

Exploring Lay Interpretations of Family Planning Through the Use of Social Representations Theory

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Knowledge systems underlying health choices are formed through shared, lay interpretations given relevant economic and cultural contexts (Joffe, 2002). We use Social Representations Theory to study the everyday understanding of family planning among 400 mothers and fathers from four communities in Negros Occidental, Philippines. We combine quantitative and qualitative analyses to capture the content and meaning of their social representations. K-means clustering reveals frequently associated terms describing the definition and importance of family planning. Thematic analysis helped us generate patterns of meaning to frame shared, localized understandings of family planning. Common notions of family planning are primarily anchored on birth control, specifically understood as preventing pregnancies and imposing self-discipline. Parents perceive family planning as economically benefitting, affording child rearing in a time of poverty- the cost of which is revealed to be beyond financial. Family planning is believed to secure the family's future. This study shows how the meaning of family planning is (re)constructed by members of a particular locale, from its prominent messaging as a government health program to the ideas expressed by its consumers. Findings demonstrate the potential of Social Representations Theory to capture shared meanings rooted in a group's own contexts and conditions.

Keywords: family planning, social representations, Philippines

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The recorded unmet need for modern family planning among 2.6 million married and 5.1 million unmarried women in the Philippines (Philippine Statistics Authority & ICF, 2018) impelled the intensified implementation of the National Program on Population and Family Planning. In response, a network of government agencies headed by the Philippine Department of Health and the Commission on Population and Development mainstreamed modern family planning for Filipinos to achieve their desired family size and fulfill their reproductive health and rights, through the Responsible Parenthood and Reproductive Health (RPRH) Act of 2012 (<https://doh.gov.ph/family-planning>). The implementation of the said program supplements the distribution of modern family planning commodities with the development and dissemination of information to increase the demand for family planning in communities.

Despite the recorded gradual decrease in the unmet need for family planning at a national level from 35.1% in 2017 to 33.9 % in 2019, the unmet need for family planning persists substantially across the regions in the country (<http://track20.org/Philippines>). A closer look at the data from Western Visayas reveals that women are having more children, with the regional fertility rate being consistently higher than the national fertility rate over the past three years (Philippine Statistics Authority- Regional Statistical Services Office VI, 2019). A considerable number of women in Western Visayas (13.4%) are still unable to access contraceptives despite wanting to limit or delay their births. Moreover, 27% have not encountered any family planning-related information or promotional activities (Philippine Statistics Authority- Regional Statistical Services Office VI, 2019).

While effective population control interventions are a confluence of structural factors such as accurate estimates of unmet need, availability of safe modern family planning options, and overall quality of healthcare resources (Mbizvo & Phillips, 2014; Mwaikambo et al., 2011), voluntary and sustained participation in family planning is shaped largely by its appeal and reception among potential users in the communities (Ezeh et al., 2010; Jain et al., 2021). That is, people's lay understanding of what family planning is and why it matters must be consulted if we are to completely assess the achievement of its objectives as a national health program. Demand generation strategies must reach the level of

mass awareness, knowledge, and comprehension leading to practice (Adekoya et al., 2020; Royer et al., 2020).

The goal of the current study is to offer in-depth and contextual insights on how family planning is socially understood among mothers and fathers from four cities and municipalities in Negros Occidental. Guided by the Theory of Social Representations (Moscovici, 1981), we unpack our participants' multiple and dynamic knowledge systems (Flick, 2000) to make sense of how family planning is discursively constructed upon its introduction to their localities. By combining quantitative and qualitative modes of data analysis, we map out the everyday meanings associated with family planning as articulated in the participants' own linguistic devices. Finally, we offer recommendations to improving the uptake of family planning in low-income communities through a critical discussion of how the cultural and economic background of its users shape its prominent, shared constructions.

A Brief Background of the Family Planning in the Philippines

Family planning, as stipulated in the Responsible Parenthood and Reproductive Health (RPRH) Act of 2012, "enables couples and individuals to decide freely and responsibly the number and spacing of their children and to have the information and means to do so, and to have access to a full range of safe, affordable, effective, non-abortifacient modern natural and artificial methods of planning pregnancy." (Section 4, Definition of Terms). The primary emphasis is on encouraging parents to voluntarily limit or space their childbirths through providing the knowledge and resource prerequisites for such informed choice.

Family planning was initially enacted through the Population Act of 1971 as a method of population control to address the issue of poverty in the intra-household level. The program targeted the health and economic disparities in low-income households with bigger family sizes and lacking the financial capacity to support more children (Orbeta, 2005). However, the rationale for family planning as a public health program has taken a different direction in recent years, with more emphasis on promoting reproductive health and responsible

parenthood (Marquez et al., 2018). While population management remains a priority, key result areas now include improvements in maternal and child healthcare as well as parental and marital capacity building (Commission on Population and Development, n.d.).

To achieve the “zero unmet need for modern family planning”, local government units must mobilize various demand generation activities such as communication campaigns that raise public awareness on responsible parenthood and reproductive rights among potential recipients in communities (Philippine Department of Health, 2017). One such strategy is Responsible Parenthood and Family Planning (RPPF) classes which introduces viable modern family planning methods to achieve reproductive, spousal, and parental goals (Philippine Department of Health & Commission on Population and Development, n.d.). Pre-Marriage Orientation and Counseling (PMOC) guides cohabiting couples on “spacing” and limiting pregnancies as an integral part of planning for their future families. Although campaign messages, policy briefs, and reports are also made available online through official web sites and social media accounts, house-to-house visits continue to be the most effective mode of disseminating information especially for rural communities (Philippine Department of Health & Commission on Population and Development, n.d.). In a recent process evaluation by the Philippine Institute for Development Studies (Abrigo et al., 2021), barangay healthcare providers play a crucial role in the delivery of family planning to communities as the most immediate sources of information, guidance, and communication but are dependent on national government agencies for their supplies and strategies.

Economic and Cultural Resources Shaping Family Planning (Mis)Conceptions

Access to medical supplies and professional guidance for the safe and confident practice of modern family planning are crucial precursors to initiation and sustained engagement (Jain et al., 2021; Mbizvo & Phillips, 2014). In the Philippines, most family planning users in low-income communities are completely reliant on medical supplies (e.g. pills, condoms, implants) provided by their local

health centers (e.g. Cuaton, 2019; Ulep et al., 2021). Consequently, family planning participation can be stunted in the event of delays or stockouts. Beyond the issue of availability, engagement in family planning among developing countries is more closely determined by the intersection of many socioeconomic characteristics including educational attainment, income level, and current number of children in the family (e.g. Casterline & Sinding, 2000; Ezeh et al., 2010).

