrimination toward employees of all sexual orientations |
| 73 | Support for laws against LGBTIQ discrimination |
| 74 | Fund NGOs that provide legal support to LGBT people dealing with hate crime |
| 75 | Public campaign to encourage respect for human rights and fundamental freedoms for homosexual people |
| 76 | Allocate additional fiscal resources to improve gender equity |
| 77 | Ordinary schools accept homosexual students |
| 78 | Encourage participation of homosexual people in communities decision making |
| 79 | Government conducts gender impact assessment in the budgetary process. |
|  |  |
| 80 | Produce public education materials for promoting awareness on dementia |
| 81 | Provide care services training to raise the number of youngblood in elderly caring sectors and/or rehabilitation sectors |
| 82 | Setting up an elderly community centre in your neighborhood |
| 83 | Subsidize employers who hire elderly people |
| 84 | Offer residential care services for the elderly |
| 85 | Criminalize age discrimination in workplace |
| 86 | Subsidize elderly people to travel on public transport at a concessionary fare of $2 per trip. |
| 87 | Abolish mandatory retirement policies in public and private organizations |
| 88 | Establish Elder Academies for elders to continue learning |
| 89 | Provide career counselling and on-the job support to the elderly job seekers aged 55 or above |
| 90 | Open an elderly hostel in your neighborhood |
| 91 | Offer visiting service to elders |
| 92 | Free entry for elders to visit exhibitions or cultural relics |
| 93 | Requires all employers to include a clear declaration of non-discrimination toward employees of all ages |
| 94 | Construct recreational area for elders |
| 95 | Offer an Old Age Allowance (fruit money) to the elderly (HKD 1475 per month) |
| 96 | Offer housing subsidies to young people who choose to live near their parents |
| 97 | Offer job matching service to elders (Senior Workforce Resource Website) |
| 98 | Encourage older residents to join the discussion on city development with various parties |
| 99 | Develop standard building design guidelines for older persons (Code on Accessibility in the Built Environment) |
| 100 | Fund research on technology and machines for elderly |

