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Sexual Orientation Measures in Philippine Population-Based Studies: A Scoping Review

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This scoping review identifies how sexual orientation was operationalized and measured in five extant Philippine studies using large population-based samples: the 2003 National Demographic and Health Survey (NDHS); the Young Adult Fertility and Sexuality Study 3 (YAFS3); the Young Adult Fertility and Sexuality Study 4 (YAFS4); the 2005 Cebu Longitudinal Health and Nutrition Survey (CLHNS); and the 2016 National Baseline Study on Violence Against Children (NBS-VAC). The scoping review covered each study's treatment of sexual orientation; its strengths and limitations, in relation to measuring sexual orientation; insights generated from secondary analyses of the studies; and other discussions regarding interpretation. This review offers points for consideration to improve the operationalization of sexual orientation in questionnaire-based studies and how psychologists and allied mental health practitioners can use such data to contribute to the development of Filipino LGBT psychology, health, and policy.

Keywords: sexual orientation, LGBT psychology, operationalization, population studies, questionnaire-based study

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In the past two decades, studies concerning the lives of sexual and gender minority (SGM) populations in the Philippines have been published within what is broadly referred to as, lesbian, gay, bisexual, and transgender (LGBT) psychology. However, these have mostly remained within the realm of small-scale qualitative research, and large-scale studies that could provide more generalizable findings are lacking. Such studies would allow us to build on the rich insights that have already been generated from the illustrative narrative research of LGBT experience in the Filipino context, from poverty and economic mobility (Ceperiano et al., 2016) to aging (Guevara, 2016)—domains of contemporary life that have a real influence on the psychological health trajectories of individuals and societies.

As of this writing, a precious few do exist and are the subject of this review. While originally designed by population scientists, they are immensely useful to psychologists and allied practitioners, for crafting research agendas and effective public policies for promoting equality and non-discrimination. They are also exciting in their own right: while primarily descriptive, these studies provide insight into psychological processes such as attraction, behaviors, and relationship patterns, and are conducted at scales that are capable of producing generalizable findings. The role of such studies in LGBT psychology's agenda for social change, therefore, cannot be overstated, as they contribute directly to our capacity to respond effectively to the structural, interpersonal, and individual processes that determine the pathways by which experiences such as stigma and affirmation produce specific behavioral and psychological outcomes (Christian et al., 2021).

This review is also motivated by an understanding that, in the practice of LGBT psychology, "when we engage in research, we utilize theories and frameworks that can capture the realities of lesbian, gay, bisexual, and transgender lives" (Ofreneo, 2013, p. 9). Identifying how extant studies have operationalized and measured sexual orientation, and how it can inform both policy-making and future psychological research with SGM populations, contributes to this aim of capturing such realities.

Measuring and Defining Sexual Orientation

"Sexual orientation" is defined broadly as a stable pattern of sexual, romantic, and emotional attraction to another person, often identified by reporting one's intimate feelings for another, and which includes sexual behavior, self-concept, affiliations and sense of community, experiences of attraction, and other related factors (APA, 2008). This definition encapsulates an understanding of sexual orientation as multidimensional, and psychological research has generally developed in this direction. Earlier work, such as those summarized by Shively and De Cecco (1977), proposed formulations of sexual orientation as a dual-aspect construct distinguishing "physical preference" (e.g., sexual partner preference) and "affectional preference" (e.g., emotional connection and alignment with another), with both measured along two independent continuums of heterosexuality and homosexuality. Later proposals would integrate other psychodynamic factors, such as that proposed by Coleman (1987), which assessed sexual orientation along nine dimensions and, among other things, distinguished between current and "ideal" self-identification and future-oriented cognition about their future experience of sexual identity. A more recent synthesis by Bailey and colleagues sees four phenomena which "fall under the general rubric of sexual orientation": (a) sexual behavior; (b) sexual identity; (c) sexual attraction; and (d) physiological sexual arousal (Bailey et al., 2016, p. 48). In this paper, we adopt the same understanding of sexual orientation as a four-dimensional construct, but for the purpose of this review, we will exclude the fourth dimension of physiological sexual arousal, as this was beyond the methodological scope of the studies being reviewed here.

Experimental studies measuring other psychophysiological phenomena have also broadened our capacity to measure sexual orientation, such as in differences in sexual arousal based on assigned sex (Lykins et al., 2008) or in comparisons of subjective sexual arousal and genital arousal (Chivers & Bailey, 2005; Rieger et al., 2005). Cross-cultural research into gender-atypical and gender nonconforming behaviors and how these relate to sexual orientation have also provided fascinating insight into both its biological underpinnings and its relationship with other cognitive functions (Stief, 2017). Its

complexity is also illustrated in research with transgender and gender-diverse persons, such as the potential overlapping bases for gender identity and sexual orientation in human physiology (O'Hanlan et al., 2018); how self-identification develops within the context of intimate relationships (Theron & Collier, 2013); or how different life experiences associated with their sexuality (e.g., body image, sexual attraction, fantasies, etc.) take precedence at different times (Katz-Wise et al., 2015). Much more work is being done to reveal the nuances in sexual orientation's diverse expressions, directions, and frames of reference.