Circumstances that shape people's acceptance of family planning are not limited to matters of accessibility and affordability. The demand for family planning in the country is largely personal knowledge-based, in that Filipinos' familiarity with, understanding, and talk about family planning shape their reproductive health choices (Das et al., 2021). To illustrate, discussions about satisfying experiences with family planning among users are correlated with program adherence (Bautista, 2020). Receiving community-based education from trusted health practitioners promotes modern contraception for spacing and limiting pregnancies (De Vera, 2007) while missed opportunities for contraceptive counseling leaves health concerns unaddressed, preventing women from accessing family planning methods despite their availability (Nagai et al., 2019). Holding strong negative views on family planning prevents many Filipino women from initiating or adhering to any birth control method despite not wanting more children (Philippine Department of Health & Commission on Population and Development, 2020). Although substantial evidence suggests that exposure to affirmative messages through media can encourage modern contraceptive use among Filipinos (e.g. Bakht et al., 2013; Miradora, 2017), hearing inaccurate claims regarding its alleged harmful side effects can dissuade its potential users (Blanc et al., 2009; Laguna et al., 2000; RamaRao et al., 2003).

Apart from the laws and public health campaigns that legitimize the science behind modern family planning methods (Cabral, 2013), cultural values stemming from religious ideologies remain central to the meaning of family planning for Filipinos (Mello et al., 2006). Contraceptive use is critically associated with promiscuity and sin, thereby encouraging a reliance on traditional methods that are endorsed by the Church as morally acceptable, albeit ineffective, such as abstinence or withdrawal (Marquez et al., 2018). Proponents and

supporters of contraception are publicly denounced to be ‘pro-abortion’ or ‘anti-life’ (David et al., 2010). Gendered roles within a traditional, patriarchal society such as the Philippines dictate the allocation of power between spouses, where wives can be positioned with the duty to submit to their husband’s opposition of family planning (Gipson et al., 2020). The image of the “pure” Filipina hegemonically prescribed by our cultural narratives (Ruiz Austria, 2004) can undermine female sexual agency and even disregard the subject of safe sex practices among female family members altogether (Melgar et al., 2018).

These studies point to the multiplicity of meanings surrounding family planning. The lay theorizing of the definition and importance of family planning as a public health agenda and personal choice is embedded in our cultural and economic landscape as a developing nation with unevenly distributed reproductive health commodities and competing belief systems. The socially constructed, shared nature of family planning (mis)conceptions emerges through the immediate and wider interactive processes within a community of health providers, end users, and their families. Following this, we proceed with an elaboration of our participants’ locale to contextualize the meaning-making processes forming their nuanced understanding of family planning.

Attending to Localized and Shared Understandings of Family Planning

The existence of the RPRH Law (RA 10354) as a national framework for the provision of reproductive health care services, methods, and commodities does not completely safeguard against the uneven implementation by local service delivery networks (Commission on Human Rights, 2016). The unequal uptake and varied reception of family planning across regions calls for the investigation of how routine knowledge-building initiatives come across to its geographically dispersed beneficiaries (Bautista, 2020; Ulep et al., 2021). Therefore, our study acknowledges the need to supplement existing estimates of the prevalence and unmet need for family planning in Negros Occidental with a more grounded account of its relevance in the words of its users. This means unpacking how parents

coming from this particular cultural and economic background think or feel about family planning when introduced in their communities.

We pursue this line of inquiry specifically in the province of Negros Occidental. Despite the intensified implementation of demand generation activities (Western Visayas Center for Health Development, 2019), the province has a higher percentage of unmet need (6.77 %) and a lower prevalence rate for modern family planning use (28.78 %) than the rest of the region (5.37 % and 30.04 % respectively). Low-income parents who are also beneficiaries of the Pantawid Pamilyang Pilipino Program (4Ps) are enjoined to plan the number, timing, and spacing of their children through Responsible Parenting Classes and Family Development Sessions (FDS) conducted at the barangay level (Commission on Population and Development Region VI- Western Visayas, n.d.) with the emphasis on protecting and caring for one's family (e.g. *Ang Pamilyang Planado, Panalo!; Magmahal, mag-enjoy, protektahan ang isa't-isa*).

Following studies which have analyzed the meanings underlying reproductive health behaviors such as contraceptive counseling (e.g. Bianchi-Demicheli, 2006), condom use (e.g. Winskell, Obyerodhyambo, & Stephenson, 2011), and breastfeeding (e.g. Ares et al., 2020), we argue that members of a community interact to co-construct their shared version of social realities that shape their individual health choices (Howarth et al., 2004). For example, community health workers in Negros Occidental cite casual, everyday conversations as the most optimal medium for educating stakeholders into taking ownership over health programs including family planning (Dodd et al., 2021). Men from Western Visayas hold their own views about how and when women can be impregnated, revealing their knowledge of traditional versus modern family planning method use. In the same study, one in every five men believe that contraception should concern only women revealing a prevailing negative attitude towards male birth control options (Parcon, 2007). These knowledge-related reproductive health outcomes suggest the generation of shared meanings, the specific contents of which we unpack through the application of Social Representations Theory.

Unpacking Family Planning Through Social Representations Theory

To investigate lay understandings of family planning, we are guided by Social Representations Theory (Moscovici, 1988; 1981) which focuses on how groups construct the meaning of a social object through their emerging, commonsense knowledge. These social objects can range from social issues that are salient in the current cultural and economic context, to novel phenomena which are integrated into the mutual experiences of a particular social group (Howarth, 2006). When confronted with contested matters that require acceptance and participation (e.g. family planning), people first engage in an active reappropriation of concerns that is guided by their interests, goals, and activities (Howarth et al., 2014).

Social representations can be thought of as a network of ideas, metaphors, and images (Flick & Foster, 2008) that they have of family planning. Moreover, social representations can be reimagined as a sociocognitive field (Lo Monaco et al., 2017) where constructed meanings of family planning are ontologically enmeshed with other meanings that altogether help people make sense of it. This richness of common knowledge is afforded by communication which affects our way of thinking and creates new contents (Moscovici, 1988). Therefore, our goal is to surface some of these multiple, related knowledge systems of family planning created and shared among its users from communities in Negros Occidental. Instead of medical or professional discourses, we focus on people's everyday utterances which more directly reflect their intimate experiences, personal positions, and biases (Springett et al., 2007; Williams & Pay, 2013) so as to bridge the gap between science, policy, and awareness of family planning.