A2: Bias, Variance and MSE for All Regression Coefficients (Averaged Over Ten Samples) in Bayesian Model of Mean SFSIS on Respondent Covariates
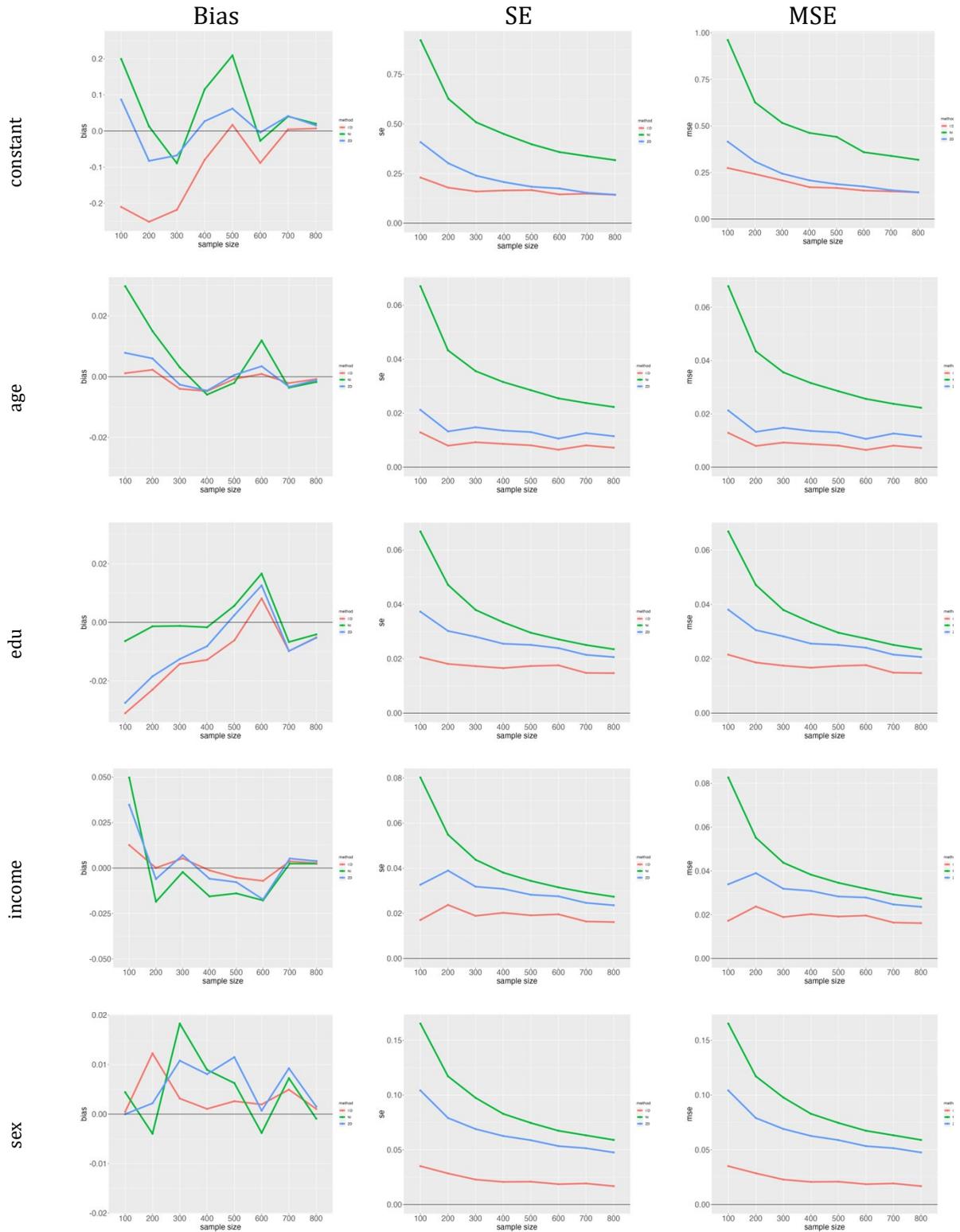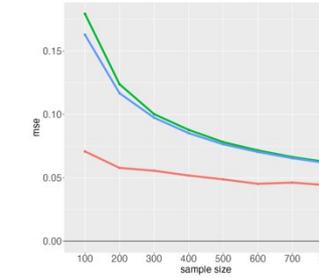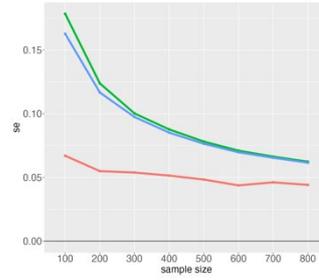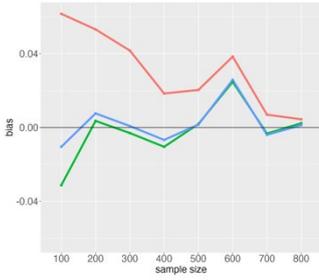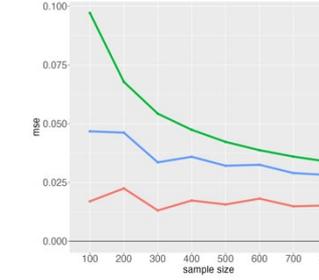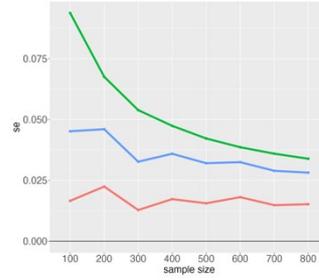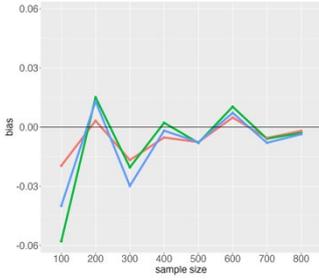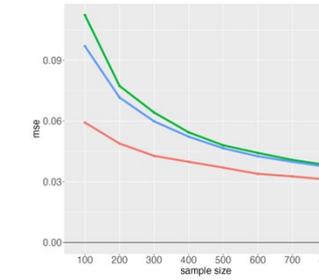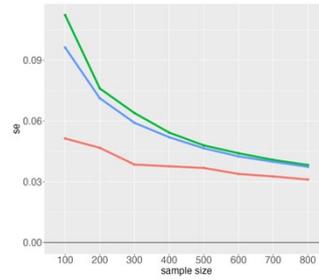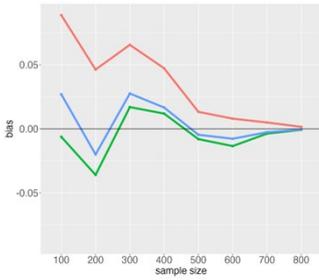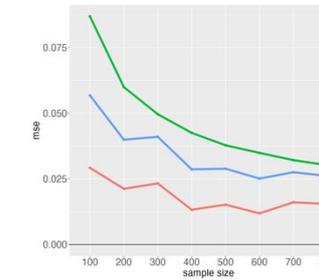