As previously mentioned, in questionnaire-based studies, sexual orientation is usually operationalized along three of the four dimensions: "sexual identity," referring to identity labels and community affiliation; "sexual attraction," referring to erotic or emotional affections toward others; and "sexual behavior," typically referring to sexual intercourse but also includes other forms of physical intimacy (Federal Committee on Statistical Methodology, 2016). Responses between dimensions also may not necessarily "align": for example, when attraction to both men and women is reported, but self-identification as bisexual is not. Responses within dimensions can also vary depending on respondents' unique life experiences and demographics. For example, in the case of sex differences, "empirical findings strongly suggest that patterns of sexual thoughts, behaviors, and attractions appear to be strongly linked to gender but not to sexual orientation" (Garnets, 2002, p. 119), such as the observation that sexual orientation tended to express as "partner-centered" for women and "recreational or body-centered" for men (Garnets, 2002, p. 119–120). Another example is that the term "bisexual" may be understood differently or may be associated with other cultural ideas: in the Philippines, colloquial usage of the term "bisexuality" is associated with stereotypically masculine-presenting men who have sex with men (UNDP & USAID, 2014), although greater awareness of bisexual sexual orientations is changing these associations. Certain design issues, such as question wording, inappropriate or insufficient response options, or problems in survey administration, can also affect responses (Ellis et al., 2017). Other longstanding issues include underreporting of "sensitive" behaviors (e.g., sexual behaviors perceived as shameful) and overreporting of normative behavior (e.g., answers which project

a heterosexual identity); both motivated in part by desires to avoid stigmatization (Gribble et al., 1999).

Challenges to Measuring Sexual Orientation

Complicating the study of sexual orientation is the fact that experiences of gender and sexuality are organized very differently between Western/Eastern and Global North/South societies. These differences are not ornamental—they are categorical differences in patterns of behavior, language, affect, and cognition. Such differences are well-documented in the Philippines (Johnson, 1998) and in other Southeast Asian countries, like Indonesia (Davies, 2006), Thailand (Jackson, 2000), and Vietnam (Duc et al., 2009). For example, the aforementioned definition for sexual orientation frequently overlaps with other concepts such as gender identity in the lived experiences of LGBT people in Southeast Asia, in ways that make these conceptual boundaries inappropriate or inadequate. Cultural frameworks may also recognize completely different dimensions altogether: for example, a "spiritual" dimension to determining a person's sexual or gender identity exists among the Bugis community of South Sulawesi in Indonesia (Ismoyo, 2020). Such epistemological concerns and "the social and historical processes" that created them should always be kept in mind (Clarke et al., 2010, p. 34).

Contributing to this challenge of cultural differences and how it affects psychological research on sexual orientation is the lack of standardized measures (Institute of Medicine, 2011). Besides the general scarcity of resources for conducting larger studies, the lack of standardization also underpins the seeming overreliance on the dimension of self-identification in current LGBT psychology literature (e.g., Guevara, 2016; Relis et al., 2016; Reyes et al., 2015; Tan et al., 2019). Self-identification is both useful and convenient: people who already self-identify as non-heterosexual may be more willing to share sensitive information, and self-identification implies a level of self-awareness that we reasonably assume allows people to make connections between their life experiences and their sexual orientation. However, this has at least three problems. First, by definition, it leaves out people who do not self-identify as non-heterosexual: those who

do not self-identify, whether because of lack of familiarity with the adopted conceptual language of "LGBT" or because of other cultural sensitivities, appraise their experiences very differently from those who do. Second, generalizing from one dimension risks misrepresenting the whole, since extant research has already shown how the different dimensions do not always "align" and that self-identification on its own cannot adequately capture the larger experience of sexual orientation. Lastly, this dimension also operates under the assumption that a person accurately understands the labels they use to self-identify—or more importantly, whether or not the labels offered can even accurately capture their experiences. Similar concerns have been articulated in other studies and need to be addressed more comprehensively (Cole, 2009; Stewart & McDermott, 2004).

Recognizing LGBT psychology's important role in social change, it is crucial to ensure that LGBT people's experiences can be better framed, integrated, and then measured by the tools used in population-based studies. This kind of work is already being done in other contexts, particularly looking at how such measurements can be more rigorously designed and how this data can help us address LGBT people's unique public health and other socioeconomic concerns (GenIUSS Group, 2014; Saewyc, 2011; Sexual Minority Assessment Research Team, 2009). For example, in a presentation by Cruz and Manalastas (2019), the absence of appropriate measures and protocols (e.g., marking same-sex unions within households as "errors" during data processing) in national demographic studies such as those conducted by the Philippine Statistics Authority excluded the possibility of collecting data on sexual minority families, leaving out significant sources of information and imposing an incomplete description of reality. Similarly, Filipino psychologists and allied practitioners can contribute immensely to LGBT psychology's social change agenda by drawing insights from extant population-based studies (such as those being reviewed in this paper) and by more actively engaging with the broader scientific community in the Philippines to inform more robust methods of capturing the experience of sexual orientation in future studies.

Objectives

This scoping review has two objectives: 1) to provide baseline information on the strengths and limitations of the measurement of sexual orientation in existing Philippine population-based studies; and 2) to offer a discussion on how these and future measures can be improved to provide more robust information based on the three-dimensional model of sexual orientation. Additionally, this review will also provide our own recommendations for item construction following these dimensions.

Method

Design

Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2018), we conducted a scoping review. A scoping review was selected over other review approaches, such as systematic reviews and meta-analyses, because it allows for the broad mapping of available evidence, identification of research gaps, and synthesis of diverse study designs and data sources. This approach is particularly suited to contexts where the existing literature is limited, heterogeneous, or emerging—evidenced by the absence of an established database for Philippine population-based studies that gathered and analyzed data on sexual orientation.

Inclusion Criteria

We considered population-based studies that discussed and aggregated the characteristics of Filipinos on the national, subnational, and local level, with a specific focus on those that attempted to measure participants' sexual orientation.