Social representations are both a product and a process (Wagner, 1995). As such, the theory further elaborates on how shared meanings can be created through social and dialogical processes (Jodelet, 2006) such as exchanges between healthcare providers to the beneficiaries, among fellow family planning users in the community, and between family members in the household. Meaning making may also be influenced by the information received through messages mainstreamed by the media. Because social representations are

constructed through people's talk, they can be best observed and studied through unpacking people's utterances (Wagner, 1995). Hence, we turn our focus to people's talk about family planning which may be represented in different terms but are nevertheless derived from their shared contexts. As people's shared understanding of family planning, these social representations are integrated into their realities, allowing them to make sense of what family planning is, weigh its potential benefits, and take action based on such interpretations. This interpretation functions to reduce ambivalence and provide confidence in their judgments about engaging in family planning (Wagner et al., 2002). Acknowledging the economic and cultural resources that drive the co-construction of people's shared, nuanced understandings of family planning, we ask: What are the social representations of family planning among parents from four communities in Negros Occidental?

METHOD

Aiming to surface the "semantic universe" (Clemence et al., 2014) of the social representations of family planning, this mixed method study systematically analyzes data from a qualitative survey. In this section, we outline our strategies for sampling, data gathering, ethical considerations, and steps for data analyses.

We gathered data from 400 family planning users through snowball sampling with assistance from local health workers. Participants were asked to freely respond (orally or in writing) to the following questions: "What is family planning" (*Ano ang family planning?*), "Is it important?" (*Importante bala ini?*), and "If so, why?" (*Kung oo, ngaa?*). Participants were mothers and fathers coming from four cities and municipalities in Negros Occidental which were identified as areas with both an uptake and a remaining unmet need for modern family planning (Philippine Statistics Authority- Regional Statistical Services Office VI, 2019). Data pertaining to our sample's key characteristics are further summarized in Table 1.

Table 1. Summary of Key Participant Characteristics from Four Cities / Municipalities

City / Municipality	Male	Female	Average age in Years	Average no. of Children
Murcia	50	50	37.06	3
Silay	50	50	36.91	2
Toboso	50	50	34.15	3
Victorias	50	50	34.00	3

Note: N = 150. Average number of children were rounded off to whole numbers.

Ethical Considerations

Reaching out to potential participants for this study was made possible through the help of local health workers who approached family planning users in their assigned communities. Barangay health workers, nurses, and midwives initially explained the objectives and the procedures entailed by participating in the study. It was emphasized that community members may choose not to join the study and that their participation will not affect their status as beneficiaries of the Pantawid Pamilyang Pilipino Program (4P's) and the National Program on Population and Family Planning (NPPFP). Among those who expressed further interest in joining, the solicitation of participation was done individually using an informed consent form which was printed and verbally explained in their primary language (i.e. Hiligaynon). Rights to voluntary participation and potential benefits were discussed in addition to a detailed account of how their data will be anonymized, protected, analyzed, and communicated to relevant audiences for academic and program improvement purposes. We observed that this referral and recruitment process, presented with greater familiarity and comfort by the local health worker without the researchers, served to encourage informed and voluntary participation without coercion.

Data Analysis

To unpack the shared meanings in the open-ended responses coming from 400 family planning users, we exerted a systematic and multistep approach that sifts through the complexity of the data (e.g. Canoy et al., 2020). We began with a K-means clustering that provides a data-driven “big picture” of the contents of social representations through summarizing the bulk of responses while showing potentially meaningful associations between terms (Guest & McLellan, 2003). We then eventually surface the social representations of family planning through thematic analysis, a flexible method of making sense out of meaningful patterns with the generation and interpretation of themes being anchored on the study’s theoretical assumptions (Braun & Clarke, 2006; 2020). We take inspiration from previous studies which similarly account for the range of social representations through measuring the association between terms used and tracing their emergence from relevant economic and cultural processes (e.g. Camargo & Bousfield, 2009; Wassler et al., 2019; Winskell, Hill, & Obyerodhyambo, 2011).

Data were managed and organized through a spreadsheet and underwent initial reading by the two researchers independently. Since we intended to use a software-assisted quantitative analysis as the first step to data summarization, it was necessary to clean the data by removing stop words (e.g. *ang, mga, daw, si, kay*) and other sparse terms (Hand & Krzanowski, 2005). We ran the K-means clustering algorithm through the open-source software R which is an exploratory data mining technique that can reveal the underlying patterns in collections of texts (Prathima & Divakar, 2018). As a partitioning algorithm, K means clustering produces non-hierarchical, simultaneous “bags of words” with high intra-cluster similarity and low inter-cluster similarity which effectively summarizes the data corpus (Celebi et al., 2013). Clusters are formed based on the strength of relationship between the terms belonging in one cluster while maximizing the differences between clusters. To further make sense of these bags of words, we went back to the data and analyzed associated patterns of meaning through thematic analysis (Braun & Clarke, 2006; 2020) guided by the Social Representations theory.

Our goal in using K-means clustering is to sift through the open-ended responses of the participants and surface shared understandings of family planning through extracting words which were mostly mentioned alongside one another. Since K-means clustering requires the researchers' prerogative on the expected number of clusters, we used the "elbow method" to estimate the potential optimal number of clusters (Syakur et al., 2018; Ehlert et al., 2017). This approach cumulatively plots the increase or decrease in variation as more clusters are extracted from the data (Kodinariya, & Makwana, 2013). We looked at the scree plots also generated through R and located the optimal number of clusters (k) beyond which there is already a linear change in the intra-cluster variances. Hence, adding clusters beyond this number no longer substantially contributes to the minimization of intra-group differences. For the data on definitions of family planning, four (4) was the optimal number of clusters, and five (5) clusters for the data on the importance of family planning. We then input these optimal numbers of clusters to guide the actual K-means clustering algorithm in producing the most associated sets of terms from all the participants' responses.

We followed the steps proposed by Braun and Clarke (2006; 2020) when we carried out thematic analysis. First, we went over the data several times to make sense of them and to search for possible meanings and patterns. As we did this, we paid attention to the meanings they attach to family planning. Then we coded our data to organize them into meaningful groups. Next, we examined our codes and sorted them into potential themes, putting together those that are articulating the same semantic meaning regarding family planning. After generating our themes, we went over each of them to further assess their relation to the entire data. Then we labelled each theme according to our interpretation of what it is "saying."