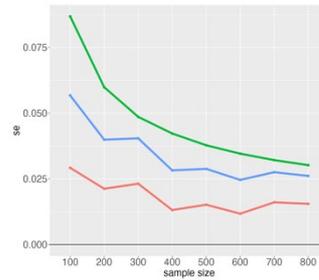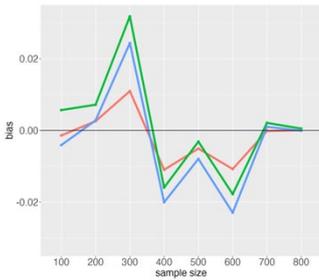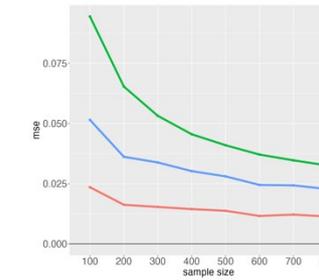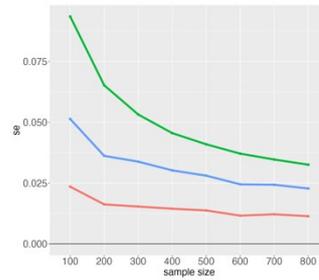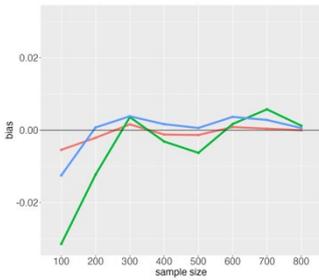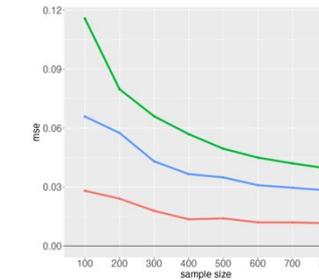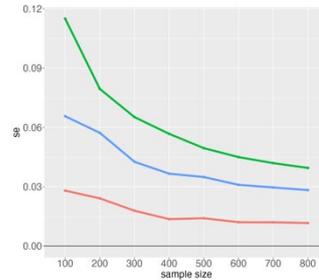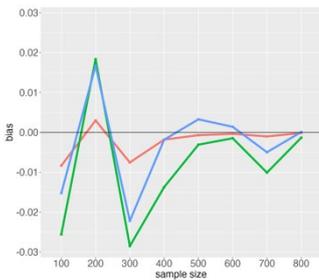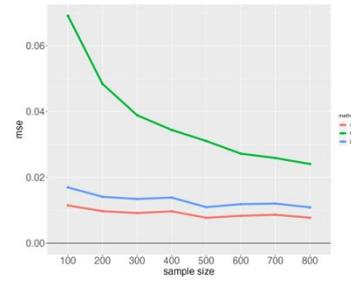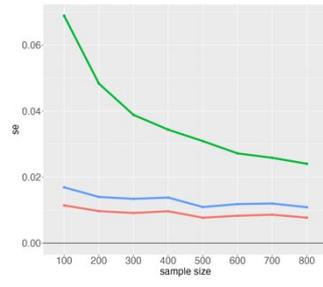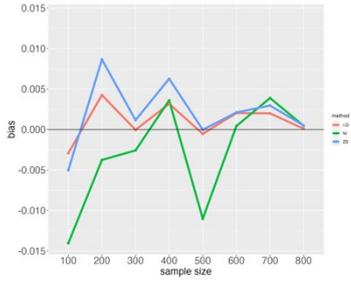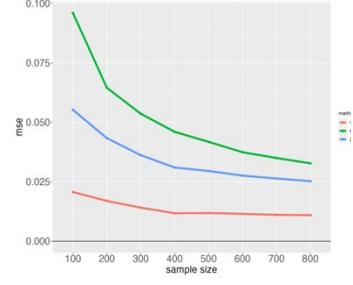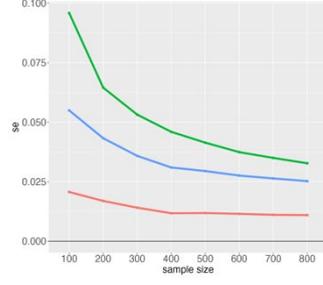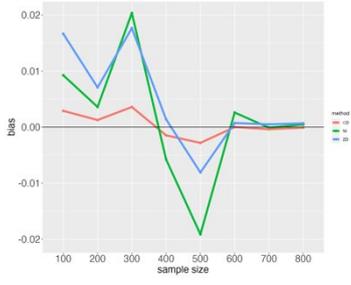
# A3: Questionnaire used in the telephone survey