Search Strategy

Our search strategy was designed to access published and indexed materials and was implemented in three sequential stages:

Stage 1 involved preliminary, exploratory searches using Google Scholar to identify frequently used keywords, phrases, and subject descriptors related to the measurement of sexual orientation among Filipinos. This informal scoping helped surface relevant terminology and guided the development of a comprehensive and database-specific search strategy.

Stage 2 consisted of a formal and systematic search of academic databases, including PubMed, CINAHL, and Scopus. The refined search terms from Stage 1, along with their synonyms and controlled vocabulary (e.g., MeSH terms), were applied using Boolean operators, truncation, and filters appropriate to each database. This search targeted studies published between 1990 and 2021, with no language restrictions applied.

Stage 3 involved backward reference searching, in which the reference lists of articles retrieved in Stage 2 were manually reviewed to identify additional relevant studies not captured in the electronic search.

Full-text articles were retrieved for all records that appeared to meet the inclusion criteria, based on their titles, abstracts, and indexing terms. Studies were eligible for inclusion if they were population-based and attempted to measure sexual orientation among Filipinos. Articles identified through both electronic and manual reference searches were subjected to the same inclusion criteria.

Study selection was conducted by the first researcher, who assessed the methodological appropriateness and relevance of each study, while the second researcher independently reviewed and validated all included studies to ensure consistency, transparency, and accuracy in the final selection.

Data Extraction and Synthesis

Data on setting, participants, question construction, and outcomes measured were extracted. The data extraction was independently checked by the researchers.

With the heterogeneity of the studies' methodologies and populations, we did not attempt to do a formal meta-analysis. Instead, we present here a narrative synthesis of how existing population-based studies operationalized and measured sexual orientation.

Methodological Quality Appraisal

We did not appraise methodological quality or risk of bias of the included articles, which is consistent with guidance on scoping review conduct.

Summary of Included Studies

Five studies were identified: (1) the National Demographic and Health Survey or 2003 NDHS (National Statistics Office [NSO] & ORC Macro, 2004); (2) the Young Adult Fertility and Sexuality Study 3 or YAFS3 (Raymundo & Cruz, 2004); (3) the Young Adult Fertility and Sexuality Study 4 or YAFS4 (Demographic Research and Development Foundation, Inc. [DRDF] & University of the Philippines Population Institute [UPPI], 2014); (4) the Cebu Longitudinal Health and Nutrition Survey or 2005 CLHNS (Adair et al., 2011); and (5) the National Baseline Study on Violence against Children or 2016 NBS-VAC (Council for the Welfare of Children [CWC], 2016; Ramiro et al., 2022). As of this writing, these represent the only nationally representative Filipino population-based studies which included measures of sexual orientation. Of these, the YAFS4 and the 2016 NBS-VAC are noteworthy for their inclusion of gender identity, although this is beyond the scope of this review.

Briefly, these studies are as follows:

1. The NDHS is published by the Philippine Statistics Authority (PSA), as part of the worldwide Demographic and Health Survey (DHS) program, to collect information for policy formulation and for monitoring activities and research related to fertility, family planning, and sexual and reproductive health for both public and private sectors (PSA & ICF, 2023). The NDHS collates data to estimate current levels of fertility, mortality, and migration, including the factors that affect them. Only the 2003 edition included questions alluding to sexual orientation. The fieldwork for the 2003 NDHS occurred between 16 June 2003 and 3 September 2003, encompassing a nationwide sample of about 13,000

households, 14,000 women aged 15–49 years, and 5,000 men aged 15–54 years. The data we gathered on the 2003 NHDS is based on the original report, which is still publicly available as of this writing (NSO & ORC Macro, 2004).

2. The YAFS studies are national surveys that aim to provide updated information on adolescent sexuality and reproductive health issues, their antecedents, and their manifestations, in order to inform public policy interventions for Filipino youth. The YAFS3 was conducted in 2002 and surveyed 19,728 individuals ages 15–27 years old while the YAFS4, conducted in 2013, surveyed 19,178 individuals ages 15–24 years old (DRDF & UPPI, 2016). Both YAFS3 and YAFS4 used stratified sampling across the 17 regions of the country. The data for the YAFS3 was taken from Manalastas (2012, 2016), as the original report was not publicly available at the time of writing. The data for the YAFS4 was taken from both the report and the monograph (DRDF & UPPI, 2014, 2016).
3. The CLHNS is a longitudinal cohort study conducted in Metro Cebu, the second largest metropolitan area in the Philippines with a population greater than 2 million. It was originally intended as an interdisciplinary study of infant-feeding patterns, the factors influencing these patterns, and its various health, economic, and social impacts. Later on, the study broadened to cover a wider range of issues concerning maternal and child health, including sexual and reproductive health (Adair et al., 2011). The CLHNS was initiated through a single-stage cluster sampling method, involving the survey of 33 communities or barangays (17 urban, 16 rural). The most recent data on same-sex sexual behavior were obtained from the 2005 CLHNS survey, during which a total of 1,912 individuals aged 20–22 were interviewed (CLHNS, 2014a). However, the option to disaggregate data according to assigned sex was not available at the time of writing.
4. The NBS-VAC is a groundbreaking research project published in 2016, which aimed to provide a comprehensive understanding of the high incidences and various forms of violence experienced by Filipino children (CWC, 2016). The

study involved children and young people from diverse socio-economic backgrounds, identifying locations where violence occurs. Its findings serve as a scientific benchmark, enabling the development of proactive interventions and strategies to prevent violence against children and assist child victims in overcoming their traumatic experiences. The 2016 NBS-VAC surveyed a sample of 3,886 children and young people, ages 13–24 years old, drawn from a randomized selection of 172 barangays from 17 regions. No information regarding item construction was provided in their published report. In the published report, self-identification labels for sexual orientation fell under the broader rubric of "gender." The assigned sex of those who self-identified as "bisexual" (57 respondents), "transgender" (1 respondent), and "transsexual" (1 respondent) could not be determined, so data on non-heterosexual responses were only for those whose assigned sex was clear: "gay" for male respondents, and "lesbian" for female respondents.