RESULTS

The K-means clustering reveals groups of terms which have the least distances between them (Singh et al., 2013). The results of this analysis show frequently co-occurring words evocative of shared meanings across participants, semantic indicators of the social representations of family planning that we aim to unpack. On

the question of what family planning is (column 1 of Table 2), the first two clusters (A1-2) demonstrate its common understanding as a preventive measure against having more children (“para hindi magdamo bata” and “indi magbata”) and the last two clusters surface the participants’ representation of family planning as “birth spacing” (A3) and “birth control” (A4). Similarly, on the question of why family planning is important (column 2 of Table 2), three of the five resulting clusters (B1, B2, B4) reveal the shared understanding of its purpose as preventing childbirths (“para indi bata”, “para indi damo bata”, “para indi kabataan”) and one cluster (B3) likewise indicates its importance in controlling childbirths (“para macontrol pagbata”). It is worth noting that one cluster (B5) surfaced the importance of family planning for their children and families (“para pamilya bata”).

Shared meanings of family planning among our participants revolve around four major interrelated themes. Family planning is understood as a means of control, as a choice, as a sign of responsible parenting, and as a move to protect the family. We discuss each of these themes below.

Family Planning as a Means of Control

According to the participants, family planning is important “*para macontrol ang pagbata*” (because it allows them to control their childbirths). Family planning is understood as a means of control, especially controlling pregnancy and controlling the number of children born in the family. The term “control” was frequently associated with “birth” and “*pagbata*” (to give birth) when they were asked of family planning’s definition and importance. For our participants, family planning is a government program that gives them information not only on what to do so as not to have so many children - “*para hindi magdamo bata*”, but also on planning for their family and their children’s future – “*para sa bata, pamilya*”. For the participants of the study, family planning may have side effects, still, for them it is “an effective way to help family, provide children with better future.” As one of them shares, “*kay kon wala ko nag-family planning siguro damo pa ako sang nabata*” (If I did not practice family planning, I may have more children than I already have now).

Table 2. Results from the K-means Clustering Analysis on the Definition and Importance of Family Planning

What is family planning? ($k = 4$)		Why is it important? ($k = 5$)	
[A1]		[B1]	
words	value	words	value
magdamo	0.2160494	indi	0.2009569
hindi	0.3395062	bata	0.3923445
bata	0.4074074	para	0.7607656
para	1.1543210		
[A2]		[B2]	
words	value	words	value
magbata	0.2071429	para	0.2280702
indi	0.3428032	indi	0.2982456
		damo	0.6140351
		bata	1.1754386
[A3]		[B3]	
words	value	words	value
birth	0.9285714	macontrol	0.5416667
spacing	1.0000000	pagbata	0.6666667
		para	0.8750000
[A4]		[B4]	
words	value	words	value
control	0.9863014	indi	0.2318841
birth	1.0273973	kabataan	1.0144928
		para	0.9420290
		[B5]	
		words	value
		bata	0.2653061
		para	0.8367347
		pamilya	1.0000000

Note: Values represent the measured distances of every word from the centroid of their respective clusters. Words with lower values are closer to the center. Clusters 1-4 for data on the definition of family planning and 1-5 on its importance are not hierarchical. Data were partitioned and optimized based on intra-cluster similarity and inter-cluster difference.

According to the participants, family planning is important because if couples do not plan for their family, they would be the ones to suffer in the end. They would have difficulty rearing their children and providing for their needs, especially if their income is not stable. As such, family planning means having the right number of children and being able to raise and support these children comfortably.

Family planning is also associated with birth spacing. The participants believe that the practice of birth spacing or waiting between pregnancies is important because it ensures that mothers do not have back-to-back pregnancies and children are adequately spaced. As one participant says, "*para hindi sige busong kag bata. Para may lak-ang man sila sa edad*" [so that they (mothers) do not always get pregnant and give birth. So that there is age gap between children]. It is the perception of the participants that birth spacing does not only safeguard the health of both the mother and the child, it also fosters better relationships between couples.

Family planning as control, as maintained by the participants, also means the couple knows how to restrain themselves so that unplanned pregnancies are avoided. As some participants express, family planning means the couple are able to "control," "manage," "adjust," and be "self-disciplined," knowing that the use of contraceptives is not infallible.

Because family planning is seen as a way of controlling births and pregnancies, it is also perceived as one solution to the problem of population growth in the country. For them, to control the number of children means to control the increasing number of population. Overpopulation leads to worsening poverty situation; as such it should be addressed, through family planning for instance, to ensure a brighter future for the next generation. They have also come to accept that this is the government's way of controlling the country's population.

Family Planning as a Choice

Even though family planning is viewed as necessary, especially in the context of poverty, still it is considered as "optional" by some of the participants of the study. For the participants, having learned about family planning, they now have a choice. They can decide for

themselves how many children they want and how they go about it as a couple. One of them openly expresses that she chooses to do it "*kay indi ko gusto magbata kay damo na akon kabataan*" (I don't want to bear more children as I already have several kids). For many of them, choosing family planning means being able to better plan for the future of their family. As one aptly says, "*Maplano niyo gid kung paano sugoran inyo pamilya; Kung pila ang bata, pila ang budget*" (You can really plan how to start a family; how many children you want; how to budget).

Family Planning as Responsible Parenting

Family planning is understood as a sign of responsible parenting (*para sa bata, pamilya*). They think that it is difficult to raise children, especially in this time of poverty, given their limited financial resources and the country's current socioeconomic situation. As such, they see family planning as a means for them to choose to limit their children to a certain number that they can afford to raise, or as one of them says, "Para hindi damo ang bata kag indi budlay kapin pa sa pigado" (To avoid the difficulty of having more children, especially for the poor).

Limiting the number of children in the family, according to the participants, paves a way for them to be able to aptly provide for the needs of their family. This way, they can "*mapadako kag mapaeskwela sang maayo ang pamilya*" (send the children to school), "*masiguro ang kinahanglanon sang pamilya*" (provide for the needs of the family), and "*sa ikaayo sang bwag damlag sang pamilya kag kabataan*" (ensure a brighter future for the children), "... *kapin na pigado subong*" (especially now that life is hard). One participant asserts, "*Indi ko gusto nga kaluluoy bata ko tungod indi ko maaraman kay kadamo ka bata ko amu na nga gusto ko mag-FP kay indi ko gusto anay pagdugangan bata ko para magabayan ko bata ko ka ma-atipan ko sang husto ang bata ko*" (I do not want my children to suffer just because I am not able to sustain them due to the fact that I have many children. That is why I want to practice FP (Family Planning) so that I won't have any more children and I can take care of them well.)

With proper family planning, the participants believe that they are not only able to provide for their family financially, they are also able to enjoy quality time with their children. And being able to spend time with the children also means being able to keep an eye on them and provide them with proper care and attention. To quote one of them, "*Makabalo kamo kung ano ang dapat. Ubrahon kung paano i-manage ang inyo kabataan*" (You will know what to do, how to "manage" your children).