香港民意研究所
香港教育大學

社會共融政策及現況調查

自我介紹及選出被訪者

[S1]　　　你好，我姓 X，係香港民意研究所嘅訪問員。我哋受香港教育大學委託，做緊一個意見調查，想訪問市民對於一啲社會共融政策嘅意見，只會阻你 10 分鐘左右。請問可唔可以開始呢？

可以　　　➜ S2

而家唔得閒　　　　➜ 稍後致電

唔可以　　➜ 訪問告終

冇／唔係 18 歲或以上嘅香港居民　　　➜ 訪問告終

[S2]　　　我頭先打嘅電話號碼係 xxxx-xxxx，如果我打錯咗你話畀我知。

繼續　　　➜ S3La／S3M

打錯 (訪問員請打多一次作確認)　　　➜ 訪問告終

[S3La]　　呢份問卷嘅訪問對象係 18 歲或以上嘅香港居民。你屋企而家有幾多位屬於呢個組別嘅成員？

一位　　　➜ S3Lb

多過一位，＿＿位　➜ S3Lb

冇　　　➜ 訪問告終

拒答　　　➜ 訪問告終

[S3Lb]　　(如一位) 係你定係其他人？
(如多過一位) 我哋希望所有合資格嘅家庭成員都有同等機會接受訪問，所以想請嚟緊最快生日嗰位嚟聽電話。請問邊一位嚟緊最快生日？

係接聽電話嘅人　　➜ S4

係其他人　➜ S3Lc

拒答　　　➜ 訪問告終

[S3Lc]　　可唔可以搵佢同我哋做個訪問？

可以開始訪問　　　➜ 自我介紹 ➜ S4

佢而家唔得閒　　　➜ 稍後致電

佢唔接受訪問　　　➜ 訪問告終

接聽電話嘅人唔肯叫佢聽電話 ➜ 訪問告終

[S3M]　　你係唔係 18 歲或以上嘅香港居民？

係　　　➜ S4

唔係　　　➜ 訪問告終

拒答　　　➜ 訪問告終

[S4]　　　我而家讀出我哋嘅條款，保障返你先。你呢個電話號碼係由我哋電腦隨機產生嘅。你提供嘅資料會絕對保密，並只會用作綜合分析。為咗保證數據質素，我哋嘅訪問會被錄音，但只會用作內部參考。所有含個人識別資料嘅數據同埋錄音，會喺調查完成後三個月內銷毀。如果你對今次嘅訪問有任何疑問，可以打 xxxx-xxxx 同我嘅督導員聯絡。

身分

[Q1] 人可以同時有好多身分。請你講出兩個對你嚟講最重要、最能夠形容你嘅身分。
(如被訪者有疑問,可讀出:「例如係你嘅宗教信仰、種族、職業、興趣、學校等等」)

(a) 身分 1

請註明:＿＿＿＿＿＿＿＿＿＿ (須記錄原話)

唔知／難講

拒答

(b) 身分 2

請註明:＿＿＿＿＿＿＿＿＿＿ (須記錄原話)

唔知／難講

拒答

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僅供複製字眼並貼上以節省時間,訪問員須記錄被訪者的原話:
國家 / 地區 / 種族 / 歷史 (如:中國人、香港人、屯門人、圍村人、客家人、少數族裔)
性別 (如:男人、女人)
年齡 (如:年輕人、長者)
身體狀況 / 特徵 (如:長期病患者、殘疾人士、高 / 矮 / 肥 / 瘦人)
教育程度 / 學校 (如:大學畢業生、中大人)
就業狀況 (如:打工仔、老闆、學生、家庭主婦、退休人士)
職業 / 公司 (如:醫生、工程師、老師、司機、藍領、生意人)
財富 / 收入 (如:窮人、中產)
家庭崗位 (如:爸爸、媽媽、寵物主人)
宗教 (如:基督徒、天主教徒、佛教徒)
政治取向 (如:民主派支持者 / 黃絲、建制派支持者 / 藍絲)
其他價值 / 信念 (如:環保人士、左翼)
興趣 / 專長 (如:健身 / 跑步 / 游水 / 行山 / 籃球 / 足球 / 羽毛球愛好者、XX 球迷、音樂人、XX 歌迷)
其他 (如:新移民、同性戀者、吸煙人士)

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[Q2] (如被訪者能夠講出兩個身分)
(a) 你估計大約有幾多成 (或者幾多百分比) 嘅{身分 1}同時係{身分 2}?
(b) 你估計大約有幾多成 (或者幾多百分比) 嘅{身分 2}同時係{身分 1}?