Results

Table 1 presents the distribution of non-heterosexual sexual orientation responses within the Filipino population from the studies reviewed, along with the variations in the measures used by the different studies to approximate or capture sexual orientation. We go on to highlight the nuances in the data and the research that emerged from these studies.

2003 National Demographic and Health Survey (NDHS)

The 2003 NDHS did not explicitly identify sexual orientation as a concept, but used two questions measuring sexual behavior: engagement in same-sex sexual relations within a lifetime; and engagement in same-sex sexual relations within the past 12 months (NSO & ORC Macro, 2004, Table 11.15). Only male respondents, totaling 3,477 respondents with a majority falling within the 30–39 age group, were asked these questions. No further information on

sexual orientation was provided. Subsequent iterations of the NDHS even removed these items altogether, but it is unclear why since the measure's stated purpose was to gather information regarding "AIDS-

Table 1. *Distribution of Non-Heterosexual Sexual Orientation Responses in the Surveys Reviewed*

Survey	% Female	% Male	Dimension	Question
2003 NDHS	N/A	5.2	Behavior	Have you ever had sex with a man?
	N/A	> 1.0	Behavior	How long ago was the last time you had sex with a man?
YAFS3	> 1.0	15.0	Behavior	Was any of your sexual contact with another man/woman?
	12.0	4.0	Attraction	With which sex did you ever have a crush on?
	2.0	2.0	Behavior	With which sex did you ever have a relationship with?
YAFS4	3.4	4.3	Identity	How would you best describe yourself?
	3.2	7.3	Attraction	Who are your preferred sexual partners?
	12.3	5.6	Attraction	Which describes your feelings of attraction?
	5.8	4.3	Behavior	Sometimes, boys/girls also have a romantic relationship with another boy/ girl. Did you ever have a boyfriend/ girlfriend?
	N/A	5.1	Behavior	Question not reported for men who have sex with men (MSM).

Table 1. *(continued)*

Survey	% Female	% Male	Dimension	Question
2005 CLHNS	7.6		Attraction	Have you ever had a crush on a boy/girl (same sex)?
	7.4		Behavior	Have you had any sexual contact with someone of the same sex?
	2.6		Behavior	Have you ever courted a boy/ girl (same sex)?
	22.5		Behavior	Have you ever been courted by a boy/girl (same/ opposite sex)?
	5.0		Behavior	Have you had a romantic relationship with someone of the same sex?
2016 NBS-VAC	2.5	3.6	Identity	Question used not reported.

related issues" (NSO & ORC Macro, 2004, p. 163)—issues which sadly remain very relevant today.

One secondary analysis by Manalastas and Cabrera (2015) found associations between smoking behavior and sexual orientation, echoing data found elsewhere concerning the health disparities experienced by SGM populations. In that study, the measure of same-sex sexual relations within a lifetime (5.2%) was used to classify their sample as "sexual minority men." The study also noted that the 2003 NDHS did not allow distinctions between respondents who had sexual relations exclusively with men (i.e., gay) or with both men and women (i.e., bisexual), nor did it use "more culturally indigenous conceptualizations of sexual orientation," such as the category of "bakla" (Manalastas & Cabrera, 2015, p. 116).

The study was limited by its binary close-ended questions, whereby answering "yes" or "no" implied only that respondents had sexual interactions with other men, but provided no additional

context regarding how and why the sexual interaction occurred. Echoing Manalastas and Cabrera (2015), this is a limitation of single-dimension measures specifically, as other dimensions of sexual orientation (e.g., subjective feelings of attraction or self-identification) could have provided much-needed context for how sexual orientation was expressed. Another limitation is that female respondents were not asked this question. At the very least, it was a missed research opportunity; at worst, this absence perpetuates a potentially serious and underreported public health issue. Non-heterosexual women "frequently underestimate their risk of acquiring or being capable of transmitting sexual disease" and "have historically faced barriers to STI testing and treatment due to the perception that they are inherently a low risk group" (Baptiste-Roberts et al., 2017, p. 4).

Young Adult Fertility and Sexuality Survey (YAFS3 & YAFS4)

In the YAFS3, sexual orientation was specifically identified and measured using three items: two items on sexual behavior, one referring to a non-specific instance of "sexual contact," and another referring to a non-specific instance of a "relationship," implied to mean a romantic relationship; and one item on sexual attraction, asking about having a "crush" on the same or opposite sex.

Building on these, the YAFS4 was expanded to include all three broad dimensions of sexual orientation using four items: one item for sexual identity, framed as self-identification according to commonly-used identity categories (e.g., lesbian, bisexual, etc.); one item on sexual behavior, framed as a romantic partnership operationalized as "a proxy for sexual behavior" (DRDF & UPPI, 2016, p. 161); and two items on sexual attraction, one framed as a non-specific description of attraction to the same or opposite sex, and another framed as sexual partner preference.

The YAFS3 and YAFS4 provide useful demonstrations of the variations that can occur depending on how sexual orientation is operationalized (e.g., sexual behavior versus sexual attraction). A key strength of both is that they contain multiple items for measuring sexual orientation, making it possible to see how different dimensions

of sexual orientation are expressed and whether demographic factors (e.g., assigned sex) influence their expression. While beyond the scope of this review, it is also worth noting that the YAFS4 attempted to measure gender identity using the following question: "If you could choose your sex, what would you want to be?" (DRDF & UPPI, 2014, p. 18; DRDF & UPPI, 2016, p. 155).