Family Planning as Family Protection

Family planning is perceived as a way to protect their family, in terms of their finances and their health. According to the participants, having only a limited number of children protects their family from hunger, not being able to go to school, not having a roof over their heads. Family planning, thus, keeps them from "*mag-antus sa pigaduhon*" (suffering due to poverty). Participants maintain that they are poor, that life is hard, and many of them do not have jobs and stable income. Having more children will make life even harder for them and will mean bleak future for their children. Having children, according to them, is expensive. To address this, one says, family planning is a "*Guide sa pag-obra ka pamilya sa kung ano lang masarangan*" (guide to making a family, based only on what you can afford); to which one concurs saying, "*...kinanlan gid na magsakto na plano*" (we need to plan carefully).

Family planning is also understood as a way to protect the family, in terms of their health. For instance, birth spacing is seen as a way of protecting the mothers and their children. Interestingly the participants also believe that family planning does not only ensure the physical health of the mothers and their children but that of the fathers as well. They also claim that family planning is not only a form of birth control; but is also a way to protect the couple from contracting human immunodeficiency virus (HIV). Lastly, they believe that "*mag mayo lawas. Maatipan ko mayo ko kag hindi ko dayon magbusong*" (when one is physically healthy... then I will not easily get pregnant).

DISCUSSION

Our study shows that the shared meanings of family planning among our parent participants are interrelated. They see family planning as a government program from which they learn, amongst others, about limiting the number of children born in the family through the practice of waiting between pregnancies and other means of birth control. They believe that when they limit the number of children in the family, they not only help contain the world population, but they also ensure that they are able to provide for their family comfortably. The participants of the study maintain that there is a need for them to practice family planning because life these days is hard and many of them do not have stable income. To practice family planning, for them, means being able to provide for their family's needs, protect their children against poverty and illness, and ensure that they can go to school and have a better future. Family planning, thus, is about being responsible parents. One may choose to practice it or not.

In this section, we discuss how we make sense of our findings by elaborating on their theoretical, methodological, and practical implications. Then we discuss the study's limitations and directions for future research.

Theoretical Implications

Results of our study offer insights on how meanings of family planning are constructed and shared by a particular group that is bound by a specific context. Coming from the lower income class, our participants associate family planning with social and economic conditions. For instance, they see the need to limit the number of children in the family to ensure that these kids can still have a brighter future (i.e., they are able to go to school), considering that their parents do not have stable income and jobs. We see here the construction of the collective understanding of family planning as shaped by the participants' social and economic circumstance and their representations as a reflection of their shared reality (Moscovici, 1988). This illustrates the potential of Social Representations Theory to capture a group's intersubjective meanings of social objects,

embedded in their own conditions and contexts. The very same social object may be defined differently by another social group in another setting and period (Jovchelovitch, 2001).

Social representations are (re)created through a group members' interactions with one another (Wagner, et al., 1999). Our participants, thus, form their shared understanding of family planning through their daily conversations with each other and with local health workers. We say this as we can clearly see that their shared meanings, positions, and biases reflect their everyday talk and "common sense" thinking of family planning in the context of their current reality. The concept of birth control and spacing are evidently acquired from their family planning trainings and discussions with local health practitioners and other members of their group. Deeper elaborations and exchanges — in the context of their present economic condition — further lead to apprehending the value of these concepts in relation to freedom to choose and providing better future for their children.

Our findings point to shared meanings and social structures as influencing behaviors related to family planning. For example, because they perceive themselves as poor, they also see the need for them to control their number of children, to control the gap between pregnancies, and to regulate their sexual behaviors. Here we can see that family planning is understood as "practice" or something that they need to do. As Wagner and colleagues point out (1999), social representations are shared knowledge, emotions, and symbols that are expressed through a group's overt and verbal behaviors. Social Representations Theory, thus, appreciates the interconnections among thoughts, feelings, values, norms, and actions (Sakki, et al., 2010).

The results of the study illustrate how shared knowledge creates "possibilities" or direct the potential for action (Moscovici, 1988). Moscovici claims that "mental states that are shared do not remain mental states, they are communicated, take shape, tend to materialize, to become objects. In that light, they acquire power" (p. 230). In the study, shared understanding among participants that family planning is a choice, not only in terms of the kind of contraceptives they can use, but also a choice in terms of whether or not they comply with the government program or the number of children they bear, provides them with what Le Bosse calls power-as-capacity (2008, as cited in

Negura, et al., 2020). The idea or shared knowledge that they have a choice empowers or gives them that sense of agency to decide for themselves and to control their own actions and destiny.

Methodological Implications

Social Representations Theory serves well to unpack such localized knowledge, through the strategic use of descriptive and interpretative analyses. In this study, we use both qualitative and quantitative approaches to capture the breadth of family planning's shared meanings. We start with a K-means clustering analysis, an extractive text summarization technique which gives us a comprehensive picture of the commonly occurring and frequently associated terms from the actual utterances across all participants. This method effectively surfaces social representations of family planning that are directly observed in talk. Then we conduct thematic analysis, in which we elaborate on the meaning of the parsed terms within the "bag of words" in the K means clustering analysis. This systematic approach allows us to account for both the breadth and depth of meanings of family planning, which is beneficial in understanding people's shared responses towards community health programs. Moreover, deriving social representations from the participants' own shared words serves well to closely monitor and ground our interpretations as researchers on the family planning users' own lens.

Practical Implications

The findings of this study also have practical implications on the family planning programs and program strategies that Philippine government agencies, such as the Department of Health and the Commission on Population and Development, may utilize. Drawing on the findings of the study, they may expand their efforts beyond the provision of free supplies of contraceptives as well as education and knowledge building activities to include schemes that not only encourage informed and sustained participation among family planning users, but also ones that advocate empowerment and emancipation.

Knowing that social representations or social understanding of family planning are formed and transformed in everyday talk and text, the government health office may use this space (talk and text) to further shape family planning beneficiaries' understanding of the concept beyond "control" and financial protection. They may use this space, for example, to discuss reproductive health in relation to family planning so that their understanding of the concept could be further broadened and deepened, further empowering these beneficiaries in the process.

Social Representations Theory captures social behaviors, feelings, and thoughts about family planning. This shared knowledge can be used as basis for designing and implementing family planning future programs, policies, and interventions. For instance, family planning is understood as a choice. When putting into effect a particular family planning program, it can be framed as a healthy option or an alternative, so that participants can easily gain acceptance and ownership of the program. This can invite sincere engagement and more sustained action.