＿＿成／＿＿%

唔知／難講

拒答

[Q3] 你有幾認同自己係中國人?請你用 0 至 100 分評價,0 分代表「完全唔認同」,100 分代表「極之認同」,50 分代表「一半半」。

＿＿分

唔知／難講

拒答

## 對社會共融政策的看法

[Q4]    跟住落嚟，我會讀出一啲政策，請你用 1 至 7 分評價你有幾支持或者反對呢啲政策，1 分代表「非常反對」，7 分代表「非常支持」，4 分代表「一半半」。如果你認為嗰個政策提供嘅支援或者保障可以更加慷慨，請亦都選擇 7 分「非常支持」。

首先係關於......嘅政策：......

然後係關於......嘅政策：......

(以隨機次序顯示針對各類人士的政策組別，在組別內再以隨機次序顯示各項政策)

| 殘疾人士或者有特殊需要人士 | 1 – 7 分 | 唔知 / 難講 | 拒答 |
|---|---|---|---|
| 喺你所在嘅社區開設庇護工場 | | | |
| 資助自閉症患者成立病人互助組織，互相支持 | | | |
| 鼓勵殘疾人士參與社區決策 | | | |
| 立法禁止針對殘疾人士嘅歧視行為 | | | |
| 要求學校為有特殊教育需要嘅學童提供支援配套 | | | |

| 由中國內地來港嘅新移民 | 1 – 7 分 | 唔知 / 難講 | 拒答 |
|---|---|---|---|
| 提供專為內地來港新移民而設計嘅職業培訓課程 | | | |
| 喺你所在嘅社區開設服務內地來港新移民嘅社區中心 | | | |
| 鼓勵內地來港新移民參與社區決策 | | | |
| 立法禁止針對內地來港新移民嘅歧視行為 | | | |
| 學校同內地來港新移民家長合作，喺校內舉辦多元文化活動 | | | |

| 少數族裔 | 1 – 7 分 | 唔知 / 難講 | 拒答 |
|---|---|---|---|
| 立法禁止針對少數族裔人士嘅歧視行為 | | | |
| 資助少數族裔上堂學中文 | | | |
| 向公眾宣傳，鼓勵大家尊重少數族裔嘅基本人權同自由 | | | |
| 准許尋求庇護人士同難民在港工作 | | | |
| 喺你所在嘅社區開設服務少數族裔嘅社區中心 | | | |

| 性小眾 | 1 – 7 分 | 唔知 / 難講 | 拒答 |
|---|---|---|---|
| 同性婚姻合法化 | | | |
| 要求所有僱主聲明自己唔會歧視任何性傾向嘅員工 | | | |
| 立法禁止針對性小眾嘅歧視行為 | | | |
| 向公眾宣傳，鼓勵大家尊重同性戀者嘅基本人權同自由 | | | |
| 鼓勵同性戀者參與社區決策 | | | |

| 長者 | 1 – 7 分 | 唔知 / 難講 | 拒答 |
|---|---|---|---|
| 鼓勵長者參與有關城市發展嘅討論 | | | |
| 資助長者用 2 蚊搭車 | | | |
| 立法禁止職場上嘅年齡歧視行為 | | | |
| 喺你所在嘅社區開設安老院 | | | |
| 安排上門探訪有需要長者 | | | |

## 對努力與平等的看法

[Q5]　而家我會讀出一啲句子，今次請你用 1 至 5 分評價你有幾同意或者唔同意呢啲講法，1 分代表「非常唔同意」，5 分代表「非常同意」，3 分代表「一半半」。
(以隨機次序顯示各項)

| | 1 – 5 分 | 唔知／難講 | 拒答 |
|---|---|---|---|
| 人就算好努力，好多時都唔能夠實現目標 | | | |
| 任何人只要願意努力，都有一定機會成功 | | | |
| 人就算有抱負，好多時都唔能夠實現得到 | | | |
| 人只要努力，基本上都能夠得到想要嘅嘢 | | | |
| 有啲人同其他人就係唔喺同一個級別 | | | |
| 有啲人擁有多啲機會，有啲人就少啲，咁樣並冇問題 | | | |
| 有啲人就係低級啲 | | | |
| 為咗出人頭地，有時必須踩住其他人上 | | | |