Three studies analyzing data from the YAFS3 found links between sexual orientation and specific health outcomes: smoking behavior among sexual minority men (Manalastas, 2012), suicidal ideation among sexual minority men (Manalastas, 2013), and suicidal ideation and suicide attempts among sexual minority women (Manalastas, 2016). The 2012 study, notably the first to provide evidence of health disparities in the Philippine context, operationalized sexual orientation differently between assigned sexes as a response to "statistical power issues (i.e., inadequate response distributions for a single common measure of sexual orientation)" (Manalastas, 2012, p. 83). The sexual behavior item for "sexual contact" was used for male respondents, while the sexual attraction item was used for female respondents, leaving out other items (sexual behavior items for female respondents, sexual attraction for male respondents, and romantic relations for both) because responses were insufficient for statistical analysis. In the 2013 and 2016 studies, the sexual attraction item was used, combining reported attraction to exclusively the same sex and attraction to both sexes (Manalastas, 2016, pp. 5, 108). In the latter study, for example, using data from the female respondents, they reported that 10.3% were attracted to both sexes, while 1.31% were attracted to exclusively the same sex (Manalastas, 2016). As of this writing, one other unpublished study by Manalastas and Cruz (2017) used data from the YAFS3 to look at the relationship between alcohol use and sexual orientation, where they found a higher proportion of alcohol consumption among lesbian women compared to heterosexual and bisexual women, but no significant disparities between heterosexual and sexual minority men—and that interestingly, bisexual men were slightly less likely to report that they were currently drinking or that they had a problem with drinking.

As of this writing, there are no published studies providing secondary analyses of the YAFS4, but one unpublished manuscript by

Cruz (2016) looked into the relationship between sexual orientation and other health risk behaviors, and found similar unfortunate patterns in health risks among the sexual minority Filipino youth surveyed. For men, there was a higher proportion who consumed alcoholic beverages, contemplated or attempted suicide, and had their sexual debut before age 18, compared to their heterosexual counterparts; although no significant differences were found in smoking or drug use behaviors. For women, there was a higher proportion as well who engaged in all the non-sexual health risk behaviors studied, including smoking, drug use, alcohol consumption, and suicidal ideation (Cruz, 2016).

As in studies done elsewhere, the YAFS3 and YAFS4 revealed significant differences in response rates according to different variables. For example, in the YAFS4, a greater number of females than males reported equal attraction to both sexes (Female = 10.5% vs. Male = 2.7%), whereas more males than females reported equal preference for both sexes as sexual partners (Male = 4.0% vs. Female = 1.4%) (DRDF & UPPI, 2014, p. 24). Such patterns in measuring bisexuality can be found in other studies (e.g., Richters et al., 2014), so contextual differences within a single dimension (i.e., non-specific attraction vs. sexual partner preference) do play an important role. As noted earlier, it may be that some aspects of sexual orientation may simply express themselves differently between assigned sexes (Peplau, 2003), and that "sexual arousal patterns play fundamentally different roles in male and female sexuality" (Chivers et al., 2004, p. 736). For example, item construction in the YAFS4 may have significantly influenced response rates: emotional and cognitive appraisals of the significance of relationships may be more relevant to those whose assigned sex is female, whereas sexual arousal is more relevant to those whose assigned sex is male. Other variables also appear to affect self-reported sexual orientation, such as educational attainment (e.g., "[exclusive sexual attraction] to the opposite sex tends to decrease as educational attainment increases") and region of residence (e.g., "Central Luzon has the highest proportion of males who are attracted only to males"), though no relevant interpretations for these intriguing patterns were given (DRDF & UPPI, 2016, p. 159).

As in the YAFS3, the use of multiple dimensions in the YAFS4 allows for comparison between different aspects of sexual orientation

(DRDF & UPPI, 2014). For self-identification, 2.4% and 1.8% of male respondents self-identified as gay and bisexual respectively, while 1.8% and 1.6% of female respondents self-identified as lesbian and bisexual respectively. For attraction according to sexual partner preference, 3.3% and 4.0% of male respondents and 1.8% and 1.4% of female respondents answered that they prefer sexual partners to be exclusively the same sex or either male or female, respectively. For attraction in general, 2.0% and 1.0% of male respondents and 0.9% and 1.0% of female respondents answered being "Only attracted" and "Mostly attracted" to people of the same sex, respectively. Interestingly, 25.6% of male respondents versus 8.5% of female respondents answered that they were "mostly attracted" to the opposite sex. Regarding non-heterosexual romantic relationships, 1.5% and 2.8% of male respondents and 1.5% and 4.3% of female respondents reported having experienced romantic relations with the same sex or with both males and females, respectively. What this data shows is that there are real differences in how sexual orientation is experienced and appreciated, depending on a person's assigned sex, and that there are variations in these differences based on the dimension of sexual orientation being measured.

An additional item for same-sex sexual behavior was included in the YAFS4, but only for male respondents, with the stated purpose of collecting information on men who have sex with men (MSM) (DRDF & UPPI, 2016). The publicly available documents do not report the specific question used; although the subject matter suggests that it asked about sexual encounters with other men. This distinction between the item on MSM and the other four items is also reinforced in the monograph itself, as the former is categorized under "Sexual Behavior" and the latter under "Sexual Orientation and Gender Identity." This item was placed under "risky sexual activities" on the basis that "it is of value to track this behavior because it poses a heightened risk for STIs, especially HIV, if unprotected" (DRDF & UPPI, 2016, p. 103). Although the study aimed to address a public health issue for men, it fell short by administering it to male respondents only—reproducing a gap identified earlier with regards to the 2003 NDHS.