Limitations and Implications for Future Study

We gathered our data using a qualitative survey. Even though we have enough data to capture socially shared meanings of family planning, we feel that thicker data collected through in-depth interviews provides a richer, more detailed, and more nuanced account of the social object under investigation. It may also be valuable to explore social representations of family planning using a gendered lens so as to look into the differences in the perspectives and biases of men and women. It can be interesting to look into the intergroup dynamics between implementing government agencies and the beneficiaries as the program is enforced in various contexts, such as among the people belonging to higher socio-economic brackets or in the context of the COVID-19 pandemic.

References

- Abrigo, M. R., Cruz, J. P., & Tam, Z. C. (2021). *Process evaluation of the Responsible Parenthood and Reproductive Health Act (RA 10354): Local service delivery component*. <https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps2110.pdf>
- Adekoya, H. O., Akoja, M., Ekeh, C. M., & Anaeto, N. (2020). Awareness, knowledge and comprehension of media messages on family planning as predictors of practice among civil servants in Lagos State, Nigeria. *Global Journal of Health Science*, 12(1), 1-96. <https://doi.org/10.5539/gjhs.v12n1p96>
- Ares, G., Girona, A., Rodríguez, R., Vidal, L., Iragola, V., Machín, L., de León, C., & Bove, I. (2020). Social representations of breastfeeding and infant formula: An exploratory study with mothers and health professionals to inform policy making. *Appetite*, 151, 104683. <https://doi.org/10.1016/j.appet.2020.104683>
- Bakht, M. B., Arif, Z., Zafar, S., & Nawaz, M. A. (2013). Influence of media on contraceptive use: a cross-sectional study in four Asian countries. *Journal of Ayub Medical College Abbottabad*, 25(3-4), 3-8. <https://pubmed.ncbi.nlm.nih.gov/25226727/>
- Bautista, C. (2020). Bargaining leverage in family planning: A gender-based analysis of Filipino couples' reproductive choices. *International Journal for Studies on Children, Women, Elderly, and Disabled*, 9, 30-39. <https://2012.ateneo.edu/sites/default/files/downloadable-files/ADMU%20WP%202020-13.pdf>
- Bianchi-Demicheli, F., Perrin, E., Dupanloup, A., Dumont, P., Bonnet, J., Berthoud, M., Kulier, R., Bettoli, L., Lorenzi-Cioldi, F., & Chardonens, D. (2006). Contraceptive counselling and social representations: a qualitative study. *Swiss Medical Weekly*, 136(7-8), 127. <https://pubmed.ncbi.nlm.nih.gov/16633957/>
- Blanc, A. K., Tsui, A. O., Croft, T. N., & Trevitt, J. L. (2009). Patterns and trends in adolescents' contraceptive use and discontinuation in developing countries and comparisons with adult women. *International Perspectives on Sexual and Reproductive Health*, 63-71. <https://doi.org/10.1363/ipsrh.35.063.09>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp0630a>

- Braun, V., & Clarke, V. (2020). One size fits all? What counts as quality practice in (reflexive) thematic analysis?. *Qualitative Research in Psychology*, 1-25. <https://doi.org/10.1080/14780887.2020.1769238>
- Cabral, E. (2013). Reproductive health law in the Philippines. *Journal of the ASEAN Federation of Endocrine Societies*, 28(1), 26-26. <https://www.asean-endocrinejournal.org/index.php/JAFES/article/download/48/93/0>
- Camargo, B. V., & Bousfield, A. B. S. (2009). Social representations, risk behaviors and AIDS. *The Spanish Journal of Psychology*, 12(2), 565-575. <https://doi.org/10.1017/S1138741600001931>
- Canoy, N. A., Roxas, G. K. T., Robles, A. M. Q., Alingasa, A. P. T., & Ceperiano, A. M. (2020). From cesspool to fortified paradise: Analyzing news media territorial assemblages of rehabilitating Boracay Island, Western Philippines. *Journal of Sustainable Tourism*, 28(8), 1138-1157. <https://doi.org/10.1080/09669582.2020.1726934>
- Casterline, J. B., & Sinding, S. W. (2000). Unmet need for family planning in developing countries and implications for population policy. *Population and Development Review*, 26(4), 691-723. <https://doi.org/10.1111/j.1728-4457.2000.00691.x>
- Celebi, M. E., Kingravi, H. A., & Vela, P. A. (2013). A comparative study of efficient initialization methods for the k-means clustering algorithm. *Expert Systems with Applications*, 40(1), 200-210. <https://doi.org/10.1016/j.eswa.2012.07.021>
- Clemence, A., Doise, W., & Lorenzi-Cioldi, F. (2014). *The quantitative analysis of social representations*. Routledge.
- Commission on Human Rights of the Philippines. (2016). "Let our voices be heard": Report of the Commission on Human Rights Philippines' national inquiry on reproductive health and rights. <https://popcom.gov.ph/wp-content/uploads/2019/06/RH-Inquiry-Report.pdf>
- Commission on Population and Development Region VI- Western Visayas. (n.d.). *Responsible parenthood and family planning (RPPF)*. <https://rpo6.popcom.gov.ph/responsible-parenthood-and-family-planning-rpfp/>

- Commission on Population and Development. (n.d.). *Responsible parenthood and family planning*. <https://popcom.gov.ph/responsible-parenthood-and-family-planning-rpfp/>
- Cuatón, G. P. (2019). Challenges and issues on reproductive health and family planning products and services: Evidences in the Philippines. *International Journal of Caring Sciences*, 12(3), 1340-1345. http://www.internationaljournalofcaringsciences.org/docs/4_cuatón_original_12_3.pdf
- Das, P., Samad, N., Al Banna, H., Sodunke, T. E., Hagan, J. E., Ahinkorah, B. O., & Seidu, A. A. (2021). Association between media exposure and family planning in Myanmar and Philippines: Evidence from nationally representative survey data. *Contraception and Reproductive Medicine*, 6(1), 1-12. <https://doi.org/10.1186/s40834-021-00154-9>
- David, C. C., Atun, J. M. L., & La Viña, A. G. (2010). Framing the population debate: A comparison of source and news frames in the Philippines. *Asian Journal of Communication*, 20(3), 337-353. <https://doi.org/10.1080/01292981003802168>
- De Vera, N. Z. (2007). Birth spacing perceptions of rural Filipinos. *Journal of Transcultural Nursing*, 18(3), 238-246. <https://doi.org/10.1177/2F1043659607301297>
- Dodd, W., Kipp, A., Nicholson, B., Lau, L. L., Little, M., Walley, J., & Wei, X. (2021). Governance of community health worker programs in a decentralized health system: A qualitative study in the Philippines. *BMC Health Services Research*, 21(1), 1-14. <https://doi.org/10.1186/s12913-021-06452-x>
- Ehlert, K. M., Faber, C. J., Kennedy, M. S., & Benson, L. (2017, June). *Utilizing cluster analysis of close-ended survey responses to select participants for qualitative data collection [Paper presentation]*. ASEE Annual Conference & Exposition, Columbus, Ohio. <https://peer.asee.org/utilizing-cluster-analysis-of-close-ended-survey-responses-to-select-participants-for-qualitative-data-collection>
- Ezeh, A. C., Kodzi, I., & Emina, J. (2010). Reaching the urban poor with family planning services. *Studies in Family Planning*, 41(2), 109-116. <https://doi.org/10.1111/j.1728-4465.2010.00231.x>
- Flick, U. & Foster, J. (2008). Social representations. In C. Willig & W. Stainton-Rogers (Eds.), *The Sage handbook of qualitative research in psychology*. (pp.195-214). London: Sage Publications.