## 對弱勢團體的關注程度

[Q6]　請你用 1 至 5 分評價，你有幾關注香港各類人士嘅生活狀況，1 分代表「完全唔關注」，5 分代表「非常關注」，3 分代表「一半半」。
(以隨機次序顯示各類人士)

| | 1 – 5 分 | 唔知／難講 | 拒答 |
|---|---|---|---|
| 殘疾人士 | | | |
| 長者 | | | |
| 由中國內地來港嘅新移民 | | | |
| 少數族裔 | | | |
| 性小眾，例如同性戀者 | | | |

## 社會平等的進展

[Q7]　總括而言，你認為香港過去十年喺推動社會平等方面有幾大進展？請你用 1 至 5 分評價，1 分代表「幾乎冇進展」，5 分代表「有好大進展」，3 分代表「一般般」。

___分 (1 – 5)

唔知／難講

拒答

## 與弱勢團體的互動

[Q8]　你有幾經常同以下各類人士有任何形式嘅互動？例如電話對話、店鋪買嘢、餐廳落單、握手呢啲都算係互動嘅。(供訪問員參考：亦包括講早晨、點頭、揮手、讓座等)
(以隨機次序顯示各類人士；讀出選項)

| | 從來冇 | 每個月少過一次 | 每個月一兩次 | 每星期一兩次 | 每日或幾乎每日 | 唔知／難講 | 拒答 |
|---|---|---|---|---|---|---|---|
| 殘疾人士 | | | | | | | |
| 長者 | | | | | | | |
| 由中國內地來港嘅新移民 | | | | | | | |
| 少數族裔 | | | | | | | |
| 性小眾，例如同性戀者 | | | | | | | |

## 資訊與科技

[Q9]  你平均每日大約睇幾耐電視？

____小時 (0 – 24)

唔知／難講

拒答

[Q10]  唔計返工，你平均每星期大約用幾多時間上網？

____小時 (0 – 168)

唔知／難講

拒答

[Q11]  喺過去 12 個月，你有幾經常上網表達對政治或者社區議題嘅意見？(讀出選項)

差唔多每日

每星期幾次

每個月幾次

每個月一次

每個月少過一次

完全冇

唔知／難講

拒答

[Q12]  你認為自己有幾經常早過其他人嘗試新事物？(讀出選項)

從來唔會

好少

有時

經常

唔知／難講

拒答

個人資料

跟住我想問你少少個人資料，方便研究分析。請放心，你嘅資料會保密。

性別 (可由訪問員自行判斷)

男

女

其他

你係唔係喺香港出世？

係

唔係

唔知道

拒答

你今年大約幾多歲？(有需要可讀出範圍)

18 – 29 歲

30 – 39 歲

40 – 49 歲

50 – 59 歲

60 – 69 歲

70 歲或以上

拒答

你讀書讀到乜嘢程度？(最高就讀程度，即不論有否完成該課程，包括現正就讀)

小學或以下

初中 (中一至中三)

高中 (中四至中七／DSE／毅進)

專上教育：非學位課程 (包括文憑／證書／副學位課程)

專上教育：學士學位課程

專上教育：研究院課程 (包括碩士／博士學位)

拒答

你嘅就業狀況係？(有需要可讀出選項)

有工作

學生

料理家務者／家庭主婦

退休人士

失業／待業／其他非在職

其他：＿＿＿＿＿＿＿＿＿＿

拒答

你有冇宗教信仰？
(如有) 係咩宗教？(不讀選項)

冇宗教信仰

基督教 (新教)

天主教

佛教

伊斯蘭教

道教

其他：＿＿＿＿＿＿＿＿＿＿

拒答

你嘅家庭平均每月收入大約係幾多？請包括家用、政府津貼、退休金、租金收入等。
(有需要可讀出選項)

$10,000 或以下 (包括冇收入)

$10,001 – 30,000

$30,001 – 50,000

$50,001 – 70,000

$70,001 或以上

唔知道

拒答

問卷完