2005 Cebu Longitudinal Health and Nutrition Survey (CLHNS)

The 2005 follow-up survey of the CLHNS included five items approximating sexual orientation, which correspond to the dimensions of sexual attraction and sexual behavior. These questions were on specific experiences of having a "crush"; non-specific "sexual contact" with someone of the same sex; non-specific acts of “courtship” with someone of the same sex; being the recipient of non-specific “courtship” from someone of the same sex; and engagement in a “romantic relationship” (CLHNS, 2014a). The 2007 follow-up survey did not include items on same-sex sexual orientation (CLHNS, 2014b), while the 2009 follow-up surveys for both male and female respondents had a single binary response item asking whether or not the respondent ever engaged in sex with someone of the same sex (CLHNS, 2014c, 2014d). The 2005 CLHNS, however, included measures unique among the studies reviewed here, such as questions about courtship, kissing, holding hands, consent to sexual intercourse, and others.

Besides measuring sexual orientation, the 2005 CLHNS measured other important concepts related to sexuality as a whole, including sexual debut or first sexual intercourse (Armour & Haynie, 2007), sexual consent (Beres et al., 2004), and motivations for sexual behavior (Ofreneo & Epidemiology Bureau, 2015). These provide important information for understanding and situating the particular expression of sexual orientation, allowing more accurate analyses of the actual distribution of sexual orientation by differentiating between responses that we can reasonably assume approximates sexual orientation and, for example, responses that are preceded by circumstances external to sexual orientation (e.g., sexual play between children, sexual experimentation, sexual abuse, etc.).

So far, only Cheng and colleagues (2016) have used data from the 2005 CLHNS to look at the relationship between sexual orientation and other health indicators. The researchers operationalized sexual orientation by combining responses from items on same-sex sexual intercourse and same-sex romantic relations. The reason for this was that the study was grounded on discussing HIV/AIDS, and therefore included only those respondents who were “sexually experienced”

(Cheng et al., 2016). That said, it was observed that "same-sex behaviors … of sexually experienced Filipino young men and women, though uncommon, are not rare" (Cheng et al., 2016, p. 8). Comparing those who reported same-sex sexual experiences and those who did not, they found interesting patterns that reflect the growing literature on health disparities of SGM persons (Lunn et al., 2017). For example, those who reported same-sex sexual behaviors also reported higher rates of smoking and drug use, but interestingly no significant difference regarding alcohol use.

Based on the measures used, significantly more male than female respondents reported that they engaged in same-sex sexual behavior (Male = 19.4% vs. Female = 2.3%) and that they experienced same-sex romantic relations (Male = 9.2% vs. Female = 4.1%). The authors posited a cultural explanation: that "social norms surrounding sexuality are more lenient for Filipino males" or "that males may be more willing to report their sexual behaviors, same-sex or otherwise" (Cheng et al., 2016, p. 8). As mentioned earlier regarding the apparent differences in the expression of sexuality based on assigned sex, an alternative explanation is that, since one inclusion criteria for the study's sample was whether the respondent has had sex, it may also be that the male respondents were more willing to disclose their sexual activity because it is more relevant to their experience of sexual orientation. Further analyses, such as by analyzing other potential measures of sexual orientation in the 2005 CLHNS like courtship, can help clarify this.

2016 National Baseline Study on Violence Against Children (NBS-VAC)

The results of the 2016 NBS-VAC shed light on the alarming prevalence of violence against children in the Philippines. It revealed that the majority of violence experienced by children takes place in environments where they should feel safe, such as schools, and that 80% of the children and young people surveyed had experienced some form of violence (CWC, 2016; Ramiro et al., 2022). Alarmingly, physical (75%), psychological (78.5%), and sexual (33.8%) abuse among children who self-identified as LGBT (Lesbian, Gay, Bisexual,

Transgender, & Transexual) were disproportionately higher than their heterosexual counterparts (physical: 63.9%; psychological: 61.9%; sexual: 25.1%). The 2016 NBS-VAC measured gender identity through self-reporting (Ramiro et al., 2022), which resulted in a single participant self-identifying as "transsexual." However, no available document can be referenced to provide insight as to how the question was framed to arrive at the respondents' gender identity. As of this review, no other study has cited the NBS-VAC in their framing or analysis.

Discussion

The surveys reviewed provide a glimpse into how sexual orientation has thus far been treated in Philippine population-based studies, what insights can be gleaned from the available data, and how paying deliberate attention to a multidimensional framework for sexual orientation, such as the one employed in this review, provides us with a basis for collecting and curating information at a larger scale toward more robust and precise responses to critical questions in LGBT psychology research and practice. Of course, it should be noted that the identified studies had their own particular development paths and goals informing how and why they designed their tools, such as adopting items from other countries to ensure comparability, balancing the appropriateness of questions based on its intended respondents' age and cultural background, and so on. Even if the research questions do not concern LGBT issues specifically, being conscious of capturing such information ensures that we do not "invisibilize" the concerns of sexual and gender minorities and, as mentioned earlier, reify incomplete descriptions of reality. Besides the advice offered by both the Sexual Minority Assessment Team (2009) and the GenIUSS Group (2014) being the most comprehensive guidance currently available, we offer four additional points for consideration in relation to developing measures in Philippine studies:

1. Questions related to sexual intercourse under the sexual behavior dimension were the most commonly-used approximation of sexual orientation. However, given that

they can be the most constrained, it is necessary to consider how we contextualize sexual intercourse when it is used in such studies (Bailey et al., 2016). For example, responses may be prompted by circumstances irrelevant to sexual orientation: sexual intercourse may have occurred within the context of life development (e.g., sexual exploration or experimentation), socioeconomic needs (e.g., sex work), or very difficult circumstances (e.g., sexual violence). Another example is that a person may not self-identify as non-heterosexual or report any non-heterosexual attraction, but still have sexual intercourse with persons of the same sex. Asking about instances of sexual intercourse, whether as a single event or in terms of frequency over a specified period, as the 2003 NDHS or YAFS3 do, can indeed offer useful information for particular public health concerns, such as interventions on young people's sexual and reproductive health. While not necessarily suitable as a single-item measure of sexual orientation, it remains critical that this dimension is adequately captured, given current knowledge about its role in understanding different trajectories in sexual identity development (Garnets, 2002). For sexual behavior measures to more meaningfully contribute to the assessment of sexual orientation, additional contextual information might be needed, and this could include other forms of sexual behavior that could arguably include activities like courtship, as seen in the 2005 CLHNS.

2. Item construction needs to leave as little room as possible for ambiguous interpretation of respondents' intent and conceptual overlap. This is just as true for the study of sexual orientation as with any other concept, as we know that these dimensions are "conceptually and empirically distinguishable" (Bailey et al., 2016, p. 48). For example, the item "With which sex did you ever have a relationship with?" in the YAFS3 is too ambiguous because there are substantial differences in how the term "relationship" can be appreciated. For example, the term "relationship" may be appraised by respondents in a number of ways: some people may or may

not define the experience as a "relationship" because they may define it another way (e.g., a "relationship" is different from something that is "casual"), or may have specific criteria for what does or does not constitute a relationship (e.g., it is only a "relationship" if they call one another boyfriend or girlfriend). Furthermore, while there are many ways a person might understand a "relationship," item construction, should to the extent possible, provide some parameters for how the term might be understood in the context of the study.

3. Multiple measures within the same dimension are needed, as current research already informs us that different components do exist. Using the sexual attraction dimension as an example, there is considerable evidence for different patterns of arousal and emotional bonding between assigned sexes (e.g., Bailey, 2009), as well as differences between individuals of the same assigned sex within the same dimension (e.g., bisexuality in men, see Rosenthal et al., 2011). This can mean having items which differentiate attraction according to erotic arousal (analogous to the Filipino concept of "libog") and emotional responsiveness (analogous to the Filipino concept of "kilig"), among others. For example, the YAFS4 works in this direction by distinguishing between erotic arousal (i.e., "Who are your preferred sexual partners?") and romantic attachment (i.e., "Did you ever have a boyfriend/girlfriend?"), although the latter might more appropriately fall within the dimension of sexual behavior rather than sexual attraction.
4. To be more meaningful and useful as a framework for understanding people's lived experiences, sexual orientation needs to be studied comprehensively. As we propose in the following section, there are ways for all three dimensions to be captured in survey-based studies with a few straightforward questions. This has already been done in other contexts and continues to be done in a growing number of research domains from mood disorders (Bostwick et al., 2010) to sleep disturbance (Fricke & Sironi, 2017)—as we have seen in the studies reviewed here, doing so in the Philippine context is definitely feasible. Having more comprehensive information

> allows researchers to clarify long-standing ambiguities in sexuality research in the Philippines. To name a few: to what extent do non-heterosexual responses in sexual attraction or sexual behavior measures predict whether Filipinos self-identify as gay, lesbian, or bisexual? To what extent do the various dimensions of sexual orientation relate or align with one another? What patterns in the expression of sexual orientation might the data show if we account for variables such as gender identity, assigned sex, age, and other demographic information?

As an additional contribution, Table 2 presents proposed language in both Tagalog and English for future measures to capture the dimensions of sexual attraction, sexual behavior, and self-identification. As the authors of this review, our approach to the item construction required a balance of conciseness, culturally-appropriate language, and comprehensiveness. These draw from the insights generated from the studies reviewed and the points for improvement discussed. They also assume that appropriate measurements of assigned sex (which may include intersex characteristics) and gender identity (inclusive of trans and other indigenous identity categories) are already provided. While recognizing that the construction of the answers assumes the gender binary (i.e., "lalaki o/at babae"), we consider the framing to be appropriate within the Filipino context. Items using Likert scales are limited to five-point scales, although other research questions might warrant different formulations. Items can also be preceded by explanations about the purpose, context, or key ideas behind a question, which would be helpful given the present confusion regarding these concepts. We offer these as the bare minimum to produce a more comprehensive picture of sexual orientation in survey-based studies.

Proposed here are four items for attraction, one item for self-identification, and two items on sexual behavior, for a total of seven items. Briefly, they are as follows:

1. The items under "Attraction" distinguish between experiences of erotic arousal and emotional attachment. These are framed

to target respondents' internal experience of attraction, regardless of frequency or absence of any relational experience with others.

2. The item under "Self-identification" is a relatively simple question using common identity labels and is not meant to be exhaustive.
3. The items under "Behavior" include questions about overall experience of sexual intercourse and romantic partnerships. Unless explicitly required by the research question, asking about frequency or time frames would be unnecessary.

Table 2. *Proposed Item Construction for the Three General Dimensions of Sexual Orientation*

Item	Dimension	Question	Item type	Answers
		Attraction		
1	Sexual partner preference	Tagalog: "Kung makakapili ka, kanino mo mas gustong makipagtalik?" English: "If you had the choice, with whom would you like to have sex with?"	Multiple choice	Tagalog: • Sa lalaki. • Sa babae. • Sa parehong lalaki at babae. • Hindi ko alam / Hindi ako sigurado. English: • With men. • With women. • With both men and women. • I don't know / I am not sure.
2	Erotic arousal	Tagalog: "Kung ikaw ay tatanungin, kanino ka mas nalilibugan?" English: "If you were asked, by whom are you sexually aroused?"	Multiple Choice	Tagalog: • Sa lalaki lang. • Madalas sa lalaki, pero minsan sa babae. • Sa parehong lalaki at babae. • Madalas sa babae, pero minsan sa lalaki. • Sa babae lang. English: • Exclusively men. • Mostly men, but sometimes women. • Both men and women. • Mostly women, but sometimes men. • Exclusively women.