- Flick, U. (2000). Qualitative inquiries into social representations of health. *Journal of Health Psychology*, 5(3), 315-324. <https://doi.org/10.1177/135910530000500303>
- Gipson, J. D., Uysal, J., Narasimhan, S., & Gultiano, S. (2020). Using systematic anomalous case analysis to examine sexual and reproductive health outcomes in the Philippines. *Studies in Family Planning*, 51(2), 139-159. <https://doi.org/10.1111/sifp.12115>
- Guest, G., & McLellan, E. (2003). Distinguishing the trees from the forest: Applying cluster analysis to thematic qualitative data. *Field Methods*, 15(2), 186-201. <https://doi.org/10.1177/1525822X03015002005>
- Hand, D. J., & Krzanowski, W. J. (2005). Optimising k-means clustering results with standard software packages. *Computational Statistics & Data Analysis*, 49(4), 969-973. <https://doi.org/10.1016/j.csda.2004.06.017>
- Howarth, C. (2006). A social representation is not a quiet thing: Exploring the critical potential of social representations theory. *British Journal of Social Psychology*, 45, 65-86. <http://dx.doi.org/10.1348/014466605X43777>
- Howarth, C., Andreouli, E., & Kessi, S. (2014). Social representations and the politics of participation. *The Palgrave handbook of global political psychology* (pp. 19-38). Palgrave Macmillan, London.
- Howarth, C., Foster, J., & Dorrer, N. (2004). Exploring the potential of the theory of social representations in community-based health research—and vice versa? *Journal of Health Psychology*, 9(2), 229-243. <http://dx.doi.org/10.1177/1359105304040889>
- Jain, M., Caplan, Y., Ramesh, B. M., Isac, S., Anand, P., Engl, E., Halli, S., Kemp, H., Blanchard, J., Gothwal, V., Namasivayam, V., Kumar, P., & Sgaier S. K. (2021). Understanding drivers of family planning in rural northern India: An integrated mixed-methods approach. *PloS one*, 16(1), e0243854. <https://doi.org/10.1371/journal.pone.0243854>
- Jodelet, D. (2006). Représentation Sociales [Social Representations Theory]. *Le Dictionnaire des Sciences Humaines*. Paris: PUF. <https://doi.org/10.3917/puf.jodel.2003.01.0005>
- Joffe, H. (2002). Social representations and health psychology. *Social science information*, 41(4), 559-580. <https://doi.org/10.1177/0539018402041004004>

- Jovchelovitch, S. (2001). Social representations, public life, and social construction. In K. Deaux & G. Philogene (Eds.), *Representations of the social*. (pp. 165-182). Massachusetts, USA: Blackwell Publishing Inc.
- Kodinariya, T. M., & Makwana, P. R. (2013). Review on determining number of Cluster in K-Means Clustering. *International Journal of Advance Research in Computer Science and Management Studies*, 6, 90-95.
- Laguna, E. P., Po, A. L. C., Perez, A. E., & Kanter, A. (2000). Contraceptive use dynamics in the Philippines: determinants of contraceptive method choice and discontinuation. Calverton, Maryland: ORC Macro.
- Lo Monaco, G., Piermattéo, A., Rateau, P., & Tavani, J. L. (2017). Methods for studying the structure of social representations: A critical review and agenda for future research. *Journal for the Theory of Social Behaviour*, 47(3), 306-331. <https://doi.org/10.1111/jtsb.12124>
- Marquez, M. P., Kabamalan, M. M., & Laguna, E. (2018). Traditional and modern contraceptive method use in the Philippines: Trends and determinants 2003–2013. *Studies in Family Planning*, 49(2), 95-113. <https://doi.org/10.1111/sifp.12051>
- Mbizvo, M. T., & Phillips, S. J. (2014). Family planning: Choices and challenges for developing countries. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 28(6), 931-943. <https://doi.org/10.1016/j.bpobgyn.2014.04.014>
- Melgar, J. L., Melgar, A. R., Festin, M. P. R., Hoopes, A. J., & Chandra-Mouli, V. (2018). Assessment of country policies affecting reproductive health for adolescents in the Philippines. *Reproductive Health*, 15(1), 1-13. <https://doi.org/10.1186/s12978-018-0638-9>
- Mello, M. M., Powlowski, M., Nañagas, J. M., & Bossert, T. (2006). The role of law in public health: the case of family planning in the Philippines. *Social Science & Medicine*, 63(2), 384-396. <https://doi.org/10.1016/j.socscimed.2006.01.010>
- Miradora, K. G. (2017). Determinants of modern contraceptive use in the Philippines. *International Journal of Policy*, 8(1). http://researchgate.net/profile/Katrina_

- Miradora/publication/320444306_Determinants_of_Modern_Contraceptive_Use_in_the_Philippines/links/59e5d10dof7e9b0e1ab25219/Determinants-of-Modern-Contraceptive-Use-in-the-Philippines.pdf
- Moscovici, S. (1981). On social representations. *Social Cognition: Perspectives on Everyday Understanding*, 8(12), 181-209.
- Moscovici, S. (1988). Notes towards a description of social representations. *European Journal of Social Psychology*, 18(3), 211-250. <https://doi.org/10.1002/ejsp.2420180303>
- Mwaikambo, L., Speizer, I. S., Schurmann, A., Morgan, G., & Fikree, F. (2011). What works in family planning interventions: A systematic review. *Studies in Family Planning*, 42(2), 67-82. <https://doi.org/10.1111/j.1728-4465.2011.00267.x>
- Nagai, M., Bellizzi, S., Murray, J., Kitong, J., Cabral, E. I., & Sobel, H. L. (2019). Opportunities lost: Barriers to increasing the use of effective contraception in the Philippines. *PloS One*, 14(7), e0218187. <https://doi.org/10.1371/journal.pone.0218187>
- Negara, L., Plante, N., & Levesque, M. (2020). The role of social representations in the construction of power relations. *Journal for the Theory of Social Behaviour*, 50(1), 2-19. <https://doi.org/10.1111/jtsb.12213>
- Orbeta, A. C. (2005). Poverty, fertility preferences and family planning practice in the Philippines (No. 2005-22). PIDS Discussion Paper Series. <https://www.econstor.eu/bitstream/10419/127901/1/pids-dps2005-22.pdf>
- Parcon, C. R. F. (2007). Men and Family Planning in Western Visayas. *Philippine Journal of Social Sciences and Humanities*, 12(2), 189.
- Philippine Department of Health & Commission on Population and Development. (2020). *Annual Report on the Implementation of the Responsible Parenthood and Reproductive Health Act of 2012 (RPRH Law)*. <https://popcom.gov.ph/wp-content/uploads/2020/11/2019-RPRH-Annual-Report.pdf>
- Philippine Department of Health. (2017). Executive Order No. 12, s. 2017: "Zero Unmet Need for Modern Family Planning" Through the Strict Implementation of the Responsible Parenthood and Reproductive Health Act. <https://doh.gov.ph/sites/default/files/publications/EO%20No.%2012%20-%20Zero%20Unmet%20>

- Need%20for%20MFP%20Initial%20Progress%20Report-min.pdf
- Philippine Statistics Authority (PSA) and ICF. 2018. *Philippines National Demographic and Health Survey 2017*. Quezon City, Philippines, and Rockville, Maryland, USA: PSA and ICF. https://psa.gov.ph/sites/default/files/PHILIPPINE%20NATIONAL%20DEMOGRAPHIC%20AND%20HEALTH%20SURVEY%202017_new.pdf
- Philippine Statistics Authority- Regional Statistical Services Office VI. (2019). *Special release: fertility and family planning among women in Western Visayas*. http://rss006.psa.gov.ph/sites/default/files/region6/pages/03_Special%20Release_2017%20NDHS%20for%20March%202019.pdf
- Prathima, M. R., & Divakar, H. R. (2018). Automatic extractive text summarization using k-means clustering. *International Journal of Computer Sciences and Engineering*, 6(6), 782-787. <https://doi.org/10.26438/ijcse/v6i6.782787>
- RamaRao, S., Lacuesta, M., Costello, M., Pangolibay, B., & Jones, H. (2003). The link between quality of care and contraceptive use. *International Family Planning Perspectives*, 76-83. <https://doi.org/10.2307/3181061>
- Royer, P. A., Olson, L. M., Jackson, B., Weber, L. S., Gawron, L., Sanders, J. N., & Turok, D. K. (2020). "In Africa, there was no family planning. Every year you just give birth": Family planning knowledge, attitudes, and practices among Somali and Congolese refugee women after resettlement to the United States. *Qualitative Health Research*, 30(3), 391-408. <https://doi.org/10.1177%2F1049732319861381>
- Ruiz Austria, C. S. (2004). The church, the state and women's bodies in the context of religious fundamentalism in the Philippines. *Reproductive Health Matters*, 12(24), 96-103. [https://doi.org/10.1016/S0968-8080\(04\)24152-0](https://doi.org/10.1016/S0968-8080(04)24152-0)
- Sakki, I., Kassea, R., Vauhkonen, T., & Pirttila-Backman, A. (2010). Social representations: The heart of community psychology. In N. Lange & M. Wagner (Eds.), *Community psychology: New developments*. (pp. 67-91). Nova Science Publishers, Inc.
- Singh, A., Yadav, A., & Rana, A. (2013). K-means with three different distance metrics. *International Journal of Computer*

- Applications*, 67(10). <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.403.4030&rep=rep1&type=pdf>
- Springett, J., Owens, C., & Callaghan, J. (2007). The challenge of combining 'lay' knowledge with 'evidence-based' practice in health promotion: Fag Ends Smoking Cessation Service. *Critical Public Health*, 17(3), 243-256. <https://doi.org/10.1080/09581590701225854>
- Syakur, M. A., Khotimah, B. K., Rochman, E. M. S., & Satoto, B. D. (2018, April). Integration k-means clustering method and elbow method for identification of the best customer profile cluster. *In IOP Conference Series: Materials Science and Engineering*, 336(1), 012017.
- Ulep, V. G. T., Uy, J., Siy Van, V. T., & Bagas, J. (2021). *An assessment of national-level governance of the Philippines' Responsible Parenthood and Reproductive Health Law: Trends and ways forward (No. DP 2021-09)*. <https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps2109.pdf>
- Wagner, W. (1995). Description, explanation and method in social representation research. *Papers in Social Representations*, 4(2), 1-176. <https://psr.iscte-iul.pt/index.php/PSR/article/download/210/174>
- Wagner, W., Duveen, G., Farr, R., Jovchelovitch, S., Lorenzi-Cioldi, F., Marková, I., & Rose, D. (1999). Theory and method of social representations. *Asian Journal of Social Psychology*, 2(1), 95-125. <http://eprints.lse.ac.uk/2640/01/Theoryandmethod.pdf>
- Wagner, W., Kronberger, N., & Seifert, F. (2002). Collective symbolic coping with new technology: Knowledge, images and public discourse. *British Journal of Social Psychology*, 41(3), 323-343. <https://doi.org/10.1348/014466602760344241>
- Wassler, P., Nguyen, T. H. H., & Schuckert, M. (2019). Social representations and resident attitudes: A multiple-mixed-method approach. *Annals of Tourism Research*, 78, 102740. <https://doi.org/10.1016/j.annals.2019.06.007>
- Western Visayas Center for Health and Development. (2019). Field health service information system report: Family planning services. <https://ro6.doh.gov.ph/index.php/health-statistics/field-health-service-information-system/fhsis-reports-cy-2019/family-planning-services>

- Williams, G., & Pay, J. P. (2013). Lay health knowledge and the concept of the lifeworld. In *Habermas, critical theory and health* (pp. 33-52). Routledge.
- Winskell, K., Hill, E., & Obyerodhyambo, O. (2011a). Comparing HIV-related symbolic stigma in six African countries: Social representations in young people's narratives. *Social Science & Medicine*, 73(8), 1257-1265. <https://doi.org/10.1016/j.socscimed.2011.07.007>
- Winskell, K., Obyerodhyambo, O., & Stephenson, R. (2011b). Making sense of condoms: Social representations in young people's HIV-related narratives from six African countries. *Social Science & Medicine*, 72(6), 953-961. <https://doi.org/10.1016/j.socscimed.2011.01.014>