Table 2. *(continued)*

Item	Dimension	Question	Item type	Answers
3	Romantic partner preference	Tagalog: "Kung may pagpipilian ka, kanino mo gustong makipagrelasyon?" English: "If you had the choice, with whom would you have a romantic relationship with?"	Multiple choice	Tagalog: • Sa lalaki. • Sa babae. • Sa parehong lalaki at babae. • Hindi ko alam / Hindi ako sigurado. English: • With men. • With women. • With both men and women. • I don't know / I am not sure.
4	General emotional attraction	Tagalog: "Kanino ka mas nakakaramdam ng kilig?" English: "With whom do you feel more feelings of attraction?"	Multiple Choice	Tagalog: • Sa lalaki lang. • Madalas sa lalaki, pero minsan sa babae. • Sa parehong lalaki at babae. • Madalas sa babae, pero minsan sa lalaki. • Sa babae lang. English: • Exclusively men. • Mostly men, but sometimes women. • Both men and women. • Mostly women, but sometimes men. • Exclusively women.
		Self-identification		
5	Identity label	Tagalog: "Sa pagkakaintindi mo, alin sa mga salitang ito ang mas naglalarawan ng mga karanasan mo?" English: "From your understanding, which of these words best describes your experience?"	Multiple choice	Tagalog: • Heterosekswal / "straight" • Homosekswal / "gay" / "lesbian" • Bisekswal • Hindi ko alam / Hindi ako sigurado. • Iba [Pakilinaw] English: • Heterosexual / "straight" • Homosexual / "gay" / "lesbian" • Bisexual • I do not know / I am not sure. • Others [Please specify]

Table 2. *(continued)*

Item	Dimension	Question	Item type	Answers
		Behavior		
6	Assigned sex of sexual partner	Tagalog: "Sa pangkalahatan, kanino ka madalas nakikipagtalik pag may pagkakataon?" English: "In general, with whom do you have sex with when there is an opportunity?"	Multiple choice	Tagalog: • Sa lalaki lang. • Madalas sa lalaki, pero minsan sa babae. • Sa parehong lalaki at babae. • Madalas sa babae, pero minsan sa lalaki. • Sa babae lang. • Hindi pa ako nakikipagtalik. English: • Exclusively men. • Mostly men, but sometimes women. • Both men and women. • Mostly women, but sometimes men. • Exclusively women. • I have never had sex.
7	Assigned sex of romantic partner	Tagalog: "Sa pangkalahatan, kanino ka nagkakarelasyon pag may pagkakataon?" English: "In general, with whom do you have a romantic relationship with when there is an opportunity?"	Multiple choice	Tagalog: • Sa lalaki lang. • Madalas sa lalaki, pero minsan sa babae. • Sa parehong lalaki at babae. • Madalas sa babae, pero minsan sa lalaki. • Sa babae lang. • Hindi pa ako nagkarelasyon. English: • Exclusively men. • Mostly men, but sometimes women. • Both men and women. • Mostly women, but sometimes men. • Exclusively women. • I have never had a relationship.

Conclusion and Recommendations

The 2003 NHDS, YAFS3, YAFS4, 2005 CLHNS, and 2016 NBS-VAC are important milestones in population-based studies that included measures of sexual orientation in some form; both as a means of studying the relative distribution of sexual orientation in a Filipino

population, as well as a means of developing our understanding of the relationship between sexual orientation and other variables of interest in psychological research. Even with their differences in measuring sexual orientation, their data offers a rich source of information, as seen in the secondary analyses by other scholars cited in this paper. The studies also offer insight into long-standing debates (e.g., the YAFS4 and differences in expression of sexual orientation between assigned sexes) and other factors present at the time of their design (e.g., the state of research on gender and sexuality issues, the possibility that sexual orientation was not considered an important or relevant variable, or even internal decisions about what may or may not have been acceptable to measure in research).

To reiterate, these studies are critical if we intend to ultimately improve LGBT psychology research in the Philippines. First, studies of this kind allow us to describe the scope and scale of variables concerning the psychological well-being of LGBT Filipinos, which smaller studies using less robust sampling methods simply cannot. Second, studies using larger samples can help address gaps in the literature whose present composition still extrapolates too heavily from smaller-scale studies, drastically limiting our capacity to generalize insights to the experience of the broader Filipino population. Third, although generalization is not necessarily the gold standard for social sciences research, being able to test our insights using methodologies with nationally representative samples would go a long way in assuring the rigor of our discipline. It would also contribute to the unique social justice agenda of the practice of LGBT psychology by providing the quantitative evidence that is so often asked for in advocacy spaces. Lastly, studies using robust measures of sexual orientation would be a strong contribution to sexuality research in the Philippines as a whole.

Government and non-government organizations are encouraged to incorporate the current study's insights when designing the measures of sexual orientation they employ in large-scale demographic studies. Content, construction, and subsequent psychometric validation of the proposed improvements in measurement are also recommended. Policymakers would benefit from more specific and valid measures of sexual orientation. The inclusion of LGBT Filipinos during the conceptualization and design of LGBT research could offer invaluable insight into future investigations